



**International Conference
on Business, Accounting,
Finance and Economics
(BAFE) 2017**

E - PROCEEDING

**Breakthrough
to Excellence**

International Conference on Business, Accounting, Finance and Economics 2017

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Publisher: Universiti Tunku Abdul Rahman (UTAR)

Printed in Perak, Malaysia.

ISBN No.: 978-967-11506-8-9

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MESSAGE FROM UTAR PRESIDENT

Greetings and welcome to the 5th Business, Accounting, Finance and Economics (BAFE) Conference 2017.

We are pleased to have among us esteemed speakers and participants who are here to share and exchange valuable information on research outcomes, initiatives and developments in business management, accounting, finance and economics. This conference is certainly one of the many opportune platforms for both academics and researchers to present their latest theoretical, methodological and empirical knowledge of their respective fields of studies. The opportunities for such exchanges is greatly enhanced when such a gathering of thinkers congregate.

Since its inception in 2013, the conference has also continuously enabled researchers to form wide networks with many international academics and researchers, hence also facilitating the establishment of international collaborations. This is particularly true for UTAR, as our researchers are constantly strengthening the university's effort to engage in joint researches at the international level which will enable us to contribute to the nation's progress and developments.

With this year's theme being 'Breakthrough to Excellence', the BAFE 2017 conference has successfully received more than 84 papers including those from Australia, India and Pakistan. We are certainly looking forward to their inputs and we hope that this conference will be an arena for participants to participate in the discussion that will enhance global competitiveness and create channels for a deeper understanding of each other's economy.

Hopefully, the conference will intrigue participants to bring forward their ideas for progress and improvements that will contribute to future research in the areas of global and digital business, economics and finance. In this age of digital revolution, many enterprises are at the forefront, catching on the digital wave. With the advent of digital solutions, many traditional and manual processes can be reimagined and automated. I hope that the conference will dwell on the topic of the possible transformation in accounting, business and finance in the era of the digital economy that is changing the way people do business globally.

Congratulations to the BAFE 2017 organising committee for making this year's BAFE yet another round of success. I hope everyone will have an engaging time sharing knowledge and immersing in interactive discussions.

Thank you.

Ir Prof Academician Dato' Dr Chuah Hean Teik
UTAR President



**MESSAGE FROM DEAN,
FACULTY OF BUSINESS AND FINANCE
(FBF)**

The Faculty of Business and Finance (FBF) would like to welcome all keynote speaker, presenters and participants to the 5th International Conference on Business, Accounting, Finance and Economics (BAFE) 2017.

China's "One-Belt, One-Road" Initiative is expected to play a significant role in enhancing regional economic cooperation. Digital financial services industry is undergoing explosive development in the competition for e-commerce and new payment methods. The rise of finance technology (FinTech) is redefining financial services. We are concerned with the innovative ideas for breakthrough to business excellence.

This conference would be a great platform to share ideas, views, findings and research outcomes and to assimilate the latest business, accounting, finance and economics issues. I hope you will find the conference to be useful and that BAFE can provide an excellent platform for academic deliberation.

I would like to convey my sincere appreciation to Dr. Lau Lin Sea and her committee for the effort and commitment who worked to make this conference a reality, and to all reviewers for their invaluable time and effort in the review process and for providing constructive feedback to the authors.

My special thanks to the sponsors who have granted your support to the conference.

Lastly, I hope all of you will have effective and fruitful sessions, and have a pleasant stay in Kampar, Perak, Malaysia.

Thank you.

Dr. Au Yong Hui Nee
Dean
Faculty of Business and Finance (FBF)
Universiti Tunku Abdul Rahman (UTAR)



MESSAGE FROM THE CONFERENCE CHAIR, INTERNATIONAL CONFERENCE ON BAFE 2017

It gives me great pleasure to welcome you to the 5th International Conference on Business, Accounting, Finance and Economics (BAFE) 2017, with the theme "Breakthrough to Excellence". BAFE Conference organized by Faculty of Business and Finance, Universiti Tunku Abdul Rahman, continues a series of annual conference since 2013. Today, the BAFE Conference is establishing its name and it is aimed to become one of the premier conferences among the academics and researchers in this region.

The BAFE would provide every attendee with great opportunities to publish results, to share research outputs with local and international participants and to enrich their professional networking. I strongly trust that each and every paper presented in today's event would contribute to the development of new theories, methodologies, and empirical knowledge that are beneficial to all participants.

As the organizing chairperson of BAFE 2017, I would like to take this opportunity to extend my greatest appreciation to all members in the organizing committee for their great dedication in making this Conference a reality. Also, I would like to express my sincere thanks to all the participants and the socially responsible sponsoring organizations for their full supports in contributing to the success of this conference.

Last but not least, it is my hope that you will find this conference stimulating, fulfilling and enjoyable.

Once again, I thank you for your supports of BAFE 2017 and your attendance, and wish you a pleasant experience in Kampar, Malaysia.

Dr. Lau Lin Sea
Conference Chair, International Conference on BAFE 2017
Faculty of Business and Finance, UTAR

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Leader's Emotional Intelligence and Idealized Influence Towards Intention to Perform

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Abstract

Research on emotional intelligence and job performance is expanding at considerable pace, but emotional intelligence and intention to perform has received less attention. To address this gap in the literature, this study is intended to examine the leader's (head of department) emotional intelligence abilities and idealized influence towards academics intention to perform and how it is moderated by gender. Drawing from attribution theory and transformational leadership, the study hypothesized that emotional intelligence and intention to perform will be mediated by idealized influence.

Keywords: Individual influence, Emotional Intelligence, Performance, Genders

INTRODUCTION

Intention to perform set the hook in this research leading to a stronger and well-conceived set of understanding of the intention itself. Interestingly, intention is an expression of an individual towards a particular behavior either as a voluntary intention or involuntary intention (Klass, 2009). Furthermore, intention is a "personal decision about whether or not to pursue a specific job to an extent of dedication to an endeavor, and persistence" (Pritchard, 1976). Therefore, there seems to be an obvious reason why an individual developed this feelings or expression of intention but perhaps the influence may arise from an individual or between individuals. Intention is described as a behavioral intention that captures an individual's motivation to perform a behavior and serves as an indicator of the efforts of individuals who plan on doing the behavior (Ajzen 1991; Ajzen & Fishbein, 1975). Therefore, before X (the behavior or action happens), the intentions that arise first serves as a basis for this research. X behavior precisely identifies that "intentions are proven to be far better predictors of resultant desired behavior as compared to others outcome measures" (Nimon et al., 2011).

In addition, (Heckhausen and Beckmann, 1990; (Ajzen, Fishbein 1980; Bagozzi 1992) described work intention as a goal representation and a guide to purposeful action as it represents the behavior chosen by the employee. On top of that, five classifications of work intention that are related to various dependent variables were studied by (Nimon, Zigarmi, Houson, Witt, & Diehl, 2011). They intent to: use organizational citizenship behaviors, endorse the organization, remain in the organization, use discretionary effort on behalf of the organization and perform. Unfortunately the fifth intent which is the, intent to perform is the least explored intention among the five work intentions. Shielding one's desired behaviors and the outcome studied on turnover strongly suggested that intentions are strong predictors of an action such as turnover and the intentions were "to leave" (Lee & Liu, 2007; Li, Kim, & Zhao, 2017; Lannoo & Verhofstadt 2016; (Biegger, De Geest, Schubert & Ausserhofer, 2016). In addition, various studies have been conducted related to intention such as supervisor relationship and work engagement towards intent to quit by Rodwell and William (2017) and the study of management support towards employee's intention to turnover by Hallikainen and Paesbrugge (2017). Intention to quit among academic staff in public universities (Khairunneezam, 2011). In addition, another study is based on the usage of technology and culture towards intention to use (Ouyang, Tang & Rong 2017).

Further studies were conducted such as conflict relationship and job burnout, Shaukat, Yousaf and Sanders (2017); empowerment, Kim and Fernandez (2017); transformational leadership, Ariyabuddhiphongs and Kahn (2017); job and job support , Knapp

and Smith (2017) and all these are towards turnover intention. As much as theory of planned behavior explained the behavioral intention but in fact, there is evidence that social-cognitive models (as in the case of the theory of planned behaviour – TPB) are not sufficient to address the relation between intentions to perform a certain behaviour and actual performance, usually referred to as the “intention-behaviour gap” (Hagger & Chatzisarantis, 2014; Sheeran, 2002). In addition, the theory of planned behavior has not been used to explain (not been pursued) job performance yet, even though Fishbein and Ajzen (2010) suggest this theory is extremely relevant in this regard (Groen, Wilderom & Wouters, 2017). Therefore, with respect to TPB, it allows this research to explore attribution theory to explain the research framework where perception is a central determinant in attribution theory and it explains the perception of the subordinates towards their leaders.

In virtue, variable within the individual differences thought to be relevant to the effectiveness, efficiency and sustainability of the organization and are the indicators used to measure the job performance of the said parties; the leader and the followers. The individual differences always leave questions that remain unaddressed to what extent does the antecedents towards performance that correlate with one another. Job performance is a most studied construct that is widely used in many theories by researchers particularly in domains such as organizational behavior, industrial psychology and human resources management. In addition, job performance is also was used as an important dependent variable in industrial/organizational psychology” by (Schmidt & Hunter, 1992). Numerous definitions and conceptual definition of a job performance has been presented as a scalable actions/behavior of the outcomes. Job performance can be defined as extent of an accomplishment (Mawoli & Babandako, 2011). Acknowledging that performance is dynamic, in other words, it fluctuates within an individual over time and would facilitate considerable advances in our understanding of job performance and its antecedents (Hofmann & Jacobs, 2012; Sonnentag & Frese, 2012).

Therefore, understanding and acknowledging job performance is not solution to the survival of an organization but what varies and contributes to the job performance itself is a ‘survival’ and worth researching. In doing so, studies of why an individual “wanted” or “not wanted” to perform is vital as it is a predetermine of one’s behavior. The reasoning for this dichotomy is that intentions are the predictor and influenced by factors within the control of the individual in which individual’s own belief, attitudes and traits can determine the individual intention. Intentions of individuals are also influenced by the surrounding factors especially the relationship between his or her leader. The contribution of researchers in uncovering the untapped antecedents and consequences of intention to perform is like finding a needle in haystack. There still exist many gaps in our knowledge of intention to perform in related to job performance and it requires further research. In particular, more research is needed to examine antecedents of intention to perform such as emotions ability. This research, in part, addresses additional gap in the knowledge of emotional intelligence and intention to perform. Emotional intelligence is defined as the “intellectual processes in recognizing, using, understanding, and managing of individual's own and others' emotional status and capability to use those feelings to motivate, plan, and attain the individual and organizational performance (Salovey & Mayer, 1990).

Interestingly, when a question is raised in between influences and emotions intelligence, there is a significant difference between men and women in the aspect of an emotional world. In particular, the emotional dimension of human beings has traditionally been linked to a greater extent with the female gender, which experiences positive and negative emotions more intensely than the male gender (Grossman & Wood, 1993). According to Joseph and Newman (2010) studies in relationship between men, woman and emotional intelligence have been scarce. In the worst scenario, investigation is focused on men although numerous studies included suggests that women are more emotionally intelligent than men (Castro, Schilo & Kee, 2010). Thus, there is conclusion made that if “we wish to advance in our understanding of the mechanisms underlying emotional intelligence functioning in individuals, and our understanding of how to develop emotional intelligence”; we need to start from valid and solid premises that allow research to go beyond social stereotypes and preconceived ideas (Fernández-Berrocal, Cabello, Castillo & Extremera, 2012).

The number of university in Malaysia has increased tremendously for the past few years. Due to the increasing number of universities in Malaysia, university academic staffs may face more problems in their job as the managements are facing competitive pressure from other universities. Almost universities are now setting new goal to compete with other universities as well as the academic staff are involving with the ultimate goal. Theoretically, the overall performance of an institution of higher education depends upon its academic staff and their degree of organisational commitment and satisfaction, which later was considered as crucial towards enhancement of teaching and learning, supervision tasks and research (Khan, Nawaz, Khan, Khan, Khan & Kundi. 2013; Norshidah 2012). Therefore, understanding academics needs and emotions should be priority for the university achievement and academics excellent job performance is vital in producing human manpower to the nation's development.

Unfortunately, as of January 2016, Malaysian public universities dropped in the Times Higher Education University Rankings over the last few years. Universiti Kebangsaan Malaysia (UKM) made 87th position in 2013, but as of 2015, no Malaysian universities made to the top 100 Asian ranking. Malaysian public universities have also shown mixed results in other rankings like the QS rankings, where three Malaysian universities slightly rised in their rankings, while Universiti Teknologi Malaysia (UTM), Universiti Kebangsaan Malaysia (UKM), International Islamic Universiti Malaysia (IIUM), and Universiti Teknologi MARA (UiTM), slipped in ranking from previous years. No Malaysian university made to the top 100. According to the QS ranking profiles, Malaysian universities have lost significant ground in academic reputation and tend to be weak in research and no university in Malaysia that made to the top 400. The result and findings discussed in this chapter reveals that it is critical to understand the association between emotional intelligence and intention to perform as the studies are scarce though most of the studies are associating emotional intelligence and job performance. Acknowledging the importance of this predetermined behavior and absence of empirical studies in the literature serves as a gap for further research on construct of intention to perform.

LITERATURE REVIEW

What is intention?

How do we understand the intentions of others? Equally important is to investigate how perception of intentions may influence our own and other's behavior. Attitude is a state of human mind that is expressed either in positive (favourable) or negative (unfavourable) manner towards an individual, group, object or event. In this context, attitude can be defined as "a relatively enduring organization of an individual's belief about an object that predisposes his or her actions" (Rogers, 2003, pp. 174–175). Literature in intention described intention as a construct presents conative component of attitude as individual intention (e.g., Lantos, 2011; Ajzen, 1985). As such, intentions are self-instructions to perform particular behaviors or to obtain certain outcomes" and are usually measured by endorsement of items such as "I intend to do X!" in which in this study a wide range of cognition and perception was emphasis (Triandis, 1980). An individual's subjective evaluation of the probability of engaging in certain behaviour is more likely to influence his or her subsequent decision making and actual behaviour (Van Breukelen, Van der Vlist, and Steensma 2004). Thus, Fishbein and Ajzen (1975, 369) claimed that, 'the best single predictor of an individual's behavior will be a measure of his intention to perform that behavior'.

Intention to perform

Intentions are defined as "schema or mental representations of a desired future" (Fishbein & Ajzen, 1975). The model of relational or interpersonal behavior also construes intention as a "key basis of behavior to happen" (Triandis, 1980). In addition, intention is the motivation of an individual and conscious plan to carry out or an attempt on a behavior; attitude is a summary assessment of the motivation, intention and the behavior (Spears & Singh, 2004). As it is been seen, intention to perform as a determinant of an action, encouraging further on this research that intention to perform and job performance are closely knitted. A distinction should be made between the "intention to performance" and "intention to perform". As such this distinction was made by referring to a law domain that is conditional and unconditional (Klass, 2009). Consider the two scenarios "I intend to performance" and "I intend to perform". The first says that the employee meant that they want to produce the outcomes/results; reflecting as a

conditional intention and the latter explains that it is some possible future reflecting the unconditional intention. It further suggests that “one never intends to do something come what may-, reflecting on employee’s possibility from their intentions” (Klass, 2009). In addition to (Klass, 2009) study by Prochaska (2013) it also differentiates the intend to perform a behavior from those who are not firmly committed.

Emotional intelligence

Emotions are defined as “a mental state of readiness that arises from cognitive appraisals or events or thoughts” (Bagozzi et al., 1999, p. 184). They are typically elicited by events, objects or persons. Emotions, however, are different from moods in that the latter are not created because of any specific situation or object (Bagozzi et al., 1999). Emotions are a type of state created by the preexisting mood of an individual, tempered by responses to his environmental surroundings (Rook and Gardner, 1993). The concept of emotional intelligence was described as a type of social intelligence, distinguishable from general intelligence. Emotional intelligence (EI) has attracted considerable attention in the past quarter of a century (e.g., Petrides et al., 2016). In addition emotional intelligence was defined as a convergence ability that facilitates accurate knowledge and values as well as responsible actions based on personal self-values and strength in relationships by (Nelson & Low, 2011). It’s concluded that emotional intelligence is the innate potential to feel, use, communicate, recognize, remember, describe, identify, learn from, manage, understand and explain emotions (Salovey & Mayer, 1990; Hein, 2007). Thus, emotional intelligence is a creation of the amount of interaction between the coherent and emotional centers of the brain as referred by (Kavousy, Tohid Ardahaey, & Chivaei, 2010). Although there are multiple approaches to emotional intelligence, the ability model addresses that recognition and usage of emotions are generally identified to have the most academic promise (Daus & Ashkanasy 2005). Therefore, researcher focused on the conceptualization of emotional intelligence upon which most scholarly discourse has converged: “the ability to perceive and express emotions, assimilate emotion in thoughts, understand and reason those emotions, and regulate emotions within personal self and others” (p. 401) Mayer and Salovey (1997).

Perceiving Emotion

Perceiving emotion is one of the main components in the Mayor-Salovey Model of Emotional Intelligence (1990). Emotion perception is one’s ability to perceive one and others emotion, feelings or thought accurately, based on their facial expression, non-verbal cue and other observable cue (Salovey & Mayer, 1990). Emotion perception help one to recognize other’s feeling and obtains information about other’s thoughts (Herpertz, Schütz, & Nezlak, 2016). The ability to read emotions expressed by others accurately would help in interpersonal communication for life situation and workplace (Krishnakumar & Hopkins, 2014).

Using Emotion

The second component, using emotions, is referred as the ability to invoke and reason with emotions. For example, use emotions to facilitate thinking by using emotions to facilitate cognitive activities such as logical approach and thinking as well as problem solving and communication between leaders and subordinates. The basic aspect of this ability is to use critical thinking with emotions to direct attention to important information about the environment or other people. Using emotions to master conflict occurs in workplace. Meaning to say, “handle conflict assertively by engaging in healthy conflict” (Bradberry & Greaves, 2009).

Understanding Emotion

In the (Salovey, 1997) model, total EI is comprised of two areas: experiential and strategic. The third branch of emotional intelligence which is known as understanding emotions falls under the strategic area category apart from managing emotions (Grunes, Gudmundsson, & Irmer, 2014). Understanding emotion is the ability to understand and interpret the language of emotions and appreciate the complicated relations among emotions such as ability to be sensitive to the little difference between happy and ecstatic emotions. This includes recognizing emotional state of your own and recognizing how to respond emotionally in different contexts. Thus, the “general focus encompasses the idea of how people usually exhibit emotions and how people usually react in different contexts” (Castro, Cheng, Halberstadt, & Grünh, 2015).

Managing Emotion

Managing emotion is the ability to “regulate emotions and moods in oneself as well as in other people” (Brackett & Salovey, 2006). Therefore, to management of emotion is based on a person’s goals, social awareness and self-knowledge (Mayer, Salovey, & Caruso, 2004). By controlling, one’s emotion it allows them to create positive affective states, while eliminating negative ones” (Ybarra, Kross, & Sanchez-Burks, 2014). This allows an individual to promote towards their personal growth and understanding. Furthermore, an “individual must be able to monitor, discriminate and label their feelings accurately when managing their own feelings” (Brackett & Salovey, 2006). Thus, emotion management plays a role in order to achieve personal growth or goals in their organization, workplace as well as personal life. Emotional intelligence is an important aspect to look into in workplace. When working with people, it always involves managing emotions. This is because “emotion plays an important role in enhancing one’s decision making, memories; facilitate interpersonal interaction and so on” (Cox & Patrick, 2012).

Idealized influence

In the mainstream literature, transformational leadership may be the most prominent factor in explaining how leaders can direct followers’ desirable behaviour and achieve optimal level of performance (Antonakis, Avolio, and Sivasubramaniam 2003; Moynihan, Pandey, and Wright 2012). Building on Burns’ (Burns 1978) classification of two forms of leaders, Bass (1985) further identified and elaborated this new type of leadership. He argued that the old paradigm of leadership inquiry primarily focused on task completion, employee compliance, and contractual relationship between leaders and followers. He suggested that a paradigm shift was needed to understand how leaders motivate followers by raising their awareness of organizational goals and elevating their moral values. He referred this type of leadership as transformational leadership (Bass 1985). “Leaders have a preference to use characteristic influence tactics that form individual leadership style” (Yukl, 2002) in which (Dionne, Yammarino, Atwater, & Spangler, 2004) described idealized influence as leadership concerns with the formulation and articulation of vision, challenging goals and motivating employees to work beyond their self-interest in order to achieve common goals. In addition, behaviour that linked with idealized influence includes inspiring pride in others for being connected with the leaders, encouraging employees to go beyond their self-interest for the benefit of the team or an organization, and so forth. In this conundrum, leaders perform as role models who are highly respected, trusted and admired by their employees. According to researchers, “leaders with great idealised influence are willing to take risks that are consistent by demonstrating high standards of ethical and moral conduct” (Bass & Riggio, 2006). In addition, according to Bass and Riggio (2006), idealized influence refers to the development of trust, respect, and admiration on the part of followers that occurs when leaders are willing to share risks and model behavior that is consistent with their underlying values and inspirational motivation.

Gender

The nature of gender diversity is a prominent type of demographic diversity; in which, this trait becomes one of the most studied by researchers. (Page, 2007) labeled gender diversity as a “non-job-related diversity, a non-cognition-based diversity or as an attributed characteristic” as defined as “ascribed characteristic” (Ruef, Aldrich, & Carter, 2003). However, some views understand it as a “relationship-oriented attribute that may influence attitudes, behaviors and social processes” (Jackson, Joshi, & Erhardt, 2003). Though in some cases, gender has been considered to have an indirect impact to work performance. Basking on these perspectives, women and men have diverse ways of socialization that may influence performance. Therefore, diversity in gender is about achieving a balance between the two genders (Østergaard, Timmermans, & Kristinsson, 2011). As it has been illustrated, men and women in an organization become more equal and therefore gender diversity increases. The idea of high proportions of both genders is better than unbalanced distributions which is the basis for the value in diversity perspectives. In this context, gender parity has been deemed a driver of economic performance. For instance, they have estimated that “achieving gender parity in labor-force participation rates would increase GDP by 12 percent in developed countries over the next 20 years” (Thévenon, Ali, Adema, & del Pero, 2012). A balanced representation can eliminate gender prejudices and sex role stereotyping that portrays men as more oriented towards profit or more likely to work long hours. According to (Ashari, 2012) women that are underrepresented will only be able to climb the ladder to the top when the community is able to

change their conservative ways of thinking. Both women career and strategies the company uses in finding a suitable candidate for leaders are varied in national lines and the difference in gender. Albeit they do work in an organization, they will face a huge obstacle to advance to a better position, becoming stranded in either entry level or mid-level management. There's no difference in leadership potential between women and men; making sure you can capture a better share of high-performing women is better for the organization." Rodríguez-Ruiz, Rodríguez-Duarte, and Gómez-Martínez (2016) stated that a "great deal of effort and resources are being devoted to the management of diversity, adding on to the increase in the share of females in higher education. It has been revealed that women's approach to business is different than that of men". Interestingly, it is pointed out that woman's approach in the last decades predict distinctive differences in collective intelligence among genders that can explain performance. Given this distinctive differences, it is essential to understand how gender diversity plays an important role in an organization's success leading to attempts to cover a gap in the literature where there is limited empirical research that exists examining the impact of gender on organization's economic performance (McMillan-Capehart & Simerly, 2008; Herring, 2009; Ali, Kulik, & Metz, 2011).

Attribution Theory

The concept presentation in this research is deduced from what is known to be as Heider's Attribution Theory 1920. How do we attach meaning to other's behavior, or our own? "Attribution theory deals with how the "social perceiver uses information in order to arrive at causal explanation for events" (Fiske & Taylor, 1991). The theory of attribution refers to how individuals interpret events and how this event relates to their thoughts and behavior. Attribution theory assumes that people tries to determine why people do what they do and to understand why others do an act and comprehend the attribute of one or more cause to that act. According to Heider (1920) a person can make two attributions such as internal attribution which concludes that someone is behaving in a certain way because of something about the surrounding that he or she lives in. Based on Heider's findings and Jones (1973) conclusion if someone (S) is aware of the act of another person (P), S will try to determine the meaning of P's action. This search of meaning typically will take the form of a search for reasons or "reason enough" for P to have performed an action. Therefore, for this reason (or reasons) it is considered to be an intention of action from which the meaning is derived. Perhaps, as subordinates (S) perceived his/her leader's (P) act of ability in perceiving theirs (subordinates) emotions will lead to reasoning and intention of the subordinate's behavior.

Institutions Of Higher Learning (IHLs) in Malaysia

Based on the Universities and University Colleges Act 1969, five public universities were established in 1960s to 1970s, four public universities were established in 1980s to the early 1990s, and ten public universities in the late 20th to the early 21st century. Interestingly, to date based on MOHE 2013 report there are 20 public universities in Malaysia (Table 1). (Raman, Ramendran, Beleya, Nodson, & Arokiasamy, 2011) mentioned that higher education system in Malaysia comprises public and private IHLs, polytechnics, and community colleges. Both public and private IHLs offer certificate, diploma, bachelor degree, and masters and PhD. Ministry of higher education (MoHE) was formed in March 2004 to provide strategic direction and overseeing the development of the academy sub-sector. Malaysian higher education development plan (2011-2015) under the tenth Malaysia Plan has set goals to achieve competencies in three key areas, namely as follows:

- (1) Improvement in graduates' competence;
- (2) The increasing number of academic staffs with PhDs
- (3) The movement and provision of the impetus for research, development and commercialization activities.

In Malaysia, research universities are gaining reputation as the universities are commonly known as research universities (RU), bringing into research and commercialization activities as prime objectives in addition as a learning university. There are five universities in Malaysia earning the reputation as RU, they are USM, UM, UKM, UPM and UTM. As referred to the RU Concept Paper 2004, the mission of a research university is to be the engine of growth of the country in where scholars and students exchange ideas conduct research in an environment that is conducive to practise the exploration and discover knowledge as well as produce wealth towards betterment in life.

Head of Departments

Head of departments (HOD) plays important roles towards achieving academic excellence in higher institutions in Malaysia by leading a group of academics towards student's excellence, research, collaboration and consultation. In addition, excellent results can be achieved by implementing continuous improvements among leaders and subordinates in which head of school/department build an environment of collegial relationships and develop shared purpose between subordinates as stated (Harrison & Brodeth, 1999). Fraser and Cheers (2000) suggested that heads of academic units can align the vision of their academic staffs with the university's vision by using available resources especially expertise skills in monitoring and evaluating the academic performance.

Academics

Academicians are very crucial personnel in educational institution and their satisfaction and motivation are considered as a primary predetermine for successful teaching learning process towards students excellence. Academics staff should be respected for their contribution in disseminating knowledge to students and the teaching ability to accomplish the goals in order to attain the desired objectives. University academics are presently facing many challenges in fulfilling their desired goals. Imparting knowledge to students is not only a core function of a lecturer but also co- currently producing excellence in various fields such as research, collaboration, consultation and innovative learning. This 21st century knowledge building as well as other key performance indexes has created a huge gap to fill in by the academics and this demanding gap might further affect academics job performance. Presently in Malaysia, the higher learning institutions are restructuring from the traditional educational system in order to meet "new world" developments keeping in mind the generating knowledge resources and financials (grants) which are among the vital key performance indexes. In order to achieve such demanding feat and also to have the ability to face challenges in achieving performance index, leadership plays an important role in guiding and supporting.

CONCLUSION

Intention to perform is conceptualized as an important construct prior for a job performance in the literature but it has not been studied comprehensively with emotional intelligence. The dominant characteristic of intention to perform with emotional intelligence can be effectively addressed by attribution theory originated from Heider (1920) which concludes that there is still limited research on the emotional and behavioral impact which has been somewhat underutilized in organizational research. Among many constructs studied towards various types of intention, emotional intelligence has received the least attention towards intention to perform. Therefore it is more distinctive informative to examine this two relationship as they can provide a new epistemology in the study. Literature suggests that emotional intelligence can be viewed through its own emotional intelligence model developed by Salovey & Meyer (1990). Thus, empirical examination of emotional intelligence and idealized influence are mediating mechanisms in the intention to perform relationship which will expand to new epistemology.

REFERENCES

- Ajzen, I., 1985. From intentions to actions: a theory of planned behaviour. In: Kuhl, P., Beckmann, D. (Eds.), *Action Control: From Cognition to Behavior*. Springer, Berlin Heidelberg, pp. 11–39.
- Ajzen, Icek, & Fishbein, Martin. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Ajzen, Icek, & Fishbein, Martin. (1980). *Understanding attitudes and predicting social behaviour*.
- Ajzen, Icek. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Ali, Muhammad, Kulik, Carol T, & Metz, Isabel. (2011). The gender diversity–performance relationship in services and manufacturing organizations. *The International Journal of Human Resource Management*, 22(07), 1464-1485.
- Antonakis, J., B. J. Avolio, and N. Sivasubramaniam. 2003. "Context and Leadership: An Examination of the Nine-Factor Full-Range Leadership Theory Using the Multifactor Leadership Questionnaire." *The Leadership Quarterly* 14 (3): 261–295. doi:10.1016/S1048-9843 (03)00030-4. Lantos, G., 2011. *Consumer Behavior in Action*. M.E. Sharpe, Armonk, N.Y.
- Ariyabuddhiphongs, V., & Kahn, S. I. (2017). Transformational leadership and turnover intention: The mediating effects of trust and job performance on café employees in Thailand. *Journal of Human Resources in Hospitality & Tourism*, 16(2), 215-233.
- Ashari, Halisah. (2012). Adaptive Leadership: An opportunity for women to have access to higher responsibilities. *Perspectives*, 2012, 1-12.
- Ashkanasy, N. M., & Daus, C. S. (2005). Rumors of the death of emotional intelligence in organizational behavior are vastly exaggerated. *Journal of Organizational Behavior*, 26(4), 441-452.
- Bagozzi, Richard P, Gopinath, Mahesh, & Nyer, Prashanth U. (1999). The role of emotions in marketing. *Journal of the academy of marketing science*, 27(2), 184-206.
- Bagozzi, Richard P. (1992). The self-regulation of attitudes, intentions, and behavior. *Social psychology quarterly*, 178-204.
- Bass, Bernard M, & Riggio, Ronald E. (2006). *Transformational leadership*: Psychology Press.
- Bass, Bernard M. (1985). *Leadership and performance beyond expectations*: Free Press; Collier Macmillan.
- Brackett, Marc A, & Salovey, Peter. (2006). Measuring emotional intelligence with the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). *Psicothema*, 18(Suplemento), 34-41.
- Bradberry, Travis, & Greaves, Jean. (2009). *Emotional Intelligence 2.0*: TalentSmart.
- Burns, James M. (1978). *leadership*. NY: Harper & Row.
- Carrera, P., Caballero, A., & Munoz, D. (2012). Future-oriented emotions in the prediction of binge-drinking intention and expectation: the role of anticipated and anticipatory emotions. *Scandinavian journal of psychology*, 53(3), 273-279.
- Castro, Vanessa L, Cheng, Yanhua, Halberstadt, Amy G, & Grün, Daniel. (2015). EUReKA! A conceptual model of emotion understanding. *Emotion Review*, 1754073915580601.
- Castro-Schilo, Laura, & Kee, Daniel W. (2010). Gender differences in the relationship between emotional intelligence and right hemisphere lateralization for facial processing. *Brain and cognition*, 73(1), 62-67.
- Cox, Elaine, & Patrick, Claire. (2012). Managing Emotions at Work: How Coaching Affects Retail Support Workers' Performance and Motivation. *International Journal of Evidence Based Coaching & Mentoring*, 10(2).
- Dionne, S. D., Yammarino, F. J., Atwater, L. E., & Spangler, W. D. (2004). Transformational leadership and team performance. *Journal of organizational change management*, 17(2), 177-193.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Fernández-Berrocal, Pablo, Cabello, Rosario, Castillo, Ruth, & Extremera, Natalio. (2012). Gender differences in emotional intelligence: The mediating effect of age. *Psicología Conductual*, 20(1), 77.
- Fishbein, Martin, and Icek Ajzen. 2010. *Predicting and changing behavior: The reasoned action approach*. New York, NY: Psychology Press.
- Fiske, Susan T, & Taylor, Shelley E. (1991). *Social cognition*, 2nd. NY: McGraw-Hill, 16-15.
- Fraser, Sharon, & Cheers, Mechelle. (2000). What does tertiary teaching need: Visionaries or pragmatists? Paper presented at the Teaching and Learning Forum.
- Groen, B. A., Wilderom, C. P., & Wouters, M. J. (2017). High Job Performance Through Co-Developing Performance Measures With Employees. *Human resource management*, 56(1), 111-132.
- Grossman, Michele, & Wood, Wendy. (1993). Sex differences in intensity of emotional experience: a social role interpretation. *Journal of personality and social psychology*, 65(5), 1010.
- Grunes, Paul, Gudmundsson, Amanda, & Irmer, Bernd. (2014). To what extent is the Mayer and Salovey (1997) model of emotional intelligence a useful predictor of leadership style and perceived leadership outcomes in Australian educational institutions? *Educational Management Administration & Leadership*, 42(1), 112-135.
- Hagger, M. S., & Luszczynska, A. (2014). Implementation intention and action planning interventions in health contexts: State of the research and proposals for the way forward. *Applied Psychology: Health and Well-Being*, 6, 1–47. doi:10.1111/aphw.12017.
- Hallikainen, H., Paesbrugge, B., Laukkanen, T., Rangarajan, D., & Gabrielsson, M. (2017, January). How Individual Technology Propensities and Organizational Culture Influence B2B Customer's Behavioral Intention to Use Digital Services at Work?. In *Proceedings of the 50th Hawaii International Conference on System Sciences*.
- Harrison, Bernard T, & Brodeth, Esmeralda. (1999). Real work through real collegiality: Faculty seniors views on the drive to improve learning and research. *Journal of Higher Education Policy and Management*, 21(2), 203-214.
- Heckhausen, Heinz, & Beckmann, Jürgen. (1990). Intentional action and action slips. *Psychological review*, 97(1), 36.
- Heider, Fritz. (1958). *Interpersonal relations*: New York: Wiley.
- Hein, S. (2007). The innate potential model of emotional intelligence.
- Herpertz, Sarah, Schütz, Astrid, & Nezlek, John. (2016). Enhancing emotion perception, a fundamental component of emotional intelligence: Using multiple-group SEM to evaluate a training program. *Personality and Individual Differences*, 95, 11-19.
- Herring, Cedric. (2009). Does diversity pay?: Race, gender, and the business case for diversity. *American Sociological Review*, 74(2), 208-224.
- Hofmann, David A, Jacobs, Rick, & Gerras, Steve J. (1992). Mapping individual performance over time. *Journal of Applied Psychology*, 77(2), 185.
- Jackson, Susan E, Joshi, Aparna, & Erhardt, Niclas L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of management*, 29(6), 801-830.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Jones, Stephen C. (1973). Self-and interpersonal evaluations: esteem theories versus consistency theories. *Psychological bulletin*, 79(3), 185.
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95, 54–78.
- Kang, H. S., & Kim, Y. Y. (2016). Influence of the Emotional Intelligence, Communication Competence and Stress coping on Turnover Intention in Psychiatric Nurses. *Journal of the Korea Academia-Industrial cooperation Society*, 17(1), 141-151.
- Kavousy, Esmaeil, Tohid Ardahaey, Fateme, & Chivaei, Zhila Sarlak. (2010). The Relationship between Emotional Intelligence and Time Management among Bachelor Students of Qazvin University of Medical Sciences (In the Academic Year of 2007). Zhila Sarlak, The Relationship between Emotional Intelligence and Time Management among Bachelor Students of Qazvin University of Medical Sciences (In the Academic Year of 2007)(June 21, 2010).
- Khan, Irfanullah, Allah Nawaz, Farhatullah Khan, Hamid Khan, Saqib Khan, and Abdul Hameed Kundi. 2013. "The Impact of Organizational Commitment and Job Satisfaction 492 L. Tahir et al. Downloaded by [UQ Library] at 15:44 13 November 2014 on the ITL of Academicians in HEIs of Developing Countries like Pakistan." *Industrial Engineering Letters* 3 (9): 18–26.
- Kim, H. J., & Park, D. (2016). The effects of workplace bullying on turnover intention in hospital nurses. *Journal of Digital Convergence*, 14(1), 241-252.
- Kim, S. Y., & Fernandez, S. (2017). Employee empowerment and turnover intention in the US federal bureaucracy. *The American Review of Public Administration*, 47(1), 4-22.
- Klass, Gregory. (2009). Intent to contract. *Virginia Law Review*, 1437-1503.
- Knapp, J. R., Smith, B. R., & Sprinkle, T. A. (2017). Is It the Job or the Support? Examining Structural and Relational Predictors of Job Satisfaction and Turnover Intention for Nonprofit Employees. *Nonprofit and Voluntary Sector Quarterly*, 0899764016685859.
- Krishnakumar, Sukumarakurup, & Hopkins, Kay. (2014). The role of emotion perception ability in motivation to lead. *Management Research Review*, 37(4), 334-347.
- Lannoo, S., & Verhofstadt, E. (2016). What drives the drivers? Predicting turnover intentions in the Belgian bus and coach industry. *Transportation Research Part A: Policy and Practice*, 91, 251-259.
- Lantos, G., 2011. *Consumer Behavior in Action*. M.E. Sharpe, Armonk, N.Y..
- Lee, Hung-Wen, & Liu, Ching-Hsiang. (2007). An examination of factors affecting repatriates' turnover intentions. *International Journal of manpower*, 28(2), 122-134.
- Li, Jun Justin, Kim, Woo Gon, & Zhao, Xinyuan Roy. (2017). Multilevel model of management support and casino employee turnover intention. *Tourism Management*, 59, 193-204.
- Mawoli, Mohammed Abubakar, & Babandako, Abdullahi Yusuf. (2011). An evaluation of staff motivation, dissatisfaction and job performance in an academic setting. *Australian Journal of Business and Management Research*, 1(9), 1.
- Mayer, J.D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3–31). New York: Basic Books.
- Mayer, John D, Salovey, Peter, & Caruso, David R. (2004). TARGET ARTICLES:" Emotional Intelligence: Theory, Findings, and Implications". *Psychological inquiry*, 15(3), 197-215.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- McMillan-Capehart, Amy, & Simerly, Roy L. (2008). Effects of managerial racial and gender diversity on organizational performance: An empirical study. *International Journal of Management*, 25(3), 446.
- Moons, I., & De Pelsmacker, P. (2012). Emotions as determinants of electric car usage intention. *Journal of Marketing Management*, 28(3-4), 195-237.
- Moons, I., & De Pelsmacker, P. (2015). An extended decomposed theory of planned behaviour to predict the usage intention of the electric car: A multi-group comparison. *Sustainability*, 7(5), 6212-6245.
- Moynihan, D. P., S. K. Pandey, and B. E. Wright. 2012. "Setting the Table: How Transformational Leadership Fosters Performance Information Use." *Journal of Public Administration Research and Theory* 22 (1): 143–164. doi:10.1093/jopart/mur024.
- Nelson, Darwin B, & Low, Gary R. (2011). *Emotional intelligence*: Boston: Prentice Hall.
- Nimon, Kim, Zigarmi, Drea, Houson, Dobie, Witt, David, & Diehl, Jim. (2011). The work cognition inventory: Initial evidence of construct validity. *Human Resource Development Quarterly*, 22(1), 7-35.
- Norshidah, Nordin. 2012. "The Influence of Leadership Behavior and Organizational Commitment on Organizational Readiness for change in a Higher Learning Institution." *Asia Pacific Educational Review* 13: 239–249
- Østergaard, Christian R, Timmermans, Bram, & Kristinsson, Kari. (2011). Does a different view create something new? The effect of employee diversity on innovation. *Research Policy*, 40(3), 500-509.
- Ouyang, Y., Tang, C., Rong, W., Zhang, L., Yin, C., & Xiong, Z. (2017, January). Task-technology Fit Aware Expectation-confirmation Model towards Understanding of MOOCs Continued Usage Intention. In *Proceedings of the 50th Hawaii International Conference on System Sciences*.
- Page, Scott E. (2007). Making the difference: Applying a logic of diversity. *The Academy of Management Perspectives*, 21(4), 6-20.
- Pritchard, Robert D. (1976). Motivation theory in industrial and organizational psychology. *Handbook of industrial and organizational psychology*, 63-130.
- Prochaska JO. *Transtheoretical model of behavior change*. Encyclopedia of behavioral medicine. New York (NY): Springer; 2013.
- Raman, Gopalan, Ramendran, Charles, Beleya, Prashanth, Nodeson, Suresh, & Arokiasamy, Lawrence. (2011). Generation Y in institution of higher learning. *International Journal of Economics and Business Modeling*, 2(2), 142.
- Rodríguez-Ruiz, Óscar, Rodríguez-Duarte, Antonio, & Gómez-Martínez, Luis. (2016). Does a balanced gender ratio improve performance? The case of Spanish banks (1999-2010). *Personnel Review*, 45(1), 103-120.
- Rogers, E., 2003. *Diffusion of Innovations*. Free Press, New York.
- Rook, D.W., Gardner, M.P., 1993. In the mood: impulse buying's affective antecedents. *Res. Consum. Behav.* 6 (7), 1–28.
- Ruef, Martin, Aldrich, Howard E, & Carter, Nancy M. (2003). The structure of founding teams: Homophily, strong ties, and isolation among US entrepreneurs. *American sociological review*, 195-222.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Salovey, Peter, & Mayer, John D. (1990). Emotional intelligence. *Imagination, cognition and personality*, 9(3), 185-211.
- Schmidt, Frank L, & Hunter, John E. (1992). Development of a causal model of processes determining job performance. *Current Directions in Psychological Science*, 1(3), 89-92.
- Shaukat, R., Yousaf, A., & sanders, K. (2017). Examining the linkages between relationship conflict, performance and turnover intentions: role of job burnout as a mediator. *International Journal of Conflict Management*, 28(1).
- Sheeran, P. (2002). Intention – Behavior relations: A conceptual and empirical review. *European Review of Social Psychology*, 12, 1–36.
- Sonnentag, Sabine, & Frese, Michael. (2012). Dynamic performance. *The Oxford handbook of organizational psychology*, 548-575.
- Spears, Nancy, & Singh, Surendra N. (2004). Measuring attitude toward the brand and purchase intentions. *Journal of Current Issues & Research in Advertising*, 26(2), 53-66.
- Strizhakova, Y., & Tsarenko, Y. (2017). Coping with Service Failures: The Role of Emotional Intelligence, Self-Efficacy and Intention to Complain. In *The Customer is NOT Always Right? Marketing Orientations in a Dynamic Business World* (pp. 654-654). Springer, Cham.
- Thévenon, Olivier, Ali, Nabil, Adema, Willem, & del Pero, Angelica Salvi. (2012). Effects of reducing gender gaps in education and labour force participation on economic growth in the OECD.
- Triandis, Harry C. (1980). Reflections on trends in cross-cultural research. *Journal of cross-cultural psychology*, 11(1), 35-58.
- Van Breukelen, W., R. Van der Vlist, and H. Steensma. 2004. "Voluntary Employee Turnover: Combining Variables from the 'Traditional' Turnover Literature with the Theory of Planned Behavior." *Journal of Organizational Behavior* 25 (7): 893–914. doi:10.1002/(ISSN)1099-1379.
- Ybarra, Oscar, Kross, Ethan, & Sanchez-Burks, Jeffrey. (2014). The "big idea" that is yet to be: Toward a more motivated, contextual, and dynamic model of emotional intelligence. *The Academy of Management Perspectives*, 28(2), 93-107.

Factors Affecting E-Commerce Adoption Among SMEs - Retail Business in Perak: A Conceptual Framework

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Abstract

The main purpose of this research is to explore various factors which affect the e-Commerce adoption among the Small Medium Enterprises (SMEs), retail sector in Perak State. This research provides an overview on the perception of manager about the factors within the industries. There are four observe variables in this study, namely cost, security, CEO characteristics, and competitors. This research adopts the Technological Organizational Environmental (TOE) Framework as underlying Information Systems framework to explain the e-Commerce phenomena in Perak state. In this research, quantitative survey research method will be applied. This research would like to explore various factors influence the choice of e-Commerce application into their organization. This research would like to understand the current e-Commerce adoption level in Perak state. This research will also investigates the relationship between observe variables. This research is limited to SMEs in the Perak state region of Malaysia, listed on the SMECorp Malaysia official website listing under the retail business. There is a lack of information about SMEs in Perak state, especially for micro sized enterprises. This research will focus on SMEs within Perak state. This research integrates CEO characteristics such as IT knowledge, education, skills, innovativeness into TOE framework to provide a better understanding business owner's perception on the adoption process.

Keyword: Perak, E-Commerce, Adoption, Small Medium Enterprises.

INTRODUCTION

In the past two decades, the government had spent billions of dollar in order to improve the e-Commerce (EC) infrastructures and framework to pace the EC adoption among Small and Medium-sized Enterprises (SMEs) in the countries (Kamaruzaman & Yasmin, 2010). Basically, SMEs are important in most of the developing and least developing countries because they are performed as the gazelle or economic catalyst that boost up the economy of the countries. As shown in NSDC (2014), SMEs constitutes majority of the business establishments in Malaysia at 99.2%. In addition, SMEs also contributes around 32% of Gross Domestic Product (GDP), 59% of total employment (Teng, 2012), and 19% of exports (NSDC, 2014). In July 2013, National SME Development Council (NSDC) had redefined the new SMEs definition due to the economic changes since the year 2005, such as price inflation, changes of structure, and business trend. Table 1 shows the SMEs definition based on NSDC (2014).

As reported by Perak State Government in "Perak Basic Data 2012-2014" (Buku Data Asas Negeri Perak, 2014), Perak state is the fourth largest in Malaysia with the land mass of 20879.4km², 2.46 million of population, and an annual growth rate of 0.20%. In 2014, the service industry contributes 59.7% to the total of the Perak state annual GDP (Buku Data Asas Negeri Perak, 2014). It shows that SMEs in Perak may be offered significant contributions towards the national economy as well. As stated previously, many efforts had been carried out by the government in order to improve the situation. However, the EC adoption level among SMEs is still under satisfaction. There are multitudes of advantages to implement the EC into the SMEs business practices. Yet, there are some factors which can affect its implementation. EC technologies contain a strong appeal towards SMEs retailers because it is able to detect geographic locations, distances, and time irrelevant (Kurnia, Choudrie, Mahbubur & Alzougool, 2015). In the process of pace up the EC in the year of 2012, ACCCIM had carried out a SMEs survey.

Table 1: SME definition (NSDC, 2014)

Category	Small	Medium
Manufacturing	Sales turnover from RM 300,000 to less than RM15 million or full-time employees from 5 to less than 75	Sales turnover from 15 million to not exceeding RM 40 million or full time employees from 75 to not exceeding 200
Service & Other sector	Sales turnover from RM 300,000 to less than RM 3 million or full time employees from 5 to less than 30	Sales turnover from RM 3 million to not exceeding RM 20 million or full time employees from 30 to not exceeding 75

The result shows that 28% of the sample respondents are involved in the EC activities and 24% of them are planned to adopt it (ACCCIM, 2012). Although the adoption rate is low, the Ministry of Communication and Multimedia stated that it still has the potential to growth (Insider, 2015). From the academic point of view, there are abundance of researches on EC. However, most of the articles are focused on the developed countries with general EC technologies across industries. It is rare to get EC adoption which only focusing in one particular industry, such as retail business (Kurnia et al., 2015). Kurnia et al. (2015) further explained that retailers had carried a large number of products with lower profit margin. Basically, retailers are the pioneer batch to adopt the innovative technologies by enhancing their business operations and efficiencies. Unfortunately, it still lack of unified models which are able to generate the business models for the retail business (Dewan & Kraemer, 2000; Kartiwi & MacGregor, 2007).

Therefore, the objective of this paper is to propose a conceptual framework by incorporating with these multitude factors. In order to propose a comprehensive conceptual framework, theories and previous works are reviewed by finding the common factors and issues in the e-Commerce adoption. The research findings are gathered and integrated into the Tornatzky and Fleischer (1990)'s Technological Organizational Environmental (TOE) framework. Generally, there are three important factors in the TOE framework which links to the respective paradigm. On the basis, the propositions that influence on the e-Commerce adoption are developed by connecting with the technological, organizational, and environmental factors.

This paper is structured as follows. In Section 2, theories and previous works related to this research are reviewed. Section 3 describes the conceptual framework on the factors affecting the e-commerce adoption. Research methodology is presented in Section 4 and conclusion is discussed in the last section.

LITERATURE REVIEW

E-Commerce

There are many terms for e-Commerce (EC) which are defined by multiple experts from different field of studies. Most of them agreed that EC is a system that supports online business transactions and associated communications (Echanisms, Mccole, Ramsey, & Lim, 2014; Huang & Benyoucef, 2013). In other words, EC are related to business relationships and can be specified to transactions, such as supply chain input or post-sale customer relations (Wagner & Sweeney, 2010). EC is not only restricted to the actual buying and selling of product/services, it also represents a wide range of systems and inputs, including websites, storage, electronic publishing, electronic funds transfer, and mobile communications. Hashim (2009) further defined the term for EC specifically based on two significant indicators. Firstly, the business such as sharing information, buying and selling product activities must be conducted through

the telecommunication medium. Secondly, technology must be involved in the activities performed.

EC contains three main categories, namely Business to Business (B2B), Business to Consumer (B2C), and Consumer to Consumer (C2C) (M & Dumbre, 2017). In addition, there are two types of research paradigms, either adoption or diffusion. Basically, EC adoption can be influenced perhaps directly or indirectly through the technological, organizational and environmental factors. Furthermore, there are two streams of research will be used to explain the behaviour and technology characteristics. The first stream is focused on the individual level. For instance, Theory Reasoned Action (TRA), Theory Planned Behaviour (TPB), Technology Acceptance Model (TAM), extension of TAM2 and TAM3, Unified Theory of Acceptance and Use of Technology, and Diffusion of Innovation. As for the second stream, it is focused on the organization level. Examples for the second stream are Diffusion of Innovation-Organization Innovativeness (DOI) and Technology Organization Environment (TOE). Therefore, this research would like to explore the types of applications that support the EC ecosystem in the organization level.

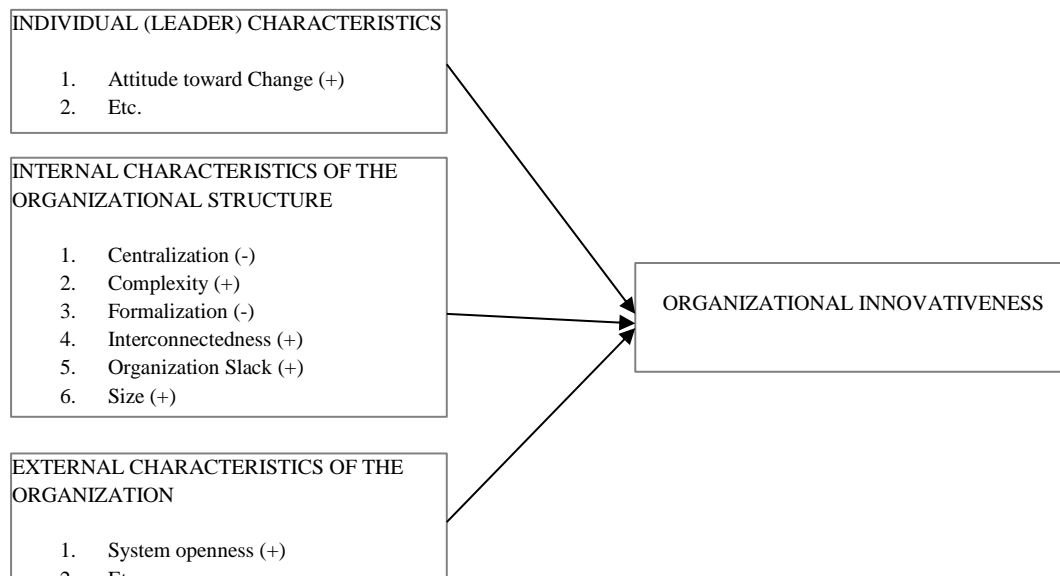
Diffusion of Innovation – Organizational Innovations

Diffusion of Innovation is one of the prominent example to explain diffusion of technology. However it only. Innovativeness was related to independent variables measured at certain dimensions of the organizational structures: centralization, complexity, formalization and openness.

Centralization:- “is the degree to which power and control in a system are concentrated in the hand of relatively few individuals.”(Rogers, 1983)

Complexity:- “is the degree to which an organization's members possess a relatively high level of knowledge and expertise, usually measured by the members' range of occupational specialties and their degree of professionalism expressed by formal training. Complexity encourages organizational members to conceive and propose innovations, but it may make it difficult to achieve consensus about implementing them.” (Rogers, 1983)

Figure 1: Diffusion of Innovation



Formalization:- “is the degree to which an organization emphasizes its members' following rules and procedures. Such formalization acts to inhibit consideration of innovation by organization members, but encourage implementation of innovation.”(Rogers, 1983)

Interconnectedness:- “is the degree to which the units in a social system are linked by interpersonal networks. New ideas can flow more easily and rapidly among an organization's

members if has higher interconnectedness, and this variable is positively related to organizational innovativeness.”(Rogers, 1983)

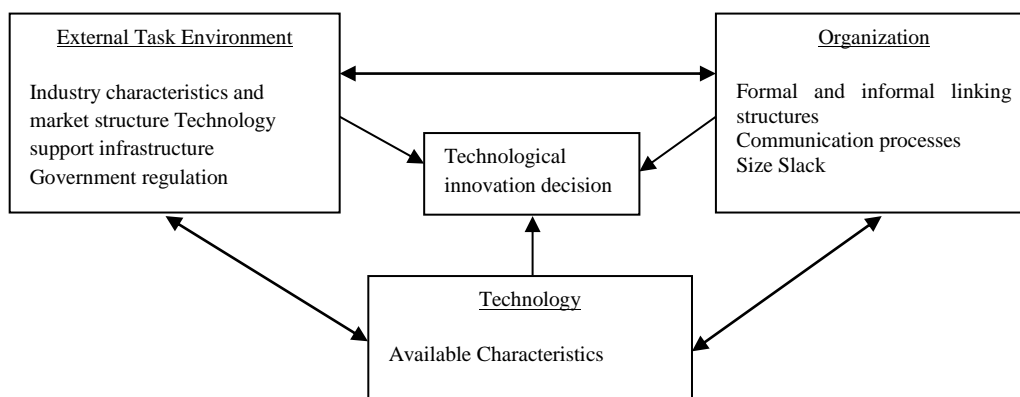
Organizational slack:- “is the degree to which uncommitted resources are available to an organization. Size is probably surrogate measure of several dimensions that lead to innovation: total resources, slack resources, organizational structures, and so on.”(Rogers, 1983)

Size:- “several dimensions that lead to innovation: total resources, slack resources, organizational structures, and so on” (Rogers, 1983)

Tornatzky and Fleischer (1990) (TOE) model

Tornatzky & Fleischer (1990) had introduced a framework named Technological Organizational Environmental (T.O.E.) to investigate information system studies. In this framework, it contains three context namely, i) technological ii) organizational, and iii) environmental.

Figure 2: Technological Organizational Environmental Framework



- (a) Technological context “describes both the internal and external technologies relevant to the firm. This includes current practices and equipment internal to the firm, as well as the set of available technologies external to the firm.”(Tornatzky & Fleischer, 1990)
- (b) Organizational context “refers to descriptive measure about the organization such as scope, size and managerial structure.” (Tornatzky & Fleischer, 1990)
- (c) Environment factors refer “management support, organizational readiness, government support, and pressures from partners, customers and competition.”(Tornatzky & Fleischer, 1990)

This study employs the TOE framework to propose a conceptual framework to determine the factors affecting e-commerce adoption. TOE is a framework originally proposed by Tornatzky and Fleischer to study the adoption of technological innovations. TOE framework is widely adopted by adoption and diffusion research because it is consistent with the Diffusion of Innovation Framework (Ghobakhloo, Arias-Aranda, & Benitez-Amado, 2011; Pan & Jang, 2008; Sila & Dobni, 2012; Tornatzky & Fleischer, 1990). In addition, it is able to explain more from other perspective views for instance environmental view and organizational view. Furthermore, the framework not biased to one particular context view compared to other framework i.e TAM, TRA etc. The decision to adopt innovative technologies not only rely on technology factors, but it can also come from the environmental factors or external parties

CONCEPTUAL FRAMEWORK

The Technology-Organization-Environment (TOE) framework is described as the entire process of innovation-stretching from the development of innovations by engineers and entrepreneurs to the adoption and implementation of those innovations by users within the context of a firm (Hsin-Pin & Hsiang-Ting, 2014). In general, the technology context, both

internal and external technologies which comprise of available technologies in the firm and existing technologies in the market will be examined (Yeng, Osman, Haji-Othman, & Safizal, 2015). While organizational context is classified in term of descriptive measures such as firm's business scope, top management support, organizational culture, formalization, the quality of human capital, and size-related issues such as internal resources and specialization (Awa, Ukoha, Emecheta, Harcourt, & Harcourt, 2016). Environmental context relates to facilitating and inhibiting factors in areas of operations (Awa et al., 2012).

E-commerce has technical components, similar to other IT innovations, but it also has multi organisational elements which distinguish it from other types of innovations (Alam, Ali, & Jani, 2011). The TOE framework serves as a primary theoretical framework for identifying factors for SMEs e-commerce adoption because the TOE framework is consistent with the theory of innovation diffusion (Rogers, 2003). The theory of innovation diffusion identified three groups of adoption predictors, which are internal characteristics of the organization (CEO attitude towards change and IT knowledge), and external characteristics of the organization (competitive business environment). It also emphasized the impact of technological characteristics (innovation attributes such as security and perceived cost) on potential adopters (Pudjianto, Zo, Ciganek, & Rho, 2011). Since CEO characteristics are an internal organizational factor, this theory (technological characteristics, internal characteristics of the organization and external environment characteristics) is consistent with the TOE framework. The proposed framework for SMEs e-commerce adoption needs to concentrate on the factors that affect the likelihood to adopt e-commerce, which is imbedded to the specific technological, organizational and environmental context.

One of the factors that can be identified is the cost related to the e-commerce implementation with regards to hardware/software and staff training (Bhattacharya, Wamba, & Aignan, 2015). The cost associated with e-commerce will play a big role in the adoption decision if it can result in significant expense to the organization. However, adopting e-commerce can also bring cost savings by simplifying the business process. Security is a critical e-commerce adoption issue and was measured by data security and absence of threat of hackers breaking into personal information (Awa et al., 2016). When e-commerce moves beyond simple transaction and interaction, the security become an essential issue as people are less likely to use the e-commerce due to security concerns and privacy issues. The privacy and security concerns are major barrier for e-commerce adoption and usage (Udo, 2001).

According to Rogers (2003), technologies are apparently one of the main features that have influence on the decision to adopt innovation system. There are numerous variables associated with technological context, for example network security issues (Aljowaidi, Arbia, & Arabia, 2015), cost in purchasing e-commerce related software, hardware, and training etc. (Ghobakhloo et al., 2011). Throughout the prior studies that have been conducted, it is illustrated that there was a positive relationship between technological contexts with the adoption of e-commerce (Aljowaidi et al., 2015; Bhattacharya et al., 2015; Yeng et al., 2015). Costs of innovations lead to lower intent to adopt despite the benefits that they provide. Thus benefits must exceed the cost of innovation adoption for decisions to adopt it (Bhattacharya et al., 2015). In this study, technological context includes the security and cost involved in the adoption process.

For the organizational context, one crucial factor within the organization is selected to examine e-commerce adoption. CEO characteristics is a factor that may influence e-commerce adoption among SMEs (Thong & Yap, 1995). CEO characteristics is one of the most significant factors to influence any type of innovation adoption (Al-Qirim, 2007), so support from CEO should also be significant for e-government assimilation. However, a company CEO has to have the right characteristics to innovate. If not there is little that other members of the organization can do to encourage the adoption of e-commerce (Thong & Yap, 1995).

Organizational factors are descriptive and directly relate to availability and use of internal resources (Aljowaidi et al., 2015). Majority of the researchers agree that organizational context had positive relationship with e-commerce adoption (Alam et al., 2011). Various studies investigated the factors under organizational context, for example CEO characteristics as factors of innovation adoption (J. Hashim, 2007; Sila, 2015; Thong & Yap, 1995). According to

Thong and Yap (1995), the CEO's characteristics are the determinant of the overall management style and decision of the business, including e-commerce usage and adoption.

Competitors in the business environment is suggested to be an important factor in e-commerce adoption in several studies (Awa et al., 2016; Bhattacharya et al., 2015). It is perceived to be positively influencing e-commerce adoption in an organization (Al-Qirim, 2007; Pudjianto et al., 2011). A firm without e-commerce may be at a disadvantage when compared with other competitors in the business environment who have adopted it. However, an organization in a less competitive environment (monopoly/niche business) may not be faced with a push to be innovative by adopting e-commerce.

Environment factor refers to the competition faced by the business in its own particular industry. E-commerce provide several organizational benefits that lead to competitive advantage and is thus of immense interest to several firms particularly retailers. A business without e-commerce may experience more pressure when its competitors have adopted it (Bhattacharya et al., 2015). Several studies have suggested competitor as of the defining factors in SME's adopting e-commerce (Awa et al., 2012; Ifinedo, 2011; Thong & Yap, 1995). The propositional statements as follows:

Propositional 1: There is a positive relationship between security and E-commerce adoption among SMEs in Perak state of Malaysia.

Propositional 2: There is a negative relationship between cost and E-commerce adoption among SMEs in Perak state of Malaysia.

Propositional 3: There is a positive relationship between CEO characteristics and E-commerce adoption among SME's in Perak state of Malaysia.

Propositional 4: There is a positive relationship between competitors and E-commerce adoption among SME's in Perak state of Malaysia.

Figure 3: Conceptual Framework



RESEARCH METHODOLOGY

Generally, there are two types of research philosophy and discipline, which are applied research and basic research (Gary, 2004; Salkind, 2009; Sekaran & Bougie, 2009). Sekaran and Bougie (2009) mentioned that research, a somewhat intimidating term for some, is simply the process of finding solutions to a problem after a thorough study and analysis of the situation factor. Business research can be described as a systematic and organized effort to investigate a specific problem encountered in the work setting, which needs a solution. Business research is grouped into applied research, whereas basic research generates a body of knowledge by

trying to comprehend how certain problems that occur in the organization can be solved. This research will apply quantitative research methods. Basically, these methods are followed by a set of protocols and rules. The way of data collection can be assisted by modern technology, computer assisted aided survey (CATI), interactive electronic telephonic survey, as well as through e-mail. The number of respondents depends on the size of population and based on the respective sampling method. Sekaran and Bougie (2009) further explained the entire deductive method, which starts from observation, preliminary information gathering, theory formulation, hypothesizing, further scientific data collection, data analysis, and deduction. The details are stated as follows:

I) Observation

“Observation is the first stage, in which one sense that certain changes are occurring, or that some new behaviors, attitudes, and feelings are surfacing in one's environment”. (Sekaran, 2003; Sekaran & Bougie, 2009)

II) Preliminary information gathering

“Preliminary information gathering involves the seeking of information in depth of what is observed.” (Sekaran, 2003; Sekaran & Bougie, 2009)

III) Theory formulation

“Theory formulation is an attempt to integrate all the information in a logical manner, so that the factors responsible for the problem can be conceptualized and tested.” (Sekaran, 2003; Sekaran & Bougie, 2009)

IV) Hypothesizing

“Hypothesizing is the next logical step after theory formulation. From the theorized network of associations among the variables, certain testable hypotheses or educated conjectures can be generated.” (Sekaran, 2003; Sekaran & Bougie, 2009)

V) Further scientific data collection

“After the development of the hypotheses, data with respect to each variable in the hypotheses need to be obtained. In other words, further scientific data collection is needed to test the hypotheses that are generated in the study.” (Sekaran, 2003; Sekaran & Bougie, 2009)

VI) Data Analysis

“Data gathered are statistically analyze to see if the hypotheses that were generated have been supported.” (Sekaran, 2003; Sekaran & Bougie, 2009)

VII.) Deduction

“Deduction is the process of arriving at conclusions by interpreting the meaning of the results of the data analysis.” (Sekaran, 2003; Sekaran & Bougie, 2009)

Therefore, methodology as stated by Sekaran (2003) and Sekaran & Bougie (2009) will be adopted for the future work. The respondent for this research will be the managers or admin staffs from the SMEs retail business in Perak. In addition, statistical methods will be used as the data analysis technique and SmartPLS is used to analyse the data (Ringer et al., 2005).

CONCLUSION AND DISCUSSION

These researches go through a comprehensive literature reviews and summarize four important variables which determine the SMEs decision to adopt e-Commerce technologies. In this research, CEO attitudes & characteristics are highlighted, besides technological, organizational and institutional environmental context are also included as well to further explain the phenomena adoption context in Malaysia. The framework is based on IS – TOE framework, provide a conceptual basis for further quantitative analysis.

This research provides both practical and theoretical contributions in this area. For theoretical, it will contribute a new interactive and multi-dimensional model by changing the allocated resources and experiment setting (Technological, Organizational, Environmental). The

result produced are able to assist the management to make the decision. As for practical, this study would extend the body of knowledge in e-Commerce technologies and e-business for Malaysia Environment, Industries practices by providing an interactive, multidimensional and concise model that can assess factors influence on SMEs business development.

REFERENCES

- ACCCIM. (2012). 2012 SME Survey. Retrieved March 15, 2012, from http://www.acccim.org.my/file/2012_SME_EN.pdf
- Al-Qirim, N. (2007). The Adoption of E-Commerce Communications and Applications Technologies in Small Businesses in New Zealand. *Electronic Commerce Research and Applications*, 6(4), 462–473.
- Alam, S. S., Ali, M. Y., & Jani, M. F. M. (2011). An Empirical Study of Factors Affecting Electronic Commerce Adoption among SMEs in Malaysia. *Journal Of Business Economics And Management Decision*, 12(2), 375–399.
- Aljowaidi, M. A., Arbia, S., & Arabia, S. (2015). A study of E-commerce Adoption Using the TOE Framework in Saudi Retailers : Firm Motivations , Implementation and Benefits A thesis submitted in fulfilment of the requirements for the, (September).
- Awa, H. O., Harcourt, P., Harcourt, P., Emecheta, B. C., Harcourt, P., & Harcourt, P. (2012). Integrating TAM and TOE Frameworks and Expanding their Characteristic Constructs for E-Commerce Adoption by SMEs Electronic Commerce (EC).
- Awa, H. O., Ukoha, O., Emecheta, B. C., Harcourt, P., & Harcourt, P. (2016). Using T-O-E theoretical framework to study the adoption of ERP solution. *Cogent Business & Management*, 42(1), 1–23. <http://doi.org/10.1080/23311975.2016.1196571>
- Bhattacharya, M., Wamba, S. F., & Aignan, M. Saint. (2015). A Conceptual Framework of RFID Adoption in Retail Using TOE Framework, 6(March), 1–32. <http://doi.org/10.4018/IJTD.2015010101>
- Dewan, S., & Kraemer, K. L. (2000). IT and Productivity: Evidence From Country-Level Data. *Management Science*, 46(4), 1–33.
- Echanisms, M., Mccole, P., Ramsey, E., & Lim, K. H. (2014). Research Article Trust, Satisfaction, and Online Repurchase Intention : The Moderating Role of Perceived Effectiveness of E-Commerce Institutional, 38(2), 407–427.
- Gary, D. E. (2004). *Doing Research In The Real World*. London : Sage Publication.
- Ghobakhloo, M., Arias-Aranda, D., & Benitez-Amado, J. (2011). Adoption of E-commerce Applications in SMEs. *Industrial Management & Data Systems*, 111(8), 1238–1269.
- Hashim, J. (2007). Information Communication Technology (ICT) Adoption Among SME Owners in Malaysia. *International Journal of Business and Information*, 2(2), 221–239.
- Hashim, N. A. (2009). E - Commerce And SMEs—The Need for Caution. *Prometheus*, 27(2), 125–140.
- Hsin-Pin, F., & Hsiang-Ting, F. (2014). A Framework For A Technology-Organization-Environment Implementation Model In Taiwan's Traditional Retail Supermarkets, 6(3).
- Huang, Z., & Benyoucef, M. (2013). Electronic Commerce Research and Applications From e-commerce to social commerce : A close look at design features. *Electronic Commerce Research and Applications*, 12(4), 246–259. <http://doi.org/10.1016/j.elerap.2012.12.003>

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- Ifinedo, P. (2011). *Internet/e-business technologies acceptance in Canada's SMEs: an exploratory investigation*. *Internet research* (Vol. 21). <http://doi.org/10662241111139309>
- Insider, T. M. (2015). E-commerce potential still low, despite rapid growth, says minister. Retrieved August 13, 2017, from <https://sg.news.yahoo.com/e-commerce-potential-still-low-103406326.html?pt=tAD2SCT8P7/2012-07-28.html?vp1>
- Kamaruzaman, K. N., & Handrich Yasmin, M. (2010). ICT Strategic Review 2010/11 E-Commerce For Global Reach, 89–134.
- Kartiwi, M., & MacGregor, R. C. (2007). Electronic Commerce Adoption Barriers in Small to Medium Sized Enterprises (sMEs) in Developed and Developing Countries: A Cross Country Comparison. *Journal of Electronic Commerce in Organizations*, 5(3), 35–51.
- Kurnia, S., Choudrie, J., Mahbubur, R. M., & Alzougool, B. (2015). E-commerce Technology Adoption: A Malaysian Grocery SME Retail Sector Study. *Journal of Business Research*, 68(9), 1906–1918.
- M, P. J. J., & Dumbre, G. M. (2017). Basic Concept of E-Commerce, 3(3), 1–5.
- NSDC. (2014). Guideline for New SME Definition. Retrieved March 30, 2015, from http://www.smecorp.gov.my/vn2/sites/default/files/Guideline_for_New_SME_Definition_7Jan2014.pdf
- Pan, M.-J., & Jang, W.-Y. (2008). Determinants of the Adoption of Enterprise Resource Planning within the Technology Organization Environment Framework: Taiwan's Communication Industry. *Journal of Computer Information System*, 48(3), 94–102.
- Perak Kerajaan Negeri. (2014). Data Asas Negeri Perak Darul Ridzuan.
- Pudjianto, B., Zo, H., Ciganek, A. P., & Rho, J. J. (2011). Determinants of E-Government Assimilation in Indonesia : An Empirical Investigation Using a TOE Framework, 21(1).
- Ringle, Christian M., Wende, Sven, and Will, Alexander (2005). SmartPLS 2.0.M3. Hamburg: SmartPLS, <http://www.smartpls.de>.
- Rogers, E. M. (1983). *Diffusion of Innovations* (Third Edit). The Free Press.
- Salkind, N. J. (2009). *Exploring Research* (7th ed.). Pearson Prentice Hall.
- Sekaran, U. (2003). *Research methods for business a skill-building approach* (4th ed.). New York: John Wiley & Sons, Ltd.
- Sekaran, U., & Bougie, R. (2009). *Research Method for Business A Skill Building Approach* (Fifth Edit). John Wiley & Son Ltd.
- Sila, I. (2015). *Factors Affecting the Adoption of B2B e- Commerce Technologies*. <http://doi.org/10.1007/s10660-013-9110-7>
- Sila, I., & Dobni, D. (2012). Patterns of B2B E-Commerce Usage in SMEs. *Industrial Management & Data Systems*, 112(8), 1255–1271.
- Teng, S. Y. (2012). *SMI SME Business Directory*. (F. Tan, Ed.) (11th ed.). SMI SME Business Directory. Retrieved from <http://www.smibusinessdirectory.com.my>
- Thong, J. Y. L., & Yap, C. S. (1995). CEO Characteristics, Organizational Characteristics and Information Technology Adoption in Small Businesses. *International Journal Management Sciences*, 23, 429–442.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of Technology Innovation*. Lexington Books.
- Udo, G. J. (2001). Privacy and security concerns as major barriers for e-commerce : a survey study, 165–174.
- Wagner, C., & Sweeney, E. (2010). E-Business in Supply Chain Management Electronic Supply Network Coordination in Intelligent and Dynamic Environments : Modeling and Implementation, 24–42.
- Yeng, S. K., Osman, A., Haji-Othman, Y., & Safizal, M. (2015). E-Commerce Adoption Among Small and Medium Enterprises (SMEs) In Northern State Of Malaysia. *Mediterranean Journal of Social Sciences*, 6(5), 37–43.

Dual Role of Information Quality: A Literature Review

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Abstract

Poor data quality is a never-ending issue. It has been studied as early as the 1990s, but so far, an effective solution has yet to be found. This paper reviews articles that have been published from 2000 to 2016 on data quality issues. A qualitative approach was used to investigate data integrity issues and their developments. From a few databases, 63 relevant journal articles were assessed. This review found that data quality plays a dual role based on an organization's internal and external view of the data. Internally, which is from the employees' point of view, quality data has to meet the dimensions of time, content, and forms. However, from an external point of view, or in other words, the consumers' perspective, data is valuable if it can be trusted. The external view is crucial in ensuring data transparency and consumer protection. In future, data studies from the external view are needed, as it is currently lacking.

Keywords: Systematic literature review, Data quality, Information integrity, Customer rights

INTRODUCTION

Data quality is no longer a new issue. Past literatures have proven that improving the quality of data is a never-ending commitment in most organizations. Data is a collection of unprocessed items. They can exist in the forms of text, numbers, images, audio, as well as video (Shelly & Vermaat, 2012). Information, on the other hand, is data that has gone through a value-added process to convey meaning to people and they are often useful (Shelly & Vermaat, 2012; Haug, Stentoft, Arlbjørn & Pedersen, 2009). Data can be categorized as tangible assets, while knowledge is known as intangible assets (Aljumaili, Karim & Tretten, 2016). Of late, data, information, and knowledge are labelled as the "new oil" in the digital era and located at the heart of all business operations (Madhikermi, Kubler, Robert, Buda & Främling, 2016) due to their importance, despite some believing that there is no clear difference between data and information (Al-Najjar & Kans, 2006; Ofner, Otto & Österle, 2012; Wang, & Strong, 1996). Others have agreed that there is no consensus on the distinction between data quality (DQ) and information quality (IQ) (Aljumaili, Karim, & Tretten, 2016) as the two terms have been used interchangeably to refer to the full range of relevant issues and their impact in various contexts and industries. The same concept is applied in this paper. The aim of this paper is to review the development in data quality literature in various contexts and themes, such as its various meanings and interpretations, fit-for-use and contextual issues, as well as its impact on most organizations. The authors found an obvious pattern in the review conducted – information quality is either discussed from an internal or external-of-organization point of view, thus, giving information quality its dual role. The dual role then explains the different types of data users and industries involved and the issues they face. The conclusion and discussion will be presented at the end of the paper.

RESEARCH METHODOLOGY

One of the most well-established methods to integrate research findings and assess the cumulative knowledge within a domain is conducting a Systematic Literature Review (SLR). This SLR allows researchers to analyze and evaluate both quantitative and qualitative literature within the information quality domain to draw conclusion about the state of the field.

Research Procedure & Scope of Research

This review collected the results of past literatures published in the years ranging from 2000 to 2016. An extensive search in databases like Emerald Insights, ScienceDirect, Taylor & Francis Online, Google Scholar, JSTOR, and Web of Science was conducted. Keywords such as data quality dimension, data quality issues, and data quality improvement were used. To further narrow down the results, the Boolean Operator Search (for example: data quality dimension NOT service quality; data quality AND customer rights) was used.

From this collection of papers, only papers reporting empirical results (both quantitative and qualitative) are included in this review. In the end, a total of 100 articles were pooled, but only 63 articles were assessed in the writing of this paper. Most of the articles gathered were journal articles published with very limited sources involving conference proceeding papers and doctoral thesis and dissertations. To perform a review, it is necessary to examine as much related literature as possible on the topic, however, to prevent from being overwhelmed, the primary searches for literature focused on journals within the Information Systems (IS) discipline. Also, priorities are given to empirical papers that discussed data quality dimensions or fit for use issues. However, the authors did not restrict the review to a specific industry or a specific use context.

INTERPRETING DATA, INFORMATION AND KNOWLEDGE

Data, Information and Knowledge

Various meanings and interpretations of data have previously been discussed by researchers. Data, information, and knowledge are seen as a hierarchical structure (Lillrank, 2003). Data is defined as a codified or symbolic representation of entities, properties, and their states that can be communicated to others. They have contents and forms that allow users to store, retrieve, transfer, aggregate, and perform analysis. When data is put into a context, they form meanings (Lillrank, 2003; Haug, Stentoft Arlbjørn & Pedersen, 2009). Context refers to the value-adding process to data such as categorization, calculation, and condensation (Davenport, & Prusak, 1998; Haug, Stentoft Arlbjørn & Pedersen, 2009; Moura e Sá & Martins, 2016), hence forming information or the by-product of data (Sellitto, Burgess, & Hawking, 2007). Information can also be considered as tangible (Toften & Rustad, 2005) and intangible assets (Aljumaili, Karim & Tretten, 2016), a product, and/or a business asset (Merino, Caballero, Rivas, Serrano & Piattini, 2016). Knowledge, on the other hand, describes how the world works (Lillrank, 2003). Researchers describe knowledge as the ability to draw distinctions within a collective domain of action based on an appreciation of context or theory, or both (Haug, Stentoft Arlbjørn & Pedersen, 2009).

The concept of quality can be defined by classifying it into four categories: excellence, value for money, conformity to requirements, and meeting or exceeding customer requirements (Lillrank, 2003). This means that quality is a condition that is “free from deficiencies” (Juran, 1988) or “consistently meeting customer expectations” (English, 1999). Quality of information can be assessed using customer requirements (Lillrank, 2003). The same can also be done in specific reference to the master data like customers, employees or product data (Haug & Stentoft Arlbjørn, 2011; Haug, Stentoft Arlbjørn & Pedersen, 2009; Haug, Stentoft Arlbjørn, Zachariassen & Schlichter, 2013). It can be assessed based on the systems that produced the data such as the Enterprise Resource Planning (ERP) data (Haug, Stentoft Arlbjørn & Pedersen, 2009).

Fit For Use and Contextual Data

Data is of high quality when it is ‘fit for use’ by data consumers (Wang & Strong, 1996; Tayi & Ballou, 1998; Strong, Lee & Wang, 1997; Ofner, Otto & Österle, 2012; Zahedi Nooghabi & Fathian Dastgerdi, 2016; Rohrer, Motz & Diaz, 2011; Huang, 2015; Lee & Strong, 2003). ‘Fit for use’ also refers to the data that is fine according to consumers (Moura e Sá & Martins, 2016). Some researchers relate data to its context-dependent (Glowalla & Sunyaev, 2014; Sellitto, Burgess & Hawking, 2007; Cobb Payton & Zahay, 2005) or put it as contextualized data quality (Huang, 2015; Lee & Strong, 2003; Ofner, Otto & Österle, 2012; Louise Lemieux, Gormly & Rowledge, 2014). By fitting into its context, the root causes of visible data quality issues can be examined (Glowalla & Sunyaev, 2014). In addition, context-dependent can be referred to the

business process that makes use of the data, the country in which the data is used, or the provision of the law that the data is required to comply with (Ofner, Otto & Österle, 2012). In big data projects, the evaluation of input data according to standards such as the ISO/IEC 25012 pointed out that contextual adequacy is needed to prove data quality-in-use by its final users (Merino *et. al.*, 2016).

IMPACT OF DATA QUALITY

Good quality of data or information is so crucial that it contributes to the survival of many organizations. It helps organizations make sound decisions (Aljumaili, Karim & Tretten, 2016; Haug, Stentoft Arlbjørn & Pedersen, 2009; Dayton, 2007; Sellitto, Burgess & Hawking, 2007; Madhikermi *et. al.* 2016), portray good image and reputation of companies (Xu, Horn Nord, Daryl Nord & Lin, 2003), appear trustworthy in the eye of stakeholders (Shabou, 2015; Toften & Rustad, 2005) and lead to effective and efficient operations (Aljumaili, Karim & Tretten, 2016; Gustavsson & Wänström, 2009; Lorence & Jameson, 2002). Data quality has a significant impact on organizations' overall incomes and expenditures (Madhikermi *et. al.*, 2016). It makes organizational data resources more reliable, thus enhancing the commercial benefits gained by using them (Aljumaili, Karim & Tretten, 2016).

In contrast, poor data quality is detrimental to the health of companies. It causes organizations to make bad decisions that consequently lead to the loss of confidence or credibility, and more than often very damaging to the financial health of companies (Redman, 1998; Marsh, 2005; Lorence & Jameson, 2002). Others claimed that poor data quality causes lower customer satisfaction, increased operating costs or expenses, lost sales, as well as lower performance and employee job satisfaction (Redman, 1998; Pipino, Lee & Wang, 2002). In a maintenance management area, the low quality of maintenance data reporting could result in wrong decision-making and loss of money (Madhikermi *et. al.*, 2016). Redman (1998) referred to the whole impact of data as "information ecology".

From another perspective, consumers also struggle with the quality of data that they deal with. An example is the Malaysian telecommunication (Telco) industry. According to a study by Frost and Sullivan (2015), the lack of transparency in pricing and subscription plans are the driving factors that pushed 83% of consumers away from their Telco service providers. Billing disputes were still the highest number of complaints in the telecommunication industry with issues such as unsolicited short messages, additional or wrong charges, charges without consumers' prior consent, poor coverage and charges for services that have been terminated (NCCC Annual Consumer Complaints Report, 2015). Moreover, the issues of data quality have been studied many times from an organizational point of view, but rarely from the consumers' point of view (Moura e Sá & Martins, 2016).

DUAL ROLE OF INFORMATION QUALITY

Information quality can be viewed from two different angles: organizations' (Moura e Sá & Martins, 2016; Haug & Stentoft Arlbjørn, 2011; Lorence & Jameson, 2002) and consumers' perspectives (Moura e Sá & Martins, 2016). From the organizational point of view, the employees value and make use of information for working purposes in order to achieve organizational goals and objectives. Customers, on the other hand, have every right to expect details such as their names, addresses, products ordered, and the amount charged in their bills are correct and they are often unforgiving of poor data (Redman, 1998).

Organizations as Data Users

In genomic curation work, scientists with different domain knowledge expertise value data quality dimensions and data quality skills and make use of them differently (Huang, 2015). The researcher used a survey method involving two scenarios to understand the relationship between three different types of domain knowledge and scientists' data quality requirements. The three domain knowledge involved were in the field of Computational Science, Bioinformatics and Biology (Huang, 2015). It was realized that biologists and bioinformaticians depend on the believability of the data they deal with, but not for the computational

scientists(Huang, 2015). Computational scientists, on the other hand, ranked understandability as their data quality dimension of particular importance. Moreover, it was worth noting that all three groups have chosen accuracy, accessibility and completeness among the most vital data quality dimensions. As for data quality skills, all three user groups valued highly of the technical skills such as data mining skills and statistical techniques. These findings may contribute in shaping the development of different, but hopefully better curation work policies and procedures, training programs, strategies, and problem-solving paths tailored to meet the different needs of curation scientists (Huang, 2015).

In the service industry, Glowalla and Sunyaev (2014) employed the Task-Technology-Fit (TTF) approach and explored the Enterprise Resource Planning (ERP) system's fit within the Data Quality Management (DQM) of 14 insurance-based companies in Germany. From these organizations, the researchers attempted to relate ERP system and DQM issues to the context of the organizations involved such as the background of the company, participant and task environment. Two major issues were noted: compliance with regulations and ERP system's limitations to data analysis. In order to increase engagement in ERP insurance data analyses, complying with upcoming regulations such as the Solvency II may serve as a bridge that accelerates organizations to use more of the ERP system functionalities. This is because regulations required increasingly detailed levels of data reporting and ERP systems are used extensively to comply with regulations. Thus, the ERP system vendors were urged to extend the data analysis capability of the ERP system to cater for regulations reporting (Glowalla & Sunyaev, 2014).

In a marketing environment, data quality is influenced by a few factors: trust in the data, trust between personnel in data sharing, and the ability of the corporate data warehouse (CDW) to meet marketing personnel needs (Cobb Payton & Zahay, 2005). Cobb Payton and Zahay (2005) explored the organizational factors to explain why a corporate data warehouse in a health care payor organization was not used by the marketing professionals to the extent that it was supposed to be used for Customer Relationship Management (CRM) purposes. They found out that the personnel's lack of trust in the CDW data, the staff's low perceived quality of the data and the perceived lack of incorporation of staff's needs in the design of the CDW and its interface caused the ignorance of the CDW by the staff. Lack of trust in the data implied that information quality is one of important measures of the success and failure of a data warehouse for sustaining CRM initiatives.

The construction industry is believed to have produced voluminous quantitative data especially during the controls phase of a project (Songer, Hays & North, 2004). These data are used by engineers and contractors for construction control processes such as scheduling, budgeting and change management. The researchers set out to investigate and propose a visual framework to a data-rich, information-poor construction problem and observed the outcome of the new data visualization. By adopting the charette testing, a treemap strategy was illustrated by them to better get an information-rich visual overview of monthly budget or cost report dealt with by accountants and project managers in the construction industry. It turned out that the use of the treemap strategy, compared to the traditional textual reports, allowed a deeper insight especially for cost overrun situations. The treemap and the cost overrun information allowed those who have knowledge of the job to pick up signals of irregular physical phenomena involving earth-moving operations (Songer, Hays & North, 2004).

In Australia, Xu *et. al.*(2003) assessed accounting information quality management involving four large organizations. They identified five stakeholders in accounting information systems as the information producers, information custodians, information consumers, information managers and the internal auditors. Four key issues that impacted accounting information quality were addressed. The key issues were human, system, organizational and external issues. The accountants believed that human process controls were more important than the systems controls as at the end of the day, the system would still rely on people to enforce the rules and controls. Hence, Xu *et. al.* (2003) emphasized on the importance of training and education provision to human capital. The emphasis on human issues, among other things, is caused by the division of the labor and the knowledge domains needed to solve data quality problems (Lee & Strong, 2003; Xu, Horn Nord, Brown & Daryl Nord, 2002). They

also pointed out that an organizational culture with strong data quality commitment from its top management would likely lead to a better information output.

Through information visualization, visual analytics (VA) provided visualization tools such as a diagram or a chart for visual analysts to analyze and examine large data sets in order to understand them (Louise Lemieux, Gormly & Rowledge, 2014). Data issues were often seen as the barrier to effective visual analytics. The most tedious and time consuming stage in visual analytics was data discovery and wrangling. Problems in visual analytics were caused by missing or the unavailability of data, denied access to data, incomplete data such as data with missing values, and human error. By quality, Laitio (2011) labeled these incomplete, imprecise, ambiguous and uncertain data as imperfect data. Louise Lemieux, Gormly and Rowledge (2014) addressed VA data challenges from a records management perspective and suggested ways in which records management control might be useful to address VA issues. This is because neglecting the importance of data management can cause organizations to spend hours correcting data later in the process (Haug, Stentoft Arlbjörn & Pedersen, 2009). ISO (2001) 15489 *International Records Management Standard* and ARMA's *Generally Accepted Recordkeeping Principles* were referred to by the researchers in this study. Among others, in order to reduce missing and erroneous data values, organizations should establish a comprehensive records management program in which the form and structure of records created should be determined (ISO 15489). This allowed the creation of a useable record, one that can be located, retrieved, presented and interpreted by its users (Louise Lemieux, Gormly & Rowledge, 2014).

In the healthcare environment, managers realized the importance of formal, continuous data quality assessment in health services delivery and quality management (Lorence & Jameson, 2002). Lorence and Jameson (2002) conducted a national survey of health information managers to examine how quality management practices vary across geographical areas. Indicators for system-based data quality problems arose from errors reported in aggregated and/or individual data, user complaints about unavailable information, data editing when it is transferred from one system to another, as well as internal and external data quality audits. The researchers found out that system-based, aggregated data analysis has not been widely implemented as a data quality assessment tool. Traditional paper-based audits (internal and external audits) were still the preferred means of data quality management in US healthcare organizations despite the government-wide mandates for system-based, uniform data management (Lorence & Jameson, 2002).

Salaün and Flores (2001) studied Relational Marketing in the food (beef) industry in Lunéville area in north-eastern France. From an organization point of view, they attempted to understand the consumers' need in information quality. In their study, good quality of information is a pre-requisite in setting up an active partnership between suppliers and consumers. It can lead to trust and consumer loyalty. Meat consumers looked for more information than just the price and appearance of a product. They wanted to know the conditions the product was manufactured. This can be expressed through codes, logos, signs, texts and even a certification from an external body. According to Salaün and Flores (2001), good quality information is information that satisfied criteria that is appreciated by the user, together with a certain standard of requirements. They, however, did not support the intrinsic quality in information.

In addition, good quality of information is produced through a continuous exchange of information process between the economic agents. This formed a learning process and in the long term, leads to a trust-based relationship. Once relations with consumers are established and maintained, the exchange of information became personalized (such as emotional attachment to a product) and may contain promises from the suppliers. Trust, to these researchers, is a condition when one believed in the other and of being transparent. It is built up based on a minimum of shared knowledge or a common experience shared by the agents (Salaün & Flores, 2001). The summary of the findings and the data quality dimensions in each past study can be found in Table 1.

Table 1: Organizations as Data Users

Author	Year	Industry/ Area of Study	Data Quality Dimension
<i>Aljumaili et al.</i>	2016	-	Completeness, Consistency & Accuracy
<i>Madhikermi et al.</i>	2015	Multinational Equipment Manufacturer (Original Equipment Manufacturer)	Believability, Completeness & Timeliness
Huang	2015	Genomic Science	Accuracy, Accessibility, Usefulness & Relevancy
<i>Merino et al.</i>	2015	Big data projects	Contextual adequacy, Temporal adequacy, Operational adequacy
Glowalla and Sunyaev	2014	Insurance Services	Contextual
Louise Lemieux, Gormly and Rowledge	2014	Visual Analytics	Contextual linkages
Ofner, Otto, and Osterle	2012	Communication Manufacturer	Contextual, Consistency, Completeness & Correctness
<i>Haug et al.</i>	2009	-	Intrinsic, Accessibility & Data Usefulness
Gustavsson and Wänström	2009	Aerospace, Textile, & Automotive	Complete, Concise, Reliable, Timely, Valid, Accessible, Appropriate Amount, Credible, Relevant & Understandable
Cobb Payton and Zahay	2005	Marketing	Contextual & Trust
Songer, Hays and North	2004	Construction Project	Visual Representation (Treemap Strategy)
<i>Xu et al.</i>	2003	Government/Public, Higher Education	Accuracy, Timeliness, Completeness & Consistency
Lee and Strong	2003	Work Process	Contextual: Know-what, Know-how, Know-why
<i>Xu et al.</i>	2002	Transportation & Mining	Accuracy, Timeliness, Completeness & Consistency
Lorence and	2002	Healthcare	Contextual

Jameson

Salaün and Flores	2001	Beef industry, Relational Marketing	Reliability, Relevance, Personalization of exchanges, Accessibility
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Consumers as Data Users

Consumers are also data users and their ‘voice’ is crucial so as to not jeopardize their trust on the services provided (Moura e Sá & Martins, 2016). Information that leads to the building of trust-based relationships is considered valuable information (Toften & Rustad, 2005). Moura e Sá and Martins (2016) explored the voice of consumers on the Portuguese water invoices. Based on the views of consumers, they proposed an ideal water invoice that served the WHATs in the Hauser and Clausing’s (1988) House of Quality model. According to these researchers, a proper invoice should be plain in language so that it is understood by water consumers. In addition, consumers also value accurate and complete information, short documentation and a guide given to unusual consumption (Moura e Sá & Martins, 2016). The Norwegian seafood industry consisted of mainly the small-and-medium sized firms that depended heavily on export information assistance (Toften & Rustad, 2005). Export market information included statistics, prices, trends, political issues in exporting countries, preferences and historical background of the market. To the export managers, deep values such as honesty and empathy are precious for data consumers. This is because information, seen as a service, must be able to cater for individual needs and treated with respect (Toften & Rustad, 2005).

Table 2: Consumers as Data Users

Author	Year	Industry/ Area of Study	Data Quality Dimension
Moura E Sá and Martins	2016	Water Utility	Relevance, Completeness, Unambiguousness, Understandability, Adequate Format, Accuracy/Precision, Accessibility, Level of Detail, Comparability & Timeliness
Zahedi Nooghabi and Fathian Dastgerdi	2016	World Wide Web (semantic web)	Accessibility
Saha, Nath, and Salehi-Sangari	2012	Government E-Tax Services	System Quality: Accessibility, Easy Navigation Information Quality: Accuracy/Precision, Timeliness & Completeness
Rohrer, Motz, and Diaz	2011	Healthcare Websites	Timeliness, Readability, Believability, Reputation
Bouwhuis	2006	Internet (Digital Information)	Permanence, Security, Accessibility, Trust
Toften and Rustad	2005	Seafood (SMEs)	Service Aspects: Reliability, Responsiveness, Assurance & Empathy;

Outcome Aspects: Form And
Comparability, Infrastructure, General
Marketing, Specific Marketing,
Production/Supply, and Regulatory
Framework

Due to immaterial nature of digital information, several issues were noted as of importance to its users. Internet users trust a direct access to information (Bouwhuis, 2006). Difficulties in accessing the information reduced the level of users' trust and increase the likelihood for them to switch to other sites. In addition, digital reputation relied on users' believability on the source of information provided which largely depended on the perception of individual user (Bouwhuis, 2006). In terms of web data, quality is somewhat fuzzy as everyone is able to publish and retrieve data without restrictions (Laitio, 2011). In the context of linked open data (LOD), Zahedi Nooghabi and Fathian Dastgerdi (2016) have chosen accessibility attribute as all the other attributes of data will become insignificant when it is inaccessible. They proposed data accessibility metric based on goal question metric (GQM) approach. This resulted in three main issues in LOD accessibility: the availability, the performance and the security policy of the data to represent the success of the semantic web (Zahedi Nooghabi & Fathian Dastgerdi,2016).

In the case of e-government services, citizens are best classified as the governments' buyers of information or services. From system quality perspective, citizens place high value on the ease of navigation and accessibility while information has to be precise, timely and sufficient to meet the information quality perspective in the Swedish e-tax filing services. These views were of utmost importance in order to help government agencies improve service provision in the Government-to-Consumer (G2C) area (Saha, Nath & Salehi-Sangari,2012). The summary of the findings and the consumers' data quality dimensions can be found in Table 2.

CONCLUSION AND DISCUSSION

Data, or information, has various interpretations according to its users, as well as the purpose they are used. It has been classified as a product (tangible) by some or as a service (intangible) by others. While an attribute is considered crucial in an industry, it is meaningless to the other professions. Past studies are valuable in highlighting the data quality dimensions relevant to various areas such as genomic curation, marketing, services such as insurance and accounting, construction projects, visual analytics, maintenance, and e-services. The findings to improve data creation quality will reflect a better organizational performance and produce satisfied consumers. In contrast, poor information quality may result in the loss of stakeholders' confidence as well as detrimental to the survival of organizations. Therefore, the cycle of information or the information ecology deserved proper attentions as it contained the positive and negative chain reactions to organizations and consumers.

Most of the past studies looked at the importance of data from the insiders' (organization) point of view. The consumers' views (external data consumers) on data quality is also important and should receive further attentions as currently it is lacking in research. Consumer issues such as incorrect billings, poor customer services, poor presentation of information, lack of transparency and outdated customer records were being long neglected. This might be due to the lack of awareness and education on the part of the consumers. Consumers should be aware and in control of their rights and protection so that a trust-based relationship between organizations and consumers could be established. At the same time, the enforcement of proper measures by regulators should be observed.

In most data quality management efforts, the involvements of information producers, information custodians, information consumers and information managers were noted. The crucial roles played by information custodians as to know what information to collect, the process they are to be used by data consumers and whether or not to give access to information users should be observed. A strong organizational culture on data quality commitment, strong supports from strategic management and proper trainings for data-

responsible staff are a must factor in improving information ecology. In future, data studies to examine the broader influences external to the organization, the comparative or the bridging between external and internal data influence should be examined (Lorence & Jameson, 2002).

REFERENCES

- Aljumaili, M., Karim, R., & Tretten, P. (2016). Metadata-based data quality assessment. *VINE Journal of Information and Knowledge Management Systems*, 46(2), 232-250.
- Al-Najjar, B., & Kans, M. (2006). A model to identify relevant data for problem tracing and maintenance cost-effective decisions: a case study. *International Journal of Productivity and Performance Management*, 55(8), 616-637.
- Bouwhuis, D.G. (2006). Perception and Interpretation of Internet Information: Accessibility, Validity and Trust. *Journal of Information, Communication and Ethics in Society*, 4(1), 7-16.
- Cobb Payton, F. & Zahay, D. (2005). Why doesn't marketing use the corporate data warehouse? The role of trust and quality in adoption of data-warehousing technology for CRM applications. *Journal of Business & Industrial Marketing*, 20(4/5), 237-244.
- Davenport, T. H. & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business Press.
- Dayton, M. (2007). Strategic MDM: the foundation of enterprise performance management. *Cutter IT Journal*, 20(9), 13.
- English, L.P. (1999). *Improving Data Warehouse and Business Information Quality*. New York: Wiley.
- Frost & Sullivan (2015). Malaysian Telecommunications Services Customer Experience 2014. Retrieved on Nov 15, 2016 from <http://ww2.frost.com>
- Glowalla, P. & Sunyaev, A. (2014). ERP system fit—an explorative task and data quality perspective. *Journal of Enterprise Information Management*, 27(5), 668-686.
- Gustavsson, M. & Wänström, C. (2009). Assessing information quality in manufacturing planning and control processes. *International Journal of Quality & Reliability Management*, 26(4), 325-340.
- Haug, A. & Stentoft Arlbjørn, J. (2011). Barriers to Master Data Quality. *Journal of Enterprise Information Management*, 24(3), 288-303.
- Haug, A., Stentoft Arlbjørn, J., & Pedersen, A. (2009). A classification model of ERP system data quality. *Industrial Management & Data Systems*, 109(8), 1053-1068.
- Haug, A., Stentoft Arlbjørn, J., Zachariassen, F., & Schlichter, J. (2013). Master Data Quality Barriers: An Empirical Investigation. *Industrial Management & Data Systems*, 113(2), 234-259.
- Hauser, J. R., & Clausing, D. (1988). The House of Quality, *Harvard Business Review*, 66(3), 63-73.
- Huang, H. (2015). Domain knowledge and data quality perceptions in genome curation work. *Journal of Documentation*, 71(1), 116-142.
- Juran, J.M. (1988). "The Quality Function, in Juran, J.M. & Gryna, F.M. (Eds), *Juran's Quality Control Handbook*, p. 21-213.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Laitio, J. (2011). *Semantic Web Data Quality Control* (Doctoral Dissertation, Aalto University)
- Lee, Y. W. & Strong, D. M. (2003). Knowing-why about data processes and data quality. *Journal of Management Information Systems*, 20(3), 13-39.
- Lillrank, P. (2003). The quality of information. *International Journal of Quality & Reliability Management*, 20(6), 691-703.
- Lorence, D. P. & Jameson, R. (2002). Adoption of information quality management practices in US healthcare organizations: A national assessment. *International Journal of Quality & Reliability Management*, 19(6), 737-756.
- Louise Lemieux, V., Gormly, B., & Rowledge, L. (2014). Meeting Big Data challenges with visual analytics: The role of records management. *Records Management Journal*, 24(2), 122-141.
- Madhikermi, M., Kubler, S., Robert, J., Buda, A., & Främling, K. (2016). Data quality assessment of maintenance reporting procedures. *Expert Systems with Applications*, 63, 145-164.
- Marsh, R. (2005). Drowning in dirty data? It's time to sink or swim: A four-stage methodology for total data quality management. *Journal of Database Marketing & Customer Strategy Management*, 12(2), 105-112.
- Merino, J., Caballero, I., Rivas, B., Serrano, M., & Piattini, M. (2016). A Data Quality in Use model for Big Data. *Future Generation Computer Systems*, 63, 123-130.
- Moura e Sá, P. & Martins, R. (2016). Data quality requirements for water bills. *The TQM Journal*, 28(6), 933-953.
- NCCC Annual Consumer Complaints Report. (2015). Retrieved March 30, 2017 from <http://www.konsumerkini.net.my/medialib/index.php/nccc-annual-report#>
- O'Brien, J.A. & Marakas, G. (2014). *Introduction to Information Systems*. New York: McGrawHill.
- Ofner, M. H., Otto, B., & Österle, H. (2012). Integrating a data quality perspective into business process management. *Business Process Management Journal*, 18(6), 1036-1067.
- Pipino, L. L., Lee, Y. W., & Wang, R. Y. (2002). Data quality assessment. *Communications of the ACM*, 45(4), 211-218.
- Redman, T. C. (1998). The impact of poor data quality on the typical enterprise. *Communications of the ACM*, 41(2), 79-82.
- Rohrer, E., Motz, R., & Diaz, A. (2011). Modelling a web site quality-based recommendation system. *International Journal of Web Information Systems*, 7(4), 396-420.
- Saha, P., Nath, A.K., & Salehi-Sangari, E. (2012). Evaluation of Government e-tax Websites: An Information Quality and System Quality Approach. *Transforming Government: People, Process and Policy*, 6(3), 300-321.
- Salaün, Y., & Flores, K. (2001). Information quality:: Meeting the needs of the consumer. *International Journal of Information Management*, 21(1), 21-37.
- Sellitto, C., Burgess, S., & Hawking, P. (2007). Information quality attributes associated with RFID-derived benefits in the retail supply chain. *International Journal of Retail & Distribution Management*, 35(1), 69-87.
- Shabou, B. M. (2015). Digital diplomatics and measurement of electronic public data qualities. *Records Management Journal*, 25(1), 56.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Shelly, G. B., & Vermaat, M. E. (2012). *Discovering Computers Fundamentals: Your Interactive Guide to the Digital World*. Cengage Learning.
- Songer, A.D., Hays, B., & North, C. (2004). Multidimensional Visualization of Project Control Data. *Construction Innovation*, 4(3), 173-190.
- Strong, D. M., Lee, Y. W., & Wang, R. Y. (1997). Data quality in context. *Communications of the ACM*, 40(5), 103-110.
- Tayi, G. K., & Ballou, D. P. (1998). Examining data quality. *Communications of the ACM*, 41(2), 54-57.
- Toften, K., & Rustad, K. (2005). Attributes of information quality of export market assistance: an exploratory study. *European Journal of marketing*, 39(5/6), 676-695.
- Wang, R. Y., & Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers. *Journal of management information systems*, 12(4), 5-33.
- Xu, H., Horn Nord, J., Brown, N., & Daryl Nord, G. (2002). Data Quality Issues in Implementing an ERP. *Industrial Management & Data Systems*, 102(1), 47-58.
- Xu, H., Horn Nord, J., Daryl Nord, G., & Lin, B. (2003). Key issues of accounting information quality management: Australian case studies. *Industrial Management & Data Systems*, 103(7), 461-470.
- Zahedi Nooghabi, M., & Fathian Dastgerdi, A. (2016). Proposed metrics for data accessibility in the context of linked open data. *Program*, 50(2), 184-194.

Business Strategy, Strategy Implimentation Issues and the Performance of the Small Business in Malaysia: Towards A Research Agenda

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Abstract

A small business is one of the principles driving force in the development country including our country, Malaysia. It is a backbone for the economy boost the gross domestic product (GDP), product innovation, and creating more job opportunities. Realizing that this sector is important to the county, our government was created more opportunities and at the same time give a support to help this sector prosper. However, besides the opportunity and support from the government, the survival rates and durability for a small business are still alarming. One of the reasons is not because they do not practice any types of business strategy, but due to some implementation issues that are need for the owner-manager of the small business to address. This paper offers a research framework and a list of questions for further research.

Keywords: Small Business, Business Strategy, Strategy implementation, performance

INTRODUCTION

As noted by Hashim, Wafa, and Sulaiman, (2000) and Gray and Saunders, (2016), small and medium enterprises (SMEs) are one of the principle driving forces for the development of economy. It is a backbone to the Malaysian economic growth. It helps to boost the gross domestic product (GDP), creating more job opportunities, and as a source of innovation (Cronin-Gilmore, 2012). Consequently, it is not surprising that our government has changed their policy and vision from an agriculture based economy to an industrial based economy. Moreover, there are many initiatives, encouragement, and incentive provided by our government to the entrepreneur in order to make this field grow and prosper. Many agencies were setup such as, Majlis Amanah Rakyat (MARA), SME Corp Malaysia, and Perbadanan Usahawan Nasional Berhad (PUNB) to give coaching, short course, forum, and offer loan facility to the entrepreneur who fit their requirement for starting a new business.

However, although there are a lot of incentives and encouragement either from the government and its agencies, it is argued that only about 50% of small business are still trading after the first three years of start-up (Gray & Saunders, 2016). According to Harper (2003), it is fact that not more than half of the 800,000 business started this year will be around 5 years from now. Most of them are closed or sold to another individual that think they can beat the odds. From the literature, one of the factors that contribute to the improvement of competitive performance either in a big or small enterprise is by practising of strategic management principles. As noted by Cronin-Gilmore,(2012), Hashim, (2008), and Campbell, Edgar, and Stonehouse, (2011), achieving the competitive advantage in a dynamic and intensely competitive environment is by applying the strategic management principles, such as formulating and implementing a coherent competitive strategy. According to these authors, entire firms are able to achieve a superior performance and get above average return. This argument was supported by many researchers such as, Cheng, Abdul Kadir, and Bohari, (2014), and Zakaria and Dahlan, (2014). They agree that organization that practice the strategic management principle in their daily operation will improve in their performance to compare with a company that not practice a strategic management.

However, the superior performance and achievements of above average return only can be reached if the managers can implement the formulated strategy well. As noted by

Aaltonen and Ikävalko, (2002), Claudiu, Flaviu, and Georgeta-Madlina., (2008), Raps, (2005), Okumus, (2003), and Zakaria and Dahlan, (2014), a well-defined strategy would not generate any results if there is a problem during the implementation process. The success for implementing a strategy is vital for any organization as most of the strategies stumble in the implementation phase due to some issues arise (Okumus, 2003). In view of those issues that are associated with a small business, there is a need for us to develop a new research for investigating the relationship between business strategy and strategy implementation in the performance of small business in Malaysia. Our hope in writing this article is briefly to explain why small business owners need a business strategy and at the same time required managers who are able to implement the strategy according to their plan.

This paper argues that the effect of business strategy or competitive strategic activities to the performance is moderated by the implementation issue that are faced by the owner-manager during the implementation process. In addition, it is argued that the business strategy that was formulated by the owner-manager will produce a result as desired depending on the ability of the owner-manager to overcome this problem.

LITERATURE REVIEW

The decline of Small Business in Malaysia

The small and medium-sized enterprises (SMEs) sectors are important for most countries. It is one of the principle driving forces in developing countries. These scenarios also can be seen in Malaysia. Small business drives the economy and sustain the technological lead in the global marketplaces (Cronin-Gilmore, 2012). According to the census, there are 645,136 SME business operated throughout of the country in 2011 and the numbers of SMEs will increase every year as there are more incentives and encouragement by our government for achieving the status of developing country (<http://www.smecorp.gov.my>). According to Hashim, (2005), there are 60 agencies in Malaysia that were involved in assisting the development of the SMEs sector and their roles are different between each agency. Besides providing short courses, training, coaching and seminar for small business owners, the government agencies also give a chance to them to apply for the financial assistance in helping them to grow their business. Usually, after a few month of operating (minimum operating is within six months) they are entitled for apply a business loan from the government agency such as, TEKUN, SMEs loan, AMANAH IKHTIAR and PUNB for expanding of their business. Many of the entrepreneurs benefited from this programme. (<http://www.mara.gov.my>).

Although there are a lot of incentive and assistance provided by the government, the failure rate among small business is high. The main problem is regarding their characters. A small business is easy to form and this type of business is mostly owned by individuals and offer limited goods and service. The majority of small businesses are located amidst residential areas and their shop size is very small (between 100 and 200m²). They only stock an essential product that fulfils a local demand in a small quantity. They act as intermediaries between supplier and customers. They sell goods and services to customers for their family and personal use. They offer the right assortment and limited selection of the brand product and the price is higher by 10 –15 percent from the supermarket or hypermarket. Their price is more expensive when compared to hypermarket because they buy in a small quantity and store less stock in their premises (Khare, 2014, Khalilur Rahman, 2014 and D'Andrea & Aleman, 2006). Because of slow moving of product and low profit margin, most of the small business owners have difficulties in expanding their business and market share.

In addition, after the emergence of the big supermarket in Malaysia in the late 2000s due to the intensified globalization, most of the small business experienced another pressure and negative impact from this 'category killer' because this type of supermarket has their own strategy and strength for capturing the market share (Kaliappan, Alavi, Abdullah, & Zakullah, 2008). Normally, they operated in a specific location, stock a wide range of products varieties, especially household necessities and seek profit through high volume by offering a lower price. They also are putting a strenuous effort to develop customer loyalty such as, by organizing competitions, introducing loyalty cards, having the lowest price campaign, and improvements to the store appearance including free parking space to customers to attract them to come and shop. As a result, the majority of modern consumers' shift their buying habits and visit this

modern supermarket or category killer every month for a shopping trip and abandon the small traders. At the end, the traditional groceries and small traders have declined in numbers or they are forced to downsize their operations (Choo, 2010, Parnel & Lester, 2008, Khalilur Rahman, 2014, and Hassan, Sade, & Rahman, 2013). Finally, changing consumer habits also contributed to the decreasing small business. As noted by Donnell, Hutchinson, and Reid,(2012), the key to success in their retailing business is they must understand their customer's needs and wants. However, one of the problems that are faced by customers when they are dealing with a small business are their products are mostly outdated. Most of the owner of small traders rarely re-evaluates their product and service provision. This practice will lead to decreasing customer loyalty and a decline in sales and pave the way for the failure of the business. (Murray, Yong Gao, & Kotabe, 2011 and Ebben & Johnson, 2005).

Business Strategy and Small Business

Most small business are opened by individuals who do not seem to have any particular experience in the business and he/she managed his/her business alone because they could not afford to hire expertise to help them run the business. As a result, the success or failure of their business depends on the sole ability of the owner (Ozcan, 2000 and Adisa, Abdurraheem, & Mordi, 2014). While a large business depend on team of expert or skilled managers, small business only depend on the skills of owner (Dyer & Ross, 2008). In addition, most of the small business owners are less convinced of the values of strategic planning, although they are involved in planning a day-to day operation (Sandberg, Robinson, & Pearce II, 2001). One of the reasons why most of the owners of small business are not involve in strategic planning is they have limited of time for thinking about the long term of competitive issue.

Beside that, small businesses also have a limited amount of resources such as, support staff, knowledge, infrastructure, specialize sources, and information. In addition, the majority of the owner of small business depend on their own experience and intuition during managing of their business entities (Conant & White, 1999, Dyer & Ross, 2008, and Cheng et al., 2014). These types of limitation contribute to the failure rate among small business entities. It also noted that the majority of small business owners has agreed that all business entities, regardless of their size and types are needed a business plan and a business strategy. However, the most important reason why the owner-manager emphasis on having a business plan or business strategy is because they want to apply for a loan or attract an investor to invest in their business. After the loan was approved or investors are brought on board, the business plan only serves as a resources solicitation document. This scenario has been observed time and again. This factor contributed to the failure rate among small business (Sandberg et al., 2001). Besides that, many of small business owners routinely plan their day-to day operation but they do not believe that strategic planning applies to them (Sandberg et al., 2001). In contrast, from the literatures and past studies, it was proved that the owner- manager need a plan and think strategically to avert failure and making a bad decision (Conant & White, 1999 and Zakaria, 2010). Strategic approach will provide a clear sense and direction to the owner-manager of small business for making a decision.

Importance of Business Strategy

Strategic management is concerned about understanding, choosing and implementing the strategy that the organization intends to employ. The strategic management literature has emphasized that for achieving a competitive advantage in a dynamic and intensely competitive environment, there is a need for owner-manager to have a good and sound business strategy. It's ensured that there is a strong alignment between strategy, staffing, system, skills, leadership style, and organizational culture will improve performance and the relationship between business strategy and performance become a central question in strategic management studies (Mazzarol & Reboud, 2009 and Charles, Ogbeide, & Harrington, 2011). A strategy that is used by organizations is developed through the strategic management process. There are several models or frameworks in the field of strategic management that seeks to identify the different strategies that companies adopted in order to achieve competitive advantages. The strategy served as a tool for an owner-manager to analyse his business entity and its environment in order to develop a propose mechanism to improve performance. (Garrigós-Simón, Marqués, & Narangajavana, 2005 and Hashim, 2008).

To succeed in a long term, an organization must compete effectively and out-perform their rivals by finding a suitable ways for creating and adding value for their customers. To achieve this objective, they must have a strategy. The strategy will give a clear direction what steps the owner-manager should perform in order to achieve the organizational target. The strategy provides the owner-manager a roadmap to navigate the competitive territory. According to the business strategy perspective, a firm's competitive can be achieved if the owner manager can craft and implement a competitive strategy well (Campbell et al., 2011). Many authors and researchers such as, Garrigós Simón and Marqués, (2004) and Tan, Liyin, and Langston, (2012), agrees that the business strategy is needed for a firm to improve on their performance, particularly in a rapidly changing environment. By having a business strategy, the owner-manager will have a clear direction on how to propose a direction where his company will go in the future. So, there is a need for them to have a clear understanding of their industry and developed a competitive strategy to improve performance. While historically most of the strategic management theory and models have been developed for large firms, there is also a need for small business to have a competitive strategy (Mazzarol & Reboud, 2009). According to them, in a dynamic and uncertain environment, in order to be successful, an organization, regardless of the type and size of the company must be strategically aware. But, the theory of business strategy alone is useless if it is not put into action. If the owner-manager failed to translate a strategy into a profitable business model, the firm will lose (Rothaermel, 2013).

Strategy Implementation

Prior literature in the field of strategic management explores the process and the impact of business strategy and the performance of the organization. However, little research has been done toward the strategy implementation process and its importance (Pertusa-Ortega, Molina-Azorín, & Claver-Cortés., 2009, Perera & Baker, 2007, and Leitner & Guldeenberg, 2010). The firm that has a clear and sound of business strategy will perform well compared with the firm that has not adopted any strategy in their daily operation. By understanding its principles, tools and theory of strategic management, it can help the owner- manager to craft a good business strategy for achieving a competitive advantage and enhance the firm performance (Carpenter & Sanders, 2009). However, without the implementation process, even the most superior strategy is useless and implementing strategies successfully is vital for any organization (Aaltonen & Ikkävalko, 2002). According to Sandberg et al., (2001), There are three elements or components of strategy namely, objective, rules or guideline, and the actions intend to accomplish the objective. However, although this process is simple as connect-the-dots process but this process is difficult and far from a routine.

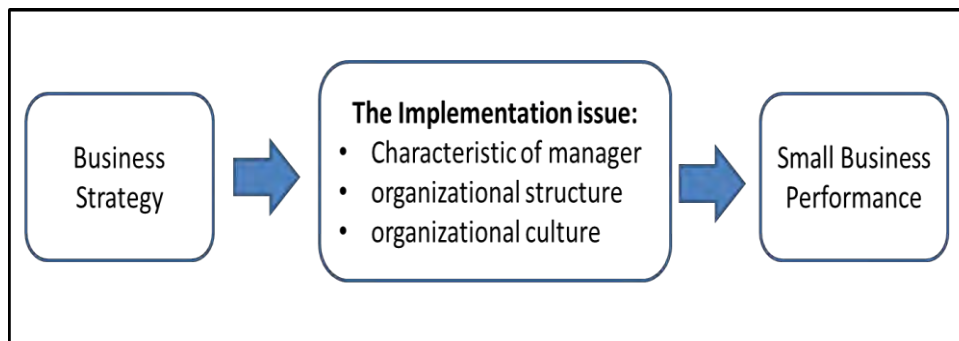
Strategy implementation can be defined as set of activities required for executing the strategic plan. This process involved of budgeting, development, and procedure and these parts are important part in strategic management. It the process of putting a strategic written formula into action and making a realization of these strategic plan (Wheelen & Hunger, 2004 and Ahmadi, Salamzadeh, Daraei, & Akhbari, 2012). As noted by Hashim,(2008), every organization differ from each other and they have a unique and particular strategic plan to execute. There are also many possible approach of the process of strategy implementation. However, according to him, there are three principles that should be followed by the owner-manager during strategy implementation stage. These principles are, the strategy should be tailored to the organizational direction, the activities should be suited with the strategy chosen, and the activity must be performed according to their capabilities. If these principles were abandoned by the owner-manager, then the implementation process will fail. Strategy implementation is a tough process compared with strategy formulation because it's not only deals with the implementation process, but it's also focused on other management issues. Previous studies on strategy implementation found that there are lots of evidence that the organization faced various problems during the implementation process (Zakaria & Dahlan, 2014, Al-Ghamdi, 1988, and Waweru, 2011).

These researchers found various issues that were associated with a strategy implementation process such as, the ability of the manager to implement the entire strategy, characteristic and management style of the owner-manager, organizational culture, organizational structure, the degree of involvement of the subordinates, and the system and models of implementation process. According to them, if the owner-manager able to overcome these obstacles, the strategy will be implemented successfully and the organization can achieve

their objective. Raps, (2005) in his study found that the success rate for a strategy to generate the desired results is only 10 percent because of implementation issue. According to him, one of the reasons why the strategy tumbles during implementation process is because the owner-manager gives more emphasis on strategy formulation rather than implementation process. He proposed to the owner-manager to shift the of emphasis by moving from a 90:10 concern with strategy formulation relative to implementation to a minimum 50:50 proportion with each.

Finally, Okumus, (1999), Allio, (2005) and Claudiu et al., (2008) give more emphasise toward the strategy implementation model for helping the manager during the implementation process. They contend that the implementation skill is not easy to master and majority of managers agreed that the implementation of strategy is the most difficult aspect in their job compared with formulation process. They come out with the strategy implementation model for giving a guideline to the manager for implementing a desired strategy. The framework that shows a relationship between business strategy, strategy implementation and the performance of the small business are shown in the figure 1. By having a business strategy, the small business can enhance their performance and achieved the firm objective. However, this relationship is depending on the ability of the owner-manager to implement the entire strategy and how he/she overcome the implementation issue in the organization. If he/she is unable to tackle this issue, the performance will not sustain. This can be suggests that the implementation process is a moderated factor between business strategy and performance.

Figure 1: Conceptual Framework



CONCLUSION – TOWARDS A RESEARCH AGENDA

This paper has highlighted the importance of the business strategies, strategy implementation and its link to the performance of the small business in Malaysia. This paper not only highlights the importance for a small business for having a business strategy, but it also shows a need for the owner-manager to have the ability to implement the entire strategy and overcome the implementation obstacles for achieving the organization's performance. As a result, a number of research questions have been formulated such as:

- How does the owner-manager define his/her competitive strategy for his/her business?
- Does the strategy implementation variable become a moderating factor between business strategy variable and performance of a small business?
- What challenges does the business owner faced during implementation of business strategy? How does he/she overcome it?
- What steps should the business owner take to enhance the strategy implementation process?
- What are the skills and knowledge the business owner should master before he/she starts a new business for avoid the failure rate?

Thus, this paper suggested that in addressing these research questions, a quantitative method research design should be conducted, based on the small business entities throughout Malaysia.

REFERENCES

- Aaltonen, P., & Ikävalko, H. (2002). Implementing strategies successfully. *Journal of Manufacturing Technology Management*, 13(6), 415–418. <https://doi.org/http://dx.doi.org/10.1108/09576060210436669>
- Akhbar Ahmadi, S. A., Salamzadeh, Y., Daraei, M., & Akhbari, J. (2012). Relationship between Organizational Culture and Strategy Implementation : Typologies and Dimensions. *Global Business and Management Research:An International Journal.*, 4(3), 286–299.
- Al-Ghamdi, S. M. (1988). "Obstacles to successful implementation of strategic decision:The British experience". *European Business Review*, 98(6), 322–327.
- Allio, M. K. (2005). A short, practical guide to implementing strategy. *Journal of Business Strategy*, 26(4), 12–21.
- Campbell, D., Edgar, D., & Stonehouse, G. (2011). *Business Strategy an introduction third edition*. macmillan Publisher Limited.
- Carpenter, M., & Sanders, G. (2009). *Strategic Management*. Pearson Education.
- Charles, G. A., Ogbeide, & Harrington, R. J. (2011). The relationship among participative management style, strategy implementation success, and financial performance in the foodservice industry. *International Journal of Contemporary Hospitality Management.*, 23(6), 719–738.
- Cheng, W.-H., Abdul Kadir, K., & Bohari, A. M. (2014). The Strategic Planning of SMES In Malaysia: A View of External Environmental Scanning. *International Journal of Business and Society*, 15(3), 437–446.
- Choo, Y. Y. (2010). The density of the retailers in Malaysia. *Asia Pacific Business Review*, 16(1), 105–122.
- Claudiu, B., Flaviu, M., & Georgeta-Mdlina. (2008). STRATEGY IMPLEMENTATION - CASE OF THE EUROPEAN TELECOMMUNICATION PROVIDERS. *Economic Sciences Series, Vol.17(4),pp.106-113, 17(4), 106–113.*
- Conant, J. S., & White, J. C. (1999). Marketing Program Planning, Process Benefits, and Store Performance: An Initial Study Among Small Retail firms. *Journal of Retailing*, 75(4), 525–541.
- Cronin-Gilmore, J. (2012). Exploring marketing Strategies in small Business. *Journal of Marketing Development and Competitiveness.*, 6(1), 96–107.
- D'Andrea, G., & Aleman, B. L. (2006). Why small retailers endure in latin America. *International Journal of Retail & Distributions Management.*, 24(9), 661–673.
- Donnell, L., Hutchinson, K., & Reid, A. (2012). Fashion retailing in the new economy: the case of SMEs. *International Journal of Retail & Distribution Management*, 20(12), 906–919.
- Dyer, L. ., & Ross, C. . (2008). Seeking Advice In A Dynamic And Complex Business Enviroment: Impact On The Success of Small Firms. *Journal of Developmental Entrepreneurship.*, 13(2), 133–149.
- Ebben, J. J., & Johnson, A. C. (2005). Efficiency, Flexibility, or Both? Evidence Linking Strategy To Performance In Small Firms. *Strategic Mananagemnt Journal*, 26, 1249–1259.
- Garrigós-Simón, F. J., Marqués, D. P., & Narangajavana, Y. (2005). Competitive strategies and performance in Spanish hospitality firms. *International Journal of Contemporary Hospitality Management*, 17(1), 22–38. <https://doi.org/10.1108/09596110510577653>

- Garrigós Simón, F. J., & Marqués, D. P. (2004). Competitive Strategies And Performance: A Study In The Spanish Hospitality Sector. *Management Research*, 2(3), 251–269.
- Gray, D. E., & Saunders, M. N. (2016). Beyond Survival: How do SMEs win new business and prosper? *6th Annual International Conference on Business Strategy In the Age of Disruption*. https://doi.org/10.5176/2251-1970_BizStrategy 16.10
- Harper, C. S. (2003). *To Starting Your Own Business*. McGraw-Hill.
- Hashim, M. K. (2005). *Small and medium-sized enterprises in Malaysia: Role and issues*. University Utara Malaysia Press.
- Hashim, M. K. (2008). *Strategic Management Text & Cases* (Second Edi). Thomson.
- Hashim, M. K., Wafa, syed A., & Sulaiman, M. (2000). Firm Characteristics, Competitive Strategies, Environment And Business Performance: Survey Evidence From Malaysian SMEs. *Analisis*, 1&2, 1–17.
- Hassan, H., Sade, A. B., & Rahman, M. S. (2013). Malaysian hypermarket retailing development and expansion. *International Journal of Retail & Distribution Management*, 41(8), 584–595. <https://doi.org/10.1108/IJRDM-09-2012-0085>
- Kaliappan, S. R., Alavi, R., Abdullah, K., & Zakullah, M. A. (2008). Liberatization of Retail sector and the Economic Impact of the Entry of Foreign Hypermarkets on Local Retailers in Klang Vellely, Malaysia. *International Journal of Economic and Management*, 2(2), 323–342.
- Khalilur Rahman, M. (2014). Empirical Evaluation of Customer Loyalty in Malaysian Retail Outlets. *Journal of Marketing Management.*, 2(2), 129–143.
- Khare, A. (2014). Consumer-smaller retailer relationships in Indian retail. *Facities*, 32(97), 533–553.
- Leitner., K.-H., & Guldeenberg, S. (2010). Generic strategies and firm performance in SMEs. *Small Business Economic*, 35, 169–189.
- Mazzarol, T., & Reboud, S. (2009). *The strategy of small firms*. Edward Elgar Publishing, USA.
- Murray, J. ., Yong Gao, G., & Kotabe, M. (2011). market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages. *Journal of the Academy of Marketing Science*, 39, 252–269.
- Mustaffa, Z. (2010). *Strategic Thinking Emphasis, Environment, Strategy Types, and Performance of Small and Medium-Sized manufacturing firms in Northern Malaysia*. Phd Thesis. University Utara Malaysia.
- Okumus, F. (1999). Towards a strategy implementation framework.
- Okumus, F. (2003). “A framework to implement strategies in organizations”. *Management Decision*, 41(9), 871–882.
- Parnel, J. A., & Lester, D. L. (2008). Competitive strategy and the Wal-Mart threat: Positioning for survival and success. *SAM Advanced Management Journal.*, 73(2), 14–24.
- Perera, S., & Baker, P. (2007). Performance Measurement Practice in Small and Medium Size Manufacturing Enterprises in Australia. *Small Enterprise Research*, 15(2), 10–30.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Pertusa-Ortega, E. M., Molina-Azorín, J. F., & Claver-Cortés., E. (2009). Competitive Strategies and Firm Performance:A Comparative Analysis of Pure, Hybrid and “Stuck-in-the-middle” Strategies in spanish Firms. *British Journal of Management*, 20, 508–523.
- Raps, A. (2005). *Strategy implementation-an insurmountable obstacle? Handbook of Business Strategy*. <https://doi.org/10.1108/08944310510557152>
- Rothaermel, F. T. (2013). *Strategic Management Concept & Cases*. McGraw-Hill/Irwin, New York.
- Sandberg, W. R., Robinson, R. B., & Pearce II, J. A. (2001). Why Small Business Need a Strategic Plan. *Business & Economic Review*, (October-December 2001), 12–15.
- Tan, Y., Liyin, S., & Langston, C. (2012). Competition Environment, Strategy, and Performance in the Hong kong Construction Industry. *Journal of Construction Engineering and Management*, 138(3), 352–360.
- Waweru, M. a. S. (2011). Comparative Analysis of Competitive Strategy Implementation. *Journal of Management and Strategy*, 2(3). <https://doi.org/10.5430/jms.v2n3p49>
- Wheelen T. L & Hunger, J. D. (2004). *Strategic Management and business Policy (9th Edition)*. (9th Editio). Prentice-Hall:New Jersey.
- Zakaria, M., & Dahlan, H. (2014). A Recent Survey On Strategy Implementation Obstacles Faced By Malaysian Construction Firms. *European International Journal of Science and Humanities*, 1(2).

The Collaboration of Business Strategy and Distinctive Marketing Competencies for Achieving Competitive Advantage in a Small Business

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Abstract

Currently, the business environment is labelled by experts as hyper competitive and this scenario has given a pressure to any business entities to survive. This problem is not only faced by the big companies, but also to the small businesses as well, specifically in Malaysia as they lack of capital and other resources. From previous literature, many experts contend that to survive, achieve competitiveness, and withstand the current pressure, they must implement a good and sound business strategy and combined it with their distinct capabilities such as marketing competency in their daily operations. Accordingly, the conceptual collaborations of business strategy and distinctive marketing competencies are presented here for discussion.

Keywords: Business strategy, distinctive marketing competencies, collaboration, competitive advantages

INTRODUCTION

Abdullah, Hamilton, Md.Rus, and Zainudin, (2015) and Nadim and Lussier(2002) contend that the small and medium- sized enterprises played a significant role in the economic and social structure of the country especially in developing country such as Malaysia. The contribution of this sector can be seen in various aspects such as a contribution to national economic growth, stimulating the competition, and introduction of innovation (Hashim, 2005). A number of studies discussed the importance of business strategies to the performance of the entire firm. However, most of the studies are focused on large companies rather than small companies, although they realise that strategy is vital, particularly for a small enterprise to achieve a sustainable competitive advantage and maintain their market growth, especially due to rapid changes in the current business environment (Rubach & McGee, 1998, Thornhill & White, 2007, Fillis, 2010, Nandakumar, Ghobadian, & O'Regan, 2011, Nadim & Lussier, 2012, and Mazarrol, Clark, & Reboud, 2014).

In addition, a few studies also found that beside implementing a good and sound of business strategy, a proper marketing plan will lead to a success in their business (Song, Nason, & Di Benedetto, 2008, Cronin-Gilmore, 2012, Alstete, 2014, Marek, 2014, and Dessi, Ng, Floris, & Cabras, 2014). Those findings were in line with a previous study conducted by Murray, Yong Gao, & Kotabe, (2011), that claimed the marketing capabilities are more vital and strongly affected the firm's performance when compared with other functional capabilities such as, research-and-development (RND) and operation capabilities of the firm especially in a hyper competitive market. Thus, in this paper, we will present the literature on collaboration between business strategy and distinctive marketing competencies in helping a small business to achieve competitiveness. We begin with a foundation explaining the importance of small business to the country, particularly in Malaysia. Then, we will describe business strategy, distinctive marketing competencies and definition of collaboration and competitive advantages. In third section, we will discuss the propose framework between business strategy and distinctive marketing competencies to the competitive advantage of a small business. Our last section will provide a summary for further research.

LITERATURE REVIEW

Small Business

Small business can be categorised as a firm with less than 100 employees and own and managed by one or more person, but usually most of the small business was owned by a single individual with no employees, but supported by other than volunteer assistance from family and friend, lack of standardization and lack of best practice (Mazzarol & Reboud, 2009 and Gupta, Woong Kim, & Sharma, 2011). Although we still do not have an appropriate definition and categorisation, this scale is also widely used in Malaysia in order to categorise the SMEs. In Malaysian context, SMEs are generally categorised according to their numbers of employees, amount of capital, amount of assets and sales turn over (Hashim, 2005). According to Dagangnet.com,(2014), a new definition for Small and Medium Enterprises (SMEs), a business entity is the company that have less than 200 workers in manufacturing firms and less than 75 workers in the service sector. The annual sales for both categories are RM50 millions and RM20 million respectively. Any business entities that fall in this category are considered as a small business.

Although the definition and categorised of SME's are different among countries in the world, but the roles of small business to the country's development are obvious. According to Hashim, Wafa, and Sulaiman,(2000), Hashim,(2005), and Abdullah Hiau et al.,(2015), it was found that a small and medium- sized enterprises (SMEs) played a significant role in development of the economic and social structure in Malaysia. For example, it provided around 56% of the country employment and constitutes 17.6 % of the Gross Domestic Product (GDP) (SME Corp of Malaysia.,2015). From a statistic that was provided by the Companies Commission Malaysia (CCM), there are 1,191,757 companies registered in 2015 and 97.3% of them are categorized as a small and medium size company (National Companies Commission Malaysia and National SMEs Development Council, 2015). This figure shows that a small business has a large percentage in businesses in Malaysia and they are playing an important role in contributing to the national domestic growth. However, despite the importance of small business to the economic development and new job creation, it was noted that the failure rate of small business is also worrying (Cheng, Abdul Kadir, and Bohari, 2014). According to Alstete,(2014), Harper,(2003), Megicks,(2001), and Conant, Jeffrey, Smart, Denise, and Solano-Mendez,(1993), the failure rate among small business are disappointingly high. One of the reasons is due to the advancement in technology and globalization. This scenario can cause the business environment becomes more challenging and brings more uncertainties for them.

In addition, the entry of multiple chain of modern superstore further complicating and give a pressure to the survival of small business nationwide (Skallerud and Gronhaug, 2010 and Parnel, 2011). This phenomenon is not faced by Malaysia alone but most of the small businesses worldwide. According to Armstrong, (2012), due to emerging of modern and retail chains that are called 'category killers' that dominate the market in a town has caused a small business to exit out from the business environment. As a consequence, about 85 percent of new business that was opened today will not be around five years from now, either they are failing or sold to other people who can beat the odds (Harper, 2003). This phenomenon is forcing managers of small businesses to adopt a holistic and proactive role in their daily operations. They must practice a strategic management concept in their daily operation by implementing a good and sound business strategy and not depend on their intuitions when making a business decision (O'Reagon & Ghobadian, 2006, Nandakumar et al., 2011, and Mazzarol et al., 2014).

Strategy

An organization, regardless of their size, need an effective strategy in order to define a scope and direction to accomplish their task and achieve its specific objective and one of the most important functions of strategic management process is to help a firm to establish an effective strategy, as an organization needs an effective strategy to put their mission into action (Sulaiman & Hashim, 2003, Hashim, 2008). By having an effective strategy, the owner/manager also has a guideline on how to analyse of his/her firms and its environment, in order to make a decision on how to improve its performance (Hashim, 2008, Okumus, Cathoth, & Levent., 2010, and Garrigós Simón & Marqués, 2004). According to Johnson and Scholes,(2002) and

Amason, (2011), the word of strategy is derived from a Greek military term '*strategia*' or '*strategos*' which means as "*a plan for action*". It is a process of analysis, formulation, evaluation, and implementation process to achieve the objective of organization. It is a management game plan for growing the business, competing with a competitor, and to attract the customer in achieving their target (Tan, Liyin, & Langston, 2012).

Strategies that are used by organizations develop through the strategic management process. There are several models or frameworks in the field of strategic management that seek to identify the different strategies that companies adopted in order to achieve competitive advantages (Garrigós Simón & Marqués, 2004 and Hashim, 2008). There are many concepts and process that relate to the formulation of strategy for helping the small business in order to compete and retain competitive advantages. The well known and most cited typologies in area of strategic management are the typology that was proposed by Porter as well as Miles and Snow (Powers & William, 2004, Garrigós Simón & Marqués, 2004, and Anwar & Hasnu, 2016). Those typologies that develop by Porter as well as Miles and Snow are enduring, having been scrutinised, and applied either by managers in organisation or by academicians. To date, both typology are still in used and triggers discussion, refine and challenge by academician.

Porter (1980), classified his framework in two dimensions namely, source of competitive advantage and the scope of the target market. He claimed that, a business entity can achieve a superior performance either by establishing a cost leadership or differentiating of their products and service from their competitors (Wheelen & Hunger, 2004 and Gonzalez-Benito & Suarez-Gonzalez, 2010). The linkage between these methods and firm performance have been explored in the literature. On the other hand, the typology that was developed by Miles and Snow (1978) classified a firm's strategy according to their response to their business environments. According to this perspective, the firm will achieve a competitive advantage if they can adopt either one of four types of strategies proposed in their daily operation, They are prospector, analyzer, defender, and reactor (Garrigós Simón & Marqués, 2004 and Yasmina, Avanti, & Zakaria., 2013). Besides Porter (1980) and Miles and Snow (1978), there are a few more typologies that also popular in strategic management literature. They are frameworks that were developed by Ansof (1965), Anderson and Paine (1975), Chandler (1962), Danny and Miller (1990), Michael Treacy and Wiersema (1995), and strategic positioning typology that was proposed by Lavie and Fiegenbaum (2000). Those typologies also trigger an interest of subsequent research as they able to enhance a competitive advantages to the firm (Anwar & Hasnu, 2016).

Distinctive Marketing Competencies

Although all business entities need an effective strategy in order to achieve competitive advantages, but due to a hyper competitive environment, many experts were urging managers to change their traditional thinking from old to a newer mind-set value such as, flexibility, speed, integration, and innovation in their daily operation (Hanson, Dowling, Hitt, Ireland, & Hoskisson, 2001). They contend that, in a current scenario, the conventional source of competitive advantage such as economies of scale and a huge of advertising budget cannot give results as they expected. The manager needs to adopt another approach in their daily operation in order to maintain of sustainable competitiveness. One of the approaches is by developing a competency using the firm's resources and capabilities.

Firm's competencies will provide a competitive advantage to the firm when compared with their competitors and it can be formed through either skill, process, knowledge, technology, human resources, finance, or marketing (Song et al., 2008, Mitchelmore, Rowley, & Shiu, 2014, and Wheelen & Hunger, 2004). According to Lin and Tsai, (2016), while a manufacturing capability can create and provide a product with high value, a better marketing capability will add more value to their customers via better advertising and after-sales service. Moreover, the marketing function can be a competitive success to a company if it can appropriately match with other functional activities of the firm (Mohammadzadeh, Aarabi, & Salamzadeh, 2013). These competencies can be distinct when the firm can perform well and are superior to those of competitors. By using their competencies in daily operations, the firm can enhance competitiveness and enjoy the above average return (Ngo & O'Cass, 2012, Conant, Mokwa, & Varadarajan, 1990, and Hitt & Ireland, 1985).

Collaboration

From the Merriam-Webster dictionary, we can defined the word 'collaboration' as an act of work together with another person or group of people or firms to create or produce. By practicing a collaboration or combination of a business strategy with a marketing strategy, this could develop as a driver for a firm to achieve higher performance (McDaniel & Kolari, 1987 and Song et al., 2008). This concept was supported by the previous study done by Hitt, Duane, and Hoskisson, (2001) that contend, although the firm that practice either an industrial orientation model (I/O model) or resources based view (RBV) will enjoy the above average return, however, when they are facing a hyper competition environment, the combination of both models will give a synergy and help a firm to achieve competitiveness and yield an above average return.

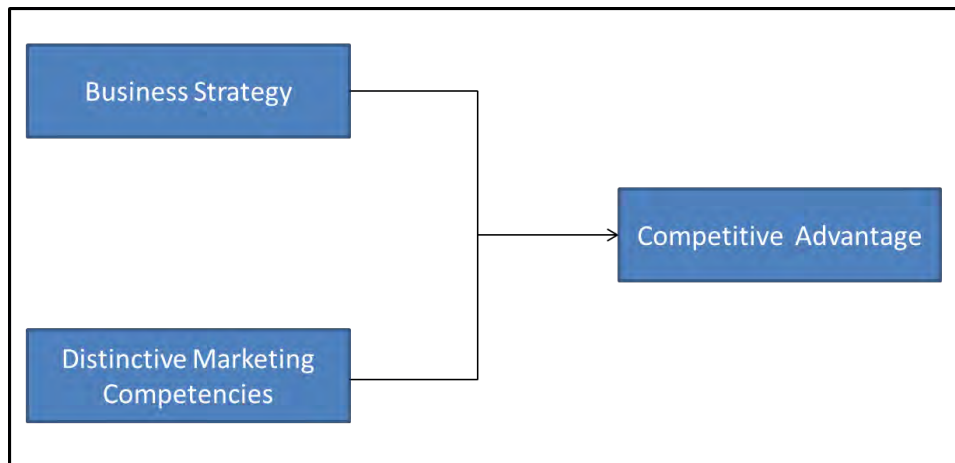
Competitive advantage

The relationship between competitive advantages has been examined by both theoretical and empirically and this concept is widely accepted in the field of strategic management and essential in business strategy (Hitt et al., 2001 and Campbell, Edgar, & Stonehouse, 2011). According to Sigalas, Economou, and Georgopoulos, (2013) and Sigalas, (2015), competitive advantages can be determined by two concepts. The first stream is by performance such as, above average return, profitability, superior finance performance, and economic profits. Another stream of competitive advantages is determined by source of determinants namely, location, cost leadership, product features, and set of idiosyncratic firm resources and capabilities.

Business Strategy and Distinctive Marketing Competencies Towards Competitive Advantage of Small Business and a Proposed Framework.

Strategic management is a field that examines the relationship between strategic aims, process and content in order to examine the performance of entire firms. There are many theories for examining the relationship between strategic management variables to the performance. One of the theories that are frequently used by researchers for this purpose is contingency theory (Sulaiman & Hashim, 2003). In this article, we propose to use contingency theory as well. The proposed framework consists of two variables in supplementing each other towards achieving competitive advantage as below.

Figure 1: Proposed framework



The above proposed framework which consist of the business strategy and combined with distinctive marketing competencies will help a small business to achieve competitive advantage. It is suggested that linking between business strategy and marketing competencies will enhance competitive advantages (Song et al., 2008 and Conant, Mokwa, & Varadarajan, 1990). Furthermore, the organization that can develop a core competency by practice of business strategy and supported by other functional activities able to compete on all dimensions of competitive priority will achieve higher performance (Conant, Smart, & Solano- Mendez, 1993, Singh & Grag, 2008, and Chaudhury, Albisson, Shows, & Moench, 2014)

CONCLUSION

In the current business environment with a hyper competition, one of the methods for a small business to achieve competitive advantage is by fulfilling a specific customer's needs and wants. In order to satisfy those customers, they need to adapt to the changes of their behaviour and their buying habits and practice a good and sound of business strategy and at the same time deploy their resources and competencies such as marketing capabilities. By collaborating on this two variables, namely business strategy and distinctive marketing competencies, the entire firm will gear towards sustainability and enhance the competitive advantage.

REFERENCES

- Abdullah Hiau, N. A., Hamilton Ahmad, A. H., Md.Rus, R., & Zainudin, N. (2015). Modelling Small Business Failure In Malaysia. *International Confrence on Education and Social Sciences*.
- Alstete, J. W. (2014). Strategy Choices of Potential Entrepreneurs. *Journal of Education for Business.*, 89, 77–83.
- Amason Allen. (2011). *Strategic Management. From theory to practice*. New York: Taylor and Francis.
- Anwar, J., & Hasnu, S. (2016). Business strategy and firm performance: a multi-industry analysis. *Journal of Strategy and Management.*, 9(3), 361–382.
- Armstrong, C. E. (2012). Small Retailer Strategies for battling the Big Boxes: a “Goliath” victory? *Journal of Strategy and Management*, 5(1), 41–56.
- Campbell, D., Edgar, D., & Stonehouse, G. (2011). *Business Strategy an introduction third edition*. macmillan Publisher Limited.
- Chaudhury, S. R., Albisson, P. A., Shows, D. G., & Moench, V. (2014). The winemake as entrepreneurial marketer: An exploratory study. *International Journal of Wine Business Research.*, 26(4), 259–278.
- Cheng, W.-H., Abdul Kadir, K., & Bohari, A. M. (2014). The Strategic Planning of SMES In Malaysia: A View of External Environmental Scanning. *International Journal of Business and Society*, 15(3), 437–446.
- Conant, Jeffrey S, Smart, Denise T, & Solano-Mendez, R. (1993). Generic Retailing Types, Distinctive Marketing Competencies, and Competitive Advantage.pdf. *Journal of Retailing*.
- Conant, J. S., Mokwa, M. P., & Varadarajan, P. R. (1990). Strategic Types , Distinctive Marketing Competencies And Organizational Performance : A Multiple Measures-Based Study, 11(October 1989), 365–383.
- Conant, J. S., Smart, D. T., & Solano- Mendez, R. (1993). generic retailing types, Distinctive Marketing Competencies, and Competitive Advantage. *Journal of Retailing*, 69(3), 254–279.
- Cronin-Gilmore, J. (2012). Exploring marketing Strategies in small Business. *Journal of Marketing Development and Competitiveness.*, 6(1), 96–107.
- Dagangnet.com. (2014). New Definition of Small and Medium Enterprises(SMEs) For Malaysia. Retrieved from <http://www.dagangnet.com/index.php/newsroom/latest-announcements/258-new-definition-of-small-and-medium-enterprises-smes-for-malaysia.html>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Dessi, C., Ng, W., Floris, M., & Cabras, S. (2014). How small family-owned business may compete with retail superstores. *Journal of Small Business and Enterprise Development*, 21(4), 668–689.
- Fillis, I. (2010). The art of the entrepreneurial marketer. *Journal of Research in Marketing and Entrepreneurship*, 12(2), 87–107.
- Garrigós Simón, F. J., & Marqués, D. P. (2004). Competitive Strategies And Performance: A Study In The Spanish Hospitality Sector. *Management Research*, 2(3), 251–269.
- Gonzalez-Benito, J., & Suarez-Gonzalez, I. (2010). A Study of the Role Played by Manufacturing Strategic Objectives and Capabilities in Understanding the Relationship between Porter's Generic Strategies and Business performance. *British Journal of Management*, 21, 1027–1043. <http://doi.org/10.1111/j.1467-8551.2008.00626.x>
- Gupta, S., Woong kim, H., & Sharma, M. (2011). Customer Switching to Organized retail in Semiurban Markets: A Study in an Indian Context. *Journal of International Consumer Marketing*, 23, 314–328.
- Hanson, D., Dowling, P. J., Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2001). *Strategic Management*. (F. Robyn, Ed.). Thomson.
- Harper, C. S. (2003). *To Starting Your Own Business*. McGraw-Hill.
- Hashim, M. K. (2005). *Small and medium-sized enterprises in Malaysia: Role and issues*. University Utara Malaysia Press.
- Hashim, M. K. (2008). *Strategic Management Text & Cases* (Second Edi). Thomson.
- Hashim, M. K., Wafa, syed A., & Sulaiman, M. (2000). Firm Characteristics, Competitive Strategies, Environment And Business Performance: Survey Evidence From Malaysian SMEs. *Analisis*, 1&2, 1–17.
- Hitt, M. A., & Ireland, R. D. (1985). Corporate Distinctive Competence , Strategy , Industry and Performance. *Strategic Management Journal*, 6(February 1984), 273–293.
- Hitt, M., Duane, I., & Hoskisson, R. (2001). *Strategic Management: Competitiveness and globalization: Concepts*. South- Western Cengage learning.
- John, P. (2011). Strategic Capabilities, Competitive Stratgy, and performance among retailers in Argentina, Peru and the United States. *Management Decision*, 49(1), 130–155.
- Johnson, G., & Scholes, K. (2002). *Exploring Corporate Strategy*. Harlow: Pearson Education, Prantice Hall.
- Lin, C., & Tsai, H.-L. (2016). Achieving a firm's competitive advantage through dynamic capability. *Baltic Journal of Management*, 11(3), 260–285.
- M.K. Nandakumar, Ghobadian, A., & O'Regan, N. (2011). Generic strategies and performance – evidence from manufacturing firms. *International Journal of Productivity and Performance Management*, 60(3), 222–251.
- Marek, P. (2014). A Critical Analysis of The Concept of Marketing Strategies For Small and Mid-Sized Companies. *Economic, Management, and Financial Markets*, 9(4), 255–261.
- Mazzarol, T., Clark, D. N., & Reboud, S. (2014). Strategy in Action: case Studies of strategy, planning and innovation in Australian SMEs. *Small Enterprise Research*, 21, 54–71.
- Mazzarol, T., & Reboud, S. (2009). *The strategy of small firms*. Edward Elgar Publishing, USA.

- McDaniel, S. W., & Kolari, J. W. (1987). Marketing Strategy Implications of Miles and Snow Strategic Typology. *Journal of Marketing.*, 51, 19–30.
- Megicks, P. (2001). Competitive strategy types in the UK independent retail sector. *Journal of Strategic Marketing*, 9(4), 315–328. <http://doi.org/10.1080/09652540110079029>
- Mitchelmore, S., Rowley, J., & Shiu, E. (2014). Competencies associated with growth of women-led SMEs. *Journal of Small Business and Enterprise Development*, 21(4), 588–601.
- Mohammadzadeh, M., Aarabi, S. M., & Salamzadeh, J. (2013). Organizational performance, marketing strategy, and financial strategic alignment: an empirical study on iranian pharmaceutical firm. *Daru Journal of Pharmaceutical Science*, 21(65), 1–7.
- Murray, J. ., Yong Gao, G., & Kotabe, M. (2011). market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages. *Journal of the Academy of Marketing Science*, 39, 252–269.
- Nadim, A., & Lussier, R. N. (2002). Sustainability As A Small Business Competitive Strategy. *Journal of Small Business Strategy*, 21(2), 79–95.
- Nadim, A., & Lussier, R. N. (2012). Sustainability As a Small Business Competitive Strategy. *Journal of Small Business Strategy*, 21(2), 79–95.
- Ngo, L. V., & O’Cass, A. (2012). Performance implications of market orientation, marketing resources, and marketing capabilities. *Journal of Marketing Management*, 28(1–2), 173–187.
- O’Reagon, N., & Ghobadian, A. (2006). Perception of generic strategies of small and medium sized engineering and electronics manufacturers in the UK. The applicability of the Miles and Snow typology. *Journal of Manufacturing Technology Management*, 17(5), 603–620.
- Okumus, F., Cathoth, P., & Levent., A. (2010). *Strategic managent for hospitality and tourism*. Taylor and Francis.
- Powers, T. L., & William, H. (2004). Critical Competitive Methods, Generic Strategies, and Firm Performance. *The International Journal of Bank Marketing*, 22(1), 43–64.
- Rubach, M. J., & McGee, J. M. (1998). “Stuck In The Middle”: For Retailers, Perhaps Not Such A Bad Place To Be. Retrieved from <http://www.sbaer.uca.edu/research/1998/ASBE/98asb029.txt>
- Sigalas, C. (2015). Competitive advantage: The known unknown concept. *Management Decision.*, 53(9), 2004–2016.
- Sigalas, C., Economou, V. P., & Georgopoulos, N. (2013). Developing a measure of competitive advantage. *Journal of Strategy and Management.*, 6(4), 320–342.
- Singh, R. K., & Grag, S. K. (2008). competency and performance analysis of Indian SMEs and large organizations: An exploratory study. *International Business Journal*, 18(4), 308–321.
- Skallerud, K., & Gronhaug, K. (2010). Chinese food retailers’ positioning strategies and the influence on their buying behaviour. *Asian Pasific Journal of Marketing and Logistics*, 22(2), 196–209.
- Song, M., Nason, R. W., & Di Benedetto, C. A. (2008). Distinctive Marketing and Information technology Capabilities and Strategic Types: A Cross-National Investigation. *Journal of International Marketing.*, 26(1), 4–38.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Sulaiman, M., & Hashim, M. K. (2003). Strategic Management: Origin, process, approach, and theories. *Analisis*, 10(2), 1–18.
- Tan, Y., Liyin, S., & Langston, C. (2012). Competition Environment, Strategy, and Performance in the Hong kong Construction Industry. *Journal of Construction Engineering and Management*, 138(3), 352–360.
- Thornhill, S., & White, R. E. (2007). Strategic Purity: A Multi-Industry Evaluation of Pure Vs. Hybrid Business Strategies. *Strategic Management Journal*., 28(5), 553–561.
- Wheelen T. L & Hunger, J. D. (2004). *Strategic Management and business Policy (9th Edition)*. (9th Editio). Prentice-Hall:New Jersey.
- Yasmina, Z., Avanti, F., & Zakaria., A. A. (2013). Revisiting The Miles and Snow Typology. *The South East Journal of Management*., 7(1), 16–40.

The Impact of Trust on Organisational Citizenship Behaviour: A Mediating Role of Teacher Efficacy

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Abstract

The swelling discourses on organisational citizenship behaviour (OCB) have diffused into areas of management and organisational research. Past studies have confirmed the relationship between trust and OCB as well as self-efficacy and OCB in the context of education. Nevertheless, there is limited research conducted for the mediating effect of teacher efficacy on the relationship between trust and OCB amongst teachers. It is in fact that there is only one study tested on the mediation effect of teacher efficacy in one specific dimension of trust: trust in colleagues and teacher empowerment. In filling this gap, this study explores the impact of teachers' perception of trust on their willingness to exercise citizenship-like behaviour, with a particular focus on the mediating role of teacher efficacy. The authors hypothesised that the increased of teachers' trust level strengthen individual dimension of teacher efficacy, which then raised the intention to exhibit OCB.

Keywords: Organisational citizenship behaviour, trust, teacher efficacy, personal teacher efficacy, general teaching efficacy

INTRODUCTION

In the dynamic and ever-changing environment especially in the contexts of technological changes and global competitions, the skills demanded by the labour market are changing rapidly and frequently (Patrinis, 2016). This is also partly caused by the effect of globalisation where it would bring a lot of positive consequences to home country (McCubbrey, 2016). In view of this situation, Education is one of the crucial components in any of the country regardless of developing countries or developed countries in order to produce competent manpower (Brende, 2015). Similar to Malaysia, the implementation of Education Blueprint has been a challenge for school management and teachers to ensure the success of education transformation in the next 10 years (Malaysia Education Blueprint 2015-2025, 2015). Past studies have evidenced that organisational citizenship behaviour (OCB) is one of the significant measures of an individual behaviour and attitude for improving the organisation effectiveness and efficiency (Hoffman et al., 2007) and prevalent research outcomes in the field of education management (Sesen & Basim, 2012; Runhaar, Konermann & Sander, 2013), human resource management (Chang, Nguyen, Cheng, Kuo & Lee, 2016), organisational behaviour and industrial psychology (Podsakoff, Whiting, Podsakoff & Blume, 2009; Podsakoff, MacKenzie, Paine & Bachrach, 2000).

OCB can be defined as "individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p.4). This definition of OCB is further redefined as "performance that supports the social and psychological environment in which task performance takes place" (Organ, 1997, pg. 95). In decades, researchers, academicians and business practitioners have emphasised the importance of OCB in various industries and countries context. This has resulted in several important antecedents as well as its consequences. The antecedents are transformation leadership (Lee & Low, 2012), job satisfaction, empowerment, gender and education level (Jiang, Sun & Law, 2011), organisational justice (Iqbal, Aziz & Tasawar, 2012; Lambert & Hogan, 2013; Chen & Jin, 2014), organisational commitment (Cohen, 2007), various demographic factors, rehabilitation and punishment (Lambert, Barton-Bellessa & Hogan, 2014), equity sensitivity (Akan, Allen & White,

2009) and ethical climate (Huang, You & Tsai, 2012). While for consequences, it can be divided into two categories labelled as individual level consequences and organisational level consequences (Podsakoff et al., 2009).

A considerable past empirical studies has focused on the effect of trust towards OCB (Nasra & Heilbrunn, 2016; Srivastava & Madan, 2017; Karriker & Williams, 2007; Singh & Srivastava, 2016). Trust is found significantly contributed to OCB whereby if teacher is trusted toward their principals, colleagues as well as students and parents, it would increase the intention to exhibit citizenship-like behaviour or normally known as extra-role behaviour. Similarly, teacher self-efficacy is also played a crucial role in predicting OCB (Cooper, 2010). Teachers with high self-efficacy possess higher confidence in exhibiting the extra-role behaviour such as helping colleague in solving complex issues, willing to share new approach of classroom instructional with colleagues and provide guidance to new colleagues (Jackson, 2009). Similarly, Yin, Lee, Jin and Zhang (2013) indicated that teachers with higher trust in colleague will significantly increase their efficacy level. Although some researchers have established the links between trust and OCB, teacher self-efficacy and OCB as well as trust and self-efficacy (Yin et al., 2013; Cooper, 2010; Jackson, 2009), to our knowledge, there is no researchers have examined this relationship with its inherent mediating mechanism. Hence, it would be a theoretical contribution by conducting a mediation analysis.

LITERATURE REVIEW

Organisational Citizenship Behaviour

In spite of the fact that Organ's OCB construct is the most well adopted construct among the OCB constructs, many studies are criticising on Organ's work (Van Dyne, Graham & Dienesch, 1994; Van Dyne, Cummings & Parks, 1995; Van Dyne & LePine, 1998; Coleman & Borman, 2000). Majority of the researchers prefer to adopt the OCB construct developed by Smith, Organ and Near (1983) but tend to ignore Organ (1988) five-factor OCB measurement (Becker & Vance, 1993). Morrison (1994) stated that respondents and observers would consider the extra-role as part of their formal job scopes. He further argued that OCB would be perceived differently by different employees and even between employees and supervisors.

Van Dyne et al. (1995) claimed that extra role definition can mean differently across persons and even times. Another argument on OCB definition assumption is with noncontractual rewards. The employees' performance appraisal will be affected by their willingness to exhibit OCB in workplace (MacKenzie, Podsakoff & Fetter, 1991; Podsakoff & MacKenzie, 1994). The manager and supervisor will consider to award the employees with better rating who are showing OCB behaviours. Hence, this is indirectly influencing the decision of outcome distributions such as salary increment or other form of re-compensation for employees. Organ defended his position that even formal behaviours or in-role behaviours performance will not guarantee any rewards such as promotion, bonus or salary increment (Organ, 1997).

As noted in Organ (1997), two arguments have been raised from the nature of OCB definition by past researchers. These two arguments emphasised and criticised on two out of three conditions or elements in OCB definition. The only point that has consensual agreement among the researchers is that OCB would benefit and contribute to the effectiveness of organisation (Organ, 1997). In Organ (1997), he also included the contextual performance (Borman & Motowidlo, 1993; 1997) into his discussion. The definition of contextual performance was quite similar to Organ (1988) OCB definition. The arguments of Borman and Motowidlo (1993; 1997) were consistent with Organ (1997) views.

Although the dimensionality of contextual performance overlaps greatly with Organ (1988) five-factor OCB model, there is an absence of two conditions of Organ's OCB definition which are discretionary and indirectly or formally rewarded. Furthermore, the definition of contextual performance is too vague and not clear. Organ re-emphasised the nature assumptions of OCB which OCB is not enforceable behaviour and it is indirectly related to rewards system. Due to the intensive debate, Organ redefined the OCB as "performance that

supports the social and psychological environment in which task performance takes place” (Organ, 1997).

Based on the research study carried out by Bachrach, Bendoly and Podsakoff (2001), they argued that managers and supervisors are facing the difficulty in differentiating the dimensions of OCB. There are several past studies have proposed different dimensions of OCB. Several studies revealed dimensions carry similar meanings with different labels. Some of the managers prefer to group it together as helping behaviour (Podsakoff et al., 2009). As mentioned by Moon, Van Dyne and Wrobel (2005), past empirical studies have been combined and compressed into a unitary construct. In other words, the complexity of OCB theory is increasing, but its measurement has been simplified (Marinova, Moon & Van Dyne, 2010).

Despite that, past researchers have empirically proposed a series of citizenship-like behaviour constructs with different dimensions or named the dimension differently, Organ's construct model and William and Anderson's construct model have been widely accepted in the management literature (McKenzie, 2011). Numerous studies purported that OCB construct is context specific (McKenzie, 2011; Dipaola, Tarter & Hoy, 2005; Organ, 1997). This is also justified by Organ (1997); the construct of OCB and its definition are perceived differently across people and time. As what has been testified by Smith and his colleague, OCB is tested comprehensively and restructured the construct as a single dimension construct in the education setting whereby this single bipolar construct covered both dimensions: altruism and generalised compliance proposed by Smith and his colleague (Dipaola & Hoy, 2005a).

Trust and Organisational Citizenship Behaviour

Trust is viewed as “a glue that holds things together and functions as lubricants in order to reduce friction and facilitate smooth operations” (Tschannen-Moran, 2004, p.38). It plays an important role in ensuring the effectiveness and productiveness of school (Tschannen-Moran & Hoy, 1998; Bryk & Schneider, 2002; Kochanek, 2005; Van Houtte, 2006). Trust is also revealed to be associated with the improved participation in decision making in schools and cooperation among parents, school principals and teachers (Hoy & Tschannen-Moran, 1999). Trust is a multifaceted construct. This multifaceted construct can be related to several referent groups such as teachers, students, parents, administrators and organisations.

Prior study found that trust is positively associated with OCB among teachers in a school setting (Tschannen-Moran, 2003). The findings are in line with Tshannen-Moran (2004). Both studies have tested on the leadership perspective whereby the adoption of leadership style directly influences the trust of employees, which leads to employees' willingness to exhibit citizenship behaviour. Through nurturing OCB in the school working environment, it will further improve student achievement as well as the school's overall performance (Dipaola & Hoy, 2005a).

In the light of McKenzie (2011) study, the three facets of trust: trust in principals, trust in colleagues and trust in clients are significantly related to OCB. Dipaola and Hoy (2005b) claimed that trust is pivotal in developing trust in school workplace. The existence of trust among colleagues unites them and strengthens their relationships. Subsequently, this will foster teachers' OCB in a school environment, whereby teachers are encouraged to provide assistance to others and spend their time to guide students. Therefore, McKenzie (2011) study indicated that trust in colleague is significantly linked to OCB. If teachers trusted their colleagues, this would encourage employees to exhibit OCB by helping each other. This is similar to trust in clients. When teachers believe that their students do have the ability to be successful, they will be very willing to sacrifice their precious time to assist students academically. Hence, it is predicted that trust is significantly related to OCB.

Proposition 1: Trust is positively related to organisational citizenship behaviour.

Teacher Self-Efficacy and Organisational Citizenship Behaviour

Teacher self-efficacy is defined as “the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplishing a specific teaching task in a particular context” (Tschannen-Moran, Hoy & Hoy, 1998, p. 233). Teachers with higher self-efficacy are perceived to have stronger ability to influence students' learning

outcome (Dybowski, Sehner & Harendza, 2017) and the teachers are more ambitious to set challenging standard on student learning progress for themselves (Jumani & Manik, 2017). Teachers will determine the amount of effort contributed to teaching and they are willing to confront with problem encountered during teaching. In short, the amount of effort devoted in their teaching, the ability of decision making and the degree of persistence when facing problematic issues are largely dependent on teacher's sense of efficacy.

Dussault (2006) claimed that there is limited studies tested on the relationship between TSE and OCB in school setting. Based on her empirical study, TSE is partially related to OCB, when teachers possess self-efficacy and belief to have ability to perform their task, they are more likely to exhibit OCB in their workplace. In view of Dussault (2006) findings, the personal teaching efficacy is related to OCB, whereas the general teaching efficacy is not related to OCB (Dussault, 2006). Teacher with higher sense of efficacy is more likely to volunteer to help or assist co-workers with work-related problems, restructure their working timetable to accommodate others and adopt different innovative classroom instructional approaches to students (Beauregard, 2012).

There is another study examining the relationship between self-efficacy and OCB amongst elementary schools' teachers in the northern part of Israel (Somech & Drach-Zahavy, 2000). The prominent findings of Somech and Drach-Zahavy (2000) indicate that the TSE is significantly correlated with extra-role behaviour towards team and organisation. However, there is no significant relationship between TSE and extra-role behaviour towards students (Somech & Drach-Zahavy, 2000). In view of the above results, teachers considered extra-role behaviour towards the student as in-role behaviour (Somech & Drach-Zahavy, 2000). For instance, most of teachers treated this behaviour as part of their job requirements and responsibilities such as preparing and providing high quality teaching lessons, helping weak students in terms of academic outcomes and continuously promoting student learning and well-being (Lauermann, 2014; Lauermann & Karabenick, 2013; Halvorsen, Lee & Andrade, 2009). As a result, the expected relationship between self-efficacy and OCB is formed as follow:

Proposition 2: Teacher self-efficacy is positively related to organisational citizenship behaviour.

Trust and Teacher Self-Efficacy

Yin and colleagues mentioned that there is lack of conceptual and empirical studies tested on the relationship between trust and teacher self-efficacy. A pioneer research on such relationship has been conducted by Hoy and Tschannen-Moran (1999) whereby the three facets of trust are significantly related to teachers' self-efficacy. Similarly in Fisler and Firestone (2006) research findings, there is association between trust and teacher self-efficacy. Teacher with high trust on their colleague, superior, students and parents, it would enhance his or her self-efficacy to perform the task confidently. If teachers trust their students' capability and believe their parents' would help in supporting their children in learning, this would further strengthen their efficacy and confidence in teaching the students. Likewise, when teacher is lacking of trust towards their superiors or principals, he or she will less likely to complete their task confidently (Tshannen-Moran & Gerasis, 2015). Hence, it is predicted that trust is significantly related to teacher's self-efficacy.

Proposition 3: Trust is positively related to teacher self-efficacy.

Teacher Self-Efficacy as Mediator

In view of the above discussions, it can be argued that teacher self-efficacy is able to mediate the relationship between trust and OCB. Teacher self-efficacy is very rare to be tested as mediator, except there is one study examined the teacher self-efficacy and was found as mediator for the relationship between trust and teacher empowerment (Yin et al., 2012). Thus, it is important to explore this possible mediation effect which is believed to be capable of making valuable contribution to theoretical knowledge. Yin and colleagues (2012) claimed that the three dimensions of trust: trust in colleague, trust in principals and trust in client are significantly increased the teacher efficacy level. If teachers who had higher level of trust for their school principal, their colleagues as well as their students and parents, it would further enhance their efficacy beliefs whereby they belief themselves are capable to teach and guide their students

properly, work well with other colleagues and capable to find a better way in teaching their students (Fisler & Firestone, 2006).

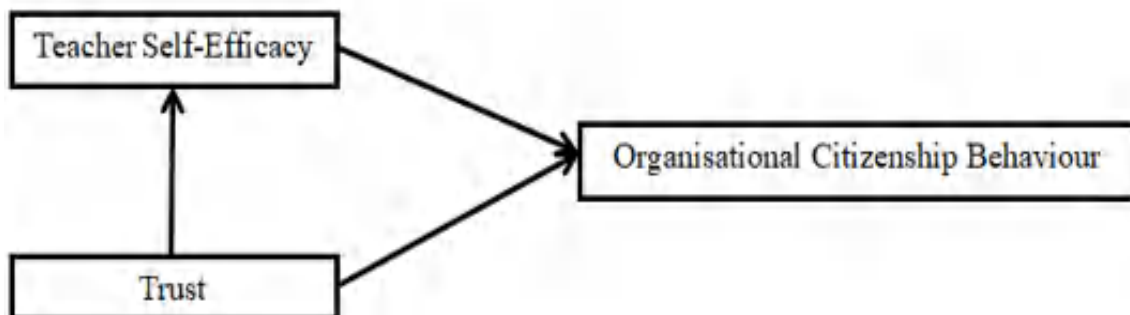
Identically, the teacher self-efficacy is also found significantly related to OCB (Beauregard, 2012; Dussault, 2006). Dipaola and Tschannen-Moran (2001) stated that OCB is something beyond their formal job tasks. The teacher formal job requirement and responsibility is highlighted by Lauermann (2014). For example, the extra-role behaviour towards student is helping students on their own time or willing to spend extra time to guide students after their working hours (Dipaola & da Costa Neves, 2009). In fact, an individual with high self-efficacy will have higher ability and confident to carry out their job effectively and higher probability of success rate (Dussault, 2006; Somech & Drach-Zahavy, 2000). In return, they are more likely to display OCB such as volunteer to assist colleague to solve work-related problems, to attend voluntary meetings, contribute extra time to work without demanding extra pay (Beauregard, 2012). Based on the literature arguments, it is speculated that teacher self-efficacy mediate the relationship between trust and OCB. Teacher with higher trust level possesses high efficacy which will further increase their intention to exercise citizenship-like behaviour.

Proposition 4: Teacher self-efficacy mediates the relationship between trust and organisational citizenship behaviour.

RESEARCH MODEL

In view of the above literature discussion, a research model is formulated and proposed in figure 1.

Figure 1. Proposed Research Model



CONCLUSION

This study attempts to discuss the possible linkages between trust and teacher self-efficacy, trust and OCB as well as teacher self-efficacy and OCB. It is also encapsulates the conceptual arguments of teacher self-efficacy as mediator for the relationship between trust and OCB. Based on the literature arguments, a conceptual model is proposed and four propositions are formulated. It is recommend to examine the proposed predicted direct path relationships as well as its inherent mediating mechanism by obtaining the direct effect and indirect effect of the relationship which recommended by Preacher and Hayes's (2008). Conversely, the assessment of proposed conceptual model Goodness of Fit (GoF), path statistics, coefficient of determination and predictive relevance instead of using first generation techniques (Lowry & Gaskin, 2014). Via these future empirical analyses, it is certain that certain degree of the theoretical contributions and practical contributions could be engendered.

REFERENCES

Akan, O. H., Allen, R. S., & White, C. S. (2009). Equity sensitivity and organisational citizenship behaviour in a team environment. *Small Group Research*, 40(1), 94-112.

- Bachrach, D. G., Bendoly, E., & Podsakoff, P. M. (2001). Attributions of the "causes" of group performance as an alternative explanation of the relationship between organizational citizenship behavior and organizational performance. *Journal of Applied Psychology, 86*, 1285-1293.
- Beauregard, T. A. (2012). Perfectionism, self-efficacy and OCB: The moderating role of gender. *Personnel Review, 41*(5), 590-608.
- Becker, T. E., & Vance, R. J. (1993). Construct validity of three types of organizational citizenship behavior: An illustration of the direct product model with refinements. *Journal of Management, 19*(3), 663-682.
- Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt, W.C. Borman, & Associates (Eds.), *Personnel selection in organizations*. (pp. 71-98). San Francisco Jossey-Bass.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance, 10*, 99-109.
- Brende, B. (2015). Why education is the key to development. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2015/07/why-education-is-the-key-to-development/>
- Bryk, A. S., & Schneider, B. (2002). *Trust in schools: A resource of school improvement*. New York: Russell Sage Foundation.
- Chang, K., Nguyen, B., Cheng, K. T., Kuo, C. C., & Lee, I. (2016). HR practice, organisational commitment & citizenship behaviour: A study of primary school teachers in Taiwan. *Employee Relations, 38*(6), 907-926.
- Chen, H., & Jin, Y. H. (2014). The effects of organisational justice on organisational citizenship behaviour in the Chinese context: The mediating effects of social exchange relationship. *Public Personnel Management, 43*(3), 301-313.
- Coleman, V. I., & Borman, W. C. (2000). Investigating the underlying structure of the citizenship performance domain. *Human Resource Management Review, 10*, 25-44.
- Cooper, J. D. (2010). *Collective efficacy, organizational citizenship behavior, and school effectiveness in Alabama public high schools*. (Doctor of Education), University of Alabama, Tuscaloosa, Alabama.
- Cohen, A. (2007). One nation, many cultures: A cross-cultural study of the relationship between personal cultural values and commitment in the workplace to in-role performance and organisational citizenship behaviour. *Cross-Cultural Research, 41*(3), 273-300.
- Dipaola, M., & da Costa Neves, P. M. M. (2009). Organizational citizenship behaviors in American and Portuguese public schools: Measuring the construct across cultures. *Journal of Educational Administration, 47*(4), 490-507.
- DiPaola, M. F., & Hoy, W. K. (2005a). Organizational citizenship of faculty and achievement of high school students. *The High School Journal, 88*, 35-44.
- Dipaola, M. F., & Hoy, W. K. (2005b). School characteristics that foster organizational citizenship behavior. *Journal of School Leadership, 15*, 308-326.
- Dipaola, M. F., Tarter, C. J., & Hoy, W. K. (2005). Measuring organisational citizenship of schools: The OCB scale. In W. Hoy & C. Miskel (Eds.), *Education Leadership and Reform* (Vol. 4, pp. 319-341). Greenwich, CN: Information Age Publishing.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Dussault, M. (2006). Teachers' self-efficacy and organizational citizenship behaviors. *Psychological Reports, 98*(2), 427-432.
- Dybowski, C., Sehner, S., & Harendza, S. (2017). Influence of motivation, self-efficacy and situational factors on the teaching quality of clinical educators. *BMC Medical Education, 17*, 1-8.
- Fisler, J. L., & Firestone, W. A. (2006). Teacher learning in a school–university partnership: Exploring the role of social trust and teaching efficacy beliefs. *Teachers College Record, 108*, 1155–1185.
- Halvorsen, A.-L., Lee, V. E., & Andrade, F. H. (2009). A mixed-method study of teachers' attitudes about teaching in urban and low-income schools. *Urban Education, 44*(2), 181-224.
- Huang, C. C., You, C. S., & Tsai, M. T. (2012). A multidimensional analysis of ethical, job satisfaction, organisational commitment, and organisational citizenship behaviours. *Nursing Ethics, 19*(4), 513-529.
- Hoy, W. K., & Tshannen-Moran, M. (1999). The five facets of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership, 9*(1), 184-208.
- Iqbal, H. K., Aziz, U., & Tasawar, A. (2012). Impact of organisational justice on organisational citizenship behaviour: An empirical evidence from Pakistan. *World Applied Sciences Journal, 19*(9), 1348-1354.
- Jackson, J. C. (2009). *Organizational citizenship behaviors, collective teacher efficacy, and student achievement in elementary schools*. (Doctor of Education), The College of William and Mary, Virginia.
- Jiang, J. Y., Sun, L. Y., & Law, K. S. (2011). Job satisfaction and organization structure as moderators of the effects of empowerment on organizational citizenship behavior: A self-consistency and social exchange perspective. *International Journal of Management, 28*(3), 675-693.
- Jumani, N. B., & Malik, S. (2017). Promoting teachers' leadership through autonomy and accountability. In I.H. Amzat & N.P. Valdez (eds.), *Teacher empowerment toward professional development and practices* (Vol. XV, pp. 16-41). Singapore: Springer.
- Karriker, J. H., & Williams, M. L. (2009). Organizational justice and organizational citizenship behavior: A mediated multifoci model. *Journal of Management, 35*(1), 112-135.
- Kochanek, J. R. (2005). *Building trust for better schools: Research based practices*. Thousand Oaks, CA: Corwin Press.
- Lambert, E. G., Barton-Bellessa, S. M., & Hogan, N. L. (2014). The association between correctional orientation and organisational citizenship behaviours among correctional staff. *International Journal of Offender Therapy and Comparative Criminology, 58*(8), 953-974.
- Lambert, E. G., & Hogan, N. L. (2013). The association of distributive and procedural justice with organizational citizenship behavior. *The Prison Journal, 20*(10), 1-22.
- Lauermann, F. (2014). Teacher responsibility from the teacher's perspective. *International Journal of Educational Research, 65*, 75-89.
- Lauermann, F., & Karabenick, S. A. (2013). The meaning and measure of teachers' sense of responsibility for educational outcomes. *Teaching and Teacher Education, 30*(1), 13-26.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Lee, K. L., & Low, G. T. (2012). Leadership styles and organizational citizenship behavior: The mediating effect of subordinates' competence and downward influence tactics. *Journal of Applied Business and Economics*, 13(2), 59-96.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salesperson's performance. *Organizational Behavior and Human Decision Processes*, 50, 123-150.
- Malaysia Education Blueprint 2015-2025. (2015). Putrajaya, Malaysia: Ministry of Education Malaysia.
- Marinova, S. V., Moon, H., & Van Dyne, L. (2010). Are all good soldier behaviors the same? Supporting multidimensionality of organizational citizenship behaviors based on rewards and roles. *Human Relations*, 63(10), 1463-1485.
- McCubbrey, D. (2016). Negative effects of globalisation for developing country business. Retrieved from <https://www.boundless.com/users/235420/textbooks/business-fundamentals/international-business-for-the-entrepreneur-14/globalization-opportunities-and-threats-to-developing-country-business-55/negative-and-positive-effects-of-globalization-for-developing-country-business-253-15556/>
- McKenzie, S. G. (2011). *Trust and organisational citizenship: A study of the relationship of the three referents of trust and the organisational citizenship of elementary school teachers*. (Doctor of Education in Education Leadership), University of Texas, San Antonio.
- Moon, H., Van Dyne, L., & Wrobel, K. (2005). The circumplex model and the future of organizational citizenship research. In D. Turnipseed (Ed.), *A handbook on organizational citizenship behavior: A review of "good soldier" activity in organizations*. (pp. 1-22). New York: Nova Science Publishers.
- Morrison, E. W. (1994). Role definitions and organizational citizenship behavior: The importance of the employee's perspective. *Academy of Management Journal*, 37, 1543-1567.
- Nasra, M. A., & Heilbrunn, S. (2016). Transformational leadership and organisational citizenship behaviour in the Arab educational system in Israel: The impact of trust and job satisfaction. *Educational Management Administration & Leadership*, 44(3), 380-396.
- Organ, D. W. (1988). *Organizational citizenship behavior: The good soldier syndrome*. Lexington, MA: Lexington.
- Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance*, 10(2), 85-97.
- Patrinos, H. A. (2016). Why education matters for economic development. Retrieved from <http://blogs.worldbank.org/education/why-education-matters-economic-development>
- Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. (2009). Individual- and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 94(1), 122-141.
- Podsakoff, P. M., & MacKenzie, S. B. (1994). Organizational citizenship behaviors and sales unit effectiveness. *Journal of Marketing Research*, 3, 351-363.
- Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management*, 26(3), 513-563.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in simple and multiple mediator models. *Behavior Research Methods, 40*, 879-891.
- Runhaar, P., Konermann, J., & Sanders, K. (2013). Teachers' organisational citizenship behaviour: Considering the roles of their work engagement, autonomy and leader-member exchange. *Teaching and Teacher Education, 30*, 99-108.
- Sesen, H., & Basim, N. H. (2012). Impact of satisfaction and commitment on teachers' organizational citizenship. *Educational Psychology, 32*(4), 475-491.
- Singh, U., & Srivastava, K. B. L. (2016). Organisational trust and organisational citizenship behaviour. *Global Business Review, 17*(3), 594-609.
- Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*, 653-663.
- Somech, A., & Drach-Zahavy, A. (2000). Understanding extra-role behavior in schools: The relationships between job satisfaction, sense of efficacy, and teachers' extra-role behavior. *Teaching and Teacher Education, 16*, 649-659.
- Srivastava, S., & Madan, P. (2017). Understanding the roles of organisational identification, trust and corporate ethical values in employee engagement-organisational citizenship behaviour relationship: A study on Indian managers. *Management and Labour Studies, 41*(4), 314-330.
- Tschannen-Moran, M. (2003). Fostering organizational citizenship in schools: Transformational leadership and trust. *Studies in Leading and Organizing Schools, 157-179*.
- Tschannen-Moran, M. (2004). *Trust matters: Leadership for successful schools*. San Francisco, CA: Jossey-Bass.
- Tschannen-Moran, M., & Gareis, C. R. (2015). Principals, trust, and cultivating vibrant schools. *Societies, 5*, 256-276.
- Tschannen-Moran, M., & Hoy, W. K. (1998). A conceptual and empirical analysis of trust in schools. *Journal of Educational Administration, 36*(1), 334-352.
- Tschannen-Moran, M., Hoy, W. A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202-248.
- Van Dyne, L., Cummings, L. L., & Parks, J. M. (1995). Extra-role behaviors: In pursuit of construct and definitional clarity (A bridge over muddied waters). In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior* (Vol. 17, pp. 215-285). Greenwich, CT: JAI Press.
- Van Dyne, L., Graham, J. W., & Dienesch, R. M. (1994). Organizational citizenship behavior: Construct redefinition, measurement, and validation. *Academy of Management Journal, 37*, 765-802.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal, 41*, 108-119.
- Van Houtte, M. (2006). Tracking and teacher satisfaction: Role of study culture and trust. *Journal of Educational Research, 99*, 247-254.
- Yin, H. B., Lee, J. C. K., Jin, Y. L., & Zhang, Z. H. (2013). The effect of trust on teacher empowerment: The mediation of teacher efficacy. *Educational Studies, 39*(1), 13-28.

The Influence of Social Exchange Mediators on The Impact of Human Resource Practices

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Abstract

Many studies have been done to demonstrate the impact of human resource (HR) practices on firm performance. The relationships have been generally positive but not always conclusive. Early studies which attempted to measure the direct impact of human resource practices on their dependent variables, reported mixed results. These studies have measured the impact using different frameworks, at different levels and different outcomes. Since human resource practices are perceived by organizational members and implemented by leaders first before they can take effect, their impacts may be more suitably measured from a social exchange perspective. In this study, we combine HR practices with social exchange variables to demonstrate that it is the indirect rather than the direct impacts of HR practices that matter. The findings show that the two key social exchange variables of perceived organizational support (POS) and leader-member exchange (LMX) are important mediators in the relationship between HR practices and the organizational outcomes of trust, empowerment, commitment and intention to remain in the organization.

Keywords: Human resource practices, social exchange, perceived organizational support, leader-member exchange, organizational outcomes.

INTRODUCTION

There is ample research attempting to demonstrate that human resource practices generally have a neutral to positive impact on organizations. The early studies were mixed in terms of results. In one of the earliest studies, Huselid (1995) found broad evidence that investments in high performance work practices resulted in lower employee turnover, greater productivity and better financial performance. However, he did not find that the human resource practices in the organizations in his study demonstrated internal or external fit to bring about positive outcomes. Gooderham et. al (2008) studied the relationship between HRM practices and perceived firm performance in more than 3,000 European companies. They studied both *calculative* HRM practices, which focused on the efficient use of human resources and *collaborative* HRM practices, which aims at promoting interests of both employers and employees. They found that the *calculative* rather than the *collaborative* practices impacted firm performance. However, the impact of the HRM practices was rather small. West et. al. (2002) found that human resource management practices predicted a significant proportion of the variation in patient mortality, controlling for hospital size, number of doctors per bed and local health needs in 81 hospitals in England. Singh (2003) found a direct significant relationship between strategic HR orientation and firm performance in a study of 84 Indian firms.

Rogg et. al. (2001) concluded that the impact of human resource practices on customer satisfaction was mediated by organizational climate. Collins and Smith (2006) found that the impact of HRM practices on firm performance was mediated by factors such as social climate and knowledge exchange and combination. Jiang et. al. (2012) in a meta-analytic investigation of human resource management practices highlighted three different types of human resource practices: skill-enhancing, motivation-enhancing and opportunity-enhancing in line with the ability-motivation-opportunity model. They also emphasized the role of mediating mechanisms in the form of human capital and employee motivation in measuring HRM impact. Juhdi et. al. (2013) found that HRM practices significantly impacted organizational commitment and organizational engagement, both of which in turn partially mediated the relationship between

HRM practices and turnover intention. Since human resource practices are perceived by organizational members first before they can take effect, their impacts may be more suitably measured from a social exchange perspective, such as those by Gould-Williams (2005) and Alfes et. al (2013).

In this study, we combine HR practices with social exchange variables to demonstrate that it is the indirect rather than the direct impacts of HR practices that matter. HR practices need to be combined with social exchange variables because the impacts of human resource practices come from their implementation, which goes through social exchange processes. Our findings show that the two key social exchange variables of perceived organizational support (POS) and leader-member exchange (LMX) are important mediators in the relationship between HR practices and organizational outcomes. In other words, the impacts of human resource practices can only be fully understood and appreciated in the context of the mediating effects of POS and LMX. More importantly, the social exchange variables of LMX and POS also provide the conceptual framework to unlock the explanatory power of human resource management practices.

LITERATURE REVIEW

Social Exchange Theory and Human Resources

Social exchange theory provides a theoretical foundation for understanding how the human resource practices are perceived by and impact organizational members. In social exchange theory, the norm of reciprocity (Blau, 1964) makes employees contribute or repay the organization because they have received benefits from their organization. Failure to reciprocate can lead to social sanctions. Two of the most well-known social exchange variables are perceived organizational support (POS) and leader-member exchange (LMX) (Wayne et. al., 1997). Human resource practices will impact these social exchange variables to produce organizational impacts, in the form of financial and non-financial impacts. For instance, the human resource practice of training will strengthen employees' belief that the organization values them and therefore reciprocate by working harder for the organization. Another human resource practice, promotion, puts more authority in the hands of those who are promoted. Once promoted, such employees reciprocate by working harder for the organization, being more committed and remain in the organization. In short, human resource practices influence social exchange practices to produce organizational outcomes, beyond those produced directly by human resource practices. Two of the best known social exchange variables, perceived organizational support (POS) and leader-member exchange (LMX), will be included as mediating variables in this study.

Independent Variable - Human Resource Practices (HRP)

Human resource practices (HRP) cover several key elements including recruitment, training, employee security and teamwork. While organizations can draft human resource policies, their effectiveness depends on how they are implemented through the social exchange variables. The impact of HRP on the dependent variables of trust, empowerment, commitment and ITR through the two social exchange variables of POS and LMX will be examined in this research.

Mediating Variable - Perceived Organizational Support (POS)

POS refers to the support given by the organization to its employees. Employees perceive that the organization cares about them and this perception leads to reciprocation on the part of the employee in the form of higher work effort (Eisenberger et. al, 1986). Rhoades and Eisenberger (2002) in their review of the literature on POS reported three major categories of benefits enjoyed received by employees through POS: fairness, supervisor support and organizational rewards ad favorable work conditions. POS was also related to such outcomes as employee job satisfaction, positive mood, performance, commitment and lessened withdrawal behavior. Butts et. al. (2009) found that POS moderated the relationship between empowerment and the outcomes of organizational commitment, job performance and job stress. Erturk and Vurgun (2015) reported that POS fully mediates the relationship between psychological empowerment and turnover intentions. De Coninck (2010) found in his study that POS served as a mediator between procedural justice and organizational trust.

Mediating Variable - Leader-Member Exchange (LMX)

Leader-member exchange (1975) is based on the work of Dansereau et al. (1975). In LMX, the supervisor and subordinate assess the quality of their relationship based on their interactions. The quality of these interactions has an impact on outcomes, such as OC, job satisfaction, intention to remain with the organization and job performance. In LMX, leaders develop two kinds of relationships with his subordinates. He develops an *in-group* relationship with those who are close to him and whom he trusts. The remaining subordinates will be in the *out-group*, where the leader exercises power over them mainly through his authority. Members of the *in-group* enjoy benefits like better assignments, more resources and allocation of rewards. Much of the research on LMX has found that it is related to many organizational outcomes. For instance, Wayne et. al (1997) found that LMX is related to organization citizenship behavior (OCB), job performance and doing favors for the supervisor. Other research has linked LMX with job satisfaction, trust in supervisor performance and willingness to contribute (Gerstner and Day, 1997; Liden et al, 1997). Scandura and Pellegrini (2008) found that the quality of LMX was related to identification-based trust and calculus-based trust. As such, there would be a strong relationship between LMX and trust. Yeo et al (2015) found that LMX mediates the relationship between organizational justice and OCB in a Singapore public sector organization. LMX was also positively correlated to job satisfaction. Adil and Awais (2016) found that LMX is positively related with individual feeling of energy which is in turn, positively related with creative work involvement. Furthermore, LMX is negatively correlated with turnover intention. Martin et al. (2016) in their meta-analytic review of LMX found a positive relationship between LMX and task performance and OCB and negatively with counterproductive performance. Dulebohn et. al. (2012) and Banks et. al. (2014) in their meta-analytic studies also found positive relationships between LMX and individual performance, satisfaction and commitment. In addition, they also found that LMX had negative relationship with turnover.

Dependent Variable - Trust

Trust is one of the most fundamental requirements for organizational functioning. This is because work requires social exchange among organizational members, which is built upon the foundation of trust. In fact, no business transaction can take place in the context where buyers and sellers do not trust each other. The works of Putnam (1993) and Fukuyama (1995) underscore the importance of trust in organizational and societal performance. McGregor (1960) first highlighted the importance of trust in organizations through his Theory X and Y. Theory X managers do not trust their employees and spend most of their time monitoring and punishing poor performers; on the other hand, Theory Y managers trust their employees and spend time working with them to improve performance. Theory Y managers thus empower their organizational members to higher levels of performance. In this study, trust is a dependent variable. We would expect HRP, POS and LMX to have high and positive relationships with trust.

Dependent Variable - Empowerment (EMP)

Empowerment is the process by which the supervisor confers the authority, resources and confidence to his subordinates to perform tasks, for which they will be held accountable. Empowerment is certainly an important variable that is an outcome of social exchange theory because many organizations must empower their organizational members due to the need to respond more effectively and quickly to their customers. Therefore, HRP, POS and LMX should have high and positive relationships with empowerment. An interesting question for this study is whether empowerment works equally well in a non-western society like Malaysia where cultural values are different. As a high-power distance and collectivist society (Hofstede, 1991), would HRP, POS and LMX still contribute to empowerment?

Dependent Variable - Organizational Commitment (OC)

Organizational commitment is the psychological frame of mind of the employee that wants to contribute to the organization. The employee not only feels that the organization is a place to come to work. He feels that he is a part of the organization and he is concerned about its future well-being. We would expect that HRP, POS and LMX to have high and positive relationships with OC.

Dependent Variable - Intention to Remain (ITR)

Intention to remain (ITR) in the organization is a voluntary act on the part of the employee to continue serving in the organization because he is trusted, has good relationship with his supervisor and is empowered to perform at a high level. As such, we would expect HRP, POS and LMX to contribute positively to ITR.

Hypotheses of the Study

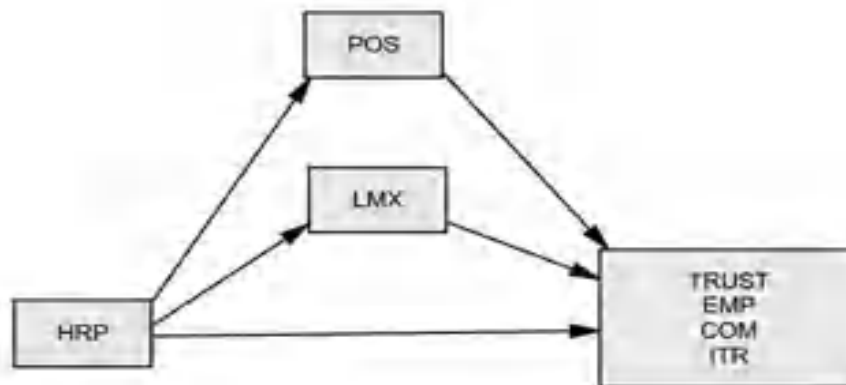
Based on our information in the preceding paragraphs, we can summarize the twelve hypotheses for our study:

- H1: HRP has a direct and significant effect on trust.
- H1A: HRP has an indirect and significant effect on trust through POS.
- H1B: HRP has an indirect and significant effect on trust through LMX.
- H2: HRP has a direct and significant impact on EMP.
- H2A: HRP has an indirect and significant impact on EMP through POS.
- H2B: HRP has an indirect and significant impact on EMP through LMX.
- H3: HRP has a direct and significant impact on OC.
- H3A: HRP has an indirect and significant impact on OC through POS.
- H3B: HRP has an indirect and significant impact on OC through LMX.
- H4: HRP has a direct and significant effect on ITR.
- H4A: HRP has an indirect and significant effect on ITR through POS.
- H4b: HRP has an indirect and significant effect on ITR through LMX.

CONCEPTUAL FRAMEWORK

The conceptual framework used in our study is shown in figure 1. As shown in the figure, HRP is the independent variable, POS and LMX are the intervening variables and there are four dependent variables, trust, empowerment, commitment and ITR.

Figure 1: Conceptual Framework of the Study



Note: EMP is empowerment, COM is commitment and ITR is intention to remain

RESEARCH METHODOLOGY

Data Collection

Data was collected from 265 respondents of eighteen firms from the service and manufacturing companies. A structured questionnaire with seven sections was distributed to respondents. The first section consisted of demographic data including age, gender and job tenure. The remaining six sections requested information on the variables in the study, HRP, POS, LMX, trust, empowerment, organizational commitment and intention to remain in the organization. The sampling used was non-probability convenient sampling. During the editing phase, it was discovered that a total of 13 survey forms contained many omissions and some illogical answers, to be of use in analysis. They were excluded from analysis. The final number of respondents included in the analysis was 252.

Measures

Measures were taken from published sources. Trust was measured using four items from Cook and Wall (1980). The Cronbach's alpha for the four items was 0.84. LMX was measured using items developed by Graen and Uhl-Bien (1995). Five items were used and the Cronbach's alpha was 0.88. EMP was measured using the three items from Peccei and Rosenthal (1997). Three items were used and the Cronbach's alpha came to 0.78. OC was measured using three items from Cook and Wall (1980) which recorded a Cronbach's alpha of 0.74 whereas ITR in the organization was measured with four items developed previously (Lian, 2001), with a Cronbach's alpha of 0.85. Seven items from Eisenberger (1986) were used to measure POS, which recorded a Cronbach's alpha of 0.85. Finally, seven items from Gould-Williams et. al. (2005) was used to measure HRP. The Cronbach's alpha was 0.80.

DATA ANALYSIS

Results of Data Analysis

SPSS version 23 was used to compute means, standard deviations and Pearson's correlations. The PROCESS macro (Hayes, 2013) was used to test the hypotheses developed for this study.

Means, Standard Deviations and Pearson's Correlations

We can get a feel for the data by examining the means, standard deviations and correlations. Our results are shown in Table 2. The mean age for the sample in our study is 32 years with a job tenure of 6.6 years. The mean scores on LMX, TRUST, EMP, ITR, COM and HRP range between 3.24 to 3.80, which means that the mean score is well above average to good, since we have measured these five variables on a 5-point Likert scale.

There are significant correlations between age and gender, job tenure, managerial status and education. This means that males (coded as 1 in the data set) are older than females. It also means that the older employees have longer job tenure, have higher educational qualifications and hold higher managerial positions. Age is also positively related to ITR. This is to be expected as older employees would find it easier to stay in an organization they are familiar with than to leave for a new organization with its attendant risks.

Age is also positively related to COM, which means that older employees are more committed to the organization. This is again related to the propensity of older employees to commit to their existing organizations due to their age. However, both the correlation and significance levels for COM is lower than ITR.

Gender is also significantly related to trust. In this sample, females display a higher level of trust than males. Job tenure is related ITR, COM and HRP. This is logical since employees who have longer job tenure will prefer to stay in their organizations, feel committed to them and be impacted by HRP.

Education is related to EMP and HRP in this sample. The reason for the relationship between education and EMP is unclear but it could be due to better terms and conditions of employment enjoyed by employees with higher educational qualifications, who therefore feel more committed to their organizations. Education is also related to HRP, meaning that the more educated employees are more impacted by HRP.

Managerial level is related to EMP, ITR, COM and HRP. This means that senior managers are more empowered, have stronger intention to stay on in their organizations, are more committed to them and are more impacted by HRP. This is a common phenomenon in many organizations.

There are high and positive correlations ($p < 0.01$) between the main variables of interest in the study, ranging from 0.31 to 0.62. We can expect that independent variables would be able to explain the dependent variables in our study. However, no correlation coefficient exceeded 0.70, which may indicate multicollinearity (Tabachnick and Fidell, 1996). We also checked the Variance Inflation Factor (VIF) of the variables used for hypotheses tests. Researchers are divided on the cut-off points for VIF to establish multicollinearity. In fact, the

cut-off values range from a high of 10 all the way down to 4 (O'Brien, 2007). Our VIF values are all below 2. We now examine the results of the relationships between the independent, mediating and dependent variables by examining the results of our hypotheses tests.

Table 2: Means, Standard Deviations and Correlations of Variables^a

^a $N = 252$ for all variables. Variables 6 to 10 measured on a five-point Likert scale.

* $p < 0.05$, ** $p < 0.01$.

LMX = Leader-Member Exchange. EMP = Empowerment. COM = commitment. ITR = intention to remain. HRP = Human Resource Practices

Results of Hypotheses Tests

The results of our hypotheses tests are shown in tables 3 to 6. Column 1 contains the antecedents, columns 2 and 3 the mediators and column 4, the dependent variable. Table 3 focuses on HRP's impacts on the mediators of POS and LMX and the dependent variable of trust. The table shows that HRP is significantly related to POS, LMX and trust. In column four, we can see that HRP has a direct impact on trust of 0.284. The table also shows that 38.1% of the variance in POS is explained by HRP, 34.1% of the variance in LMX is explained by HRP and 61.3% of the variance in trust is explained by HRP, POS and LMX.

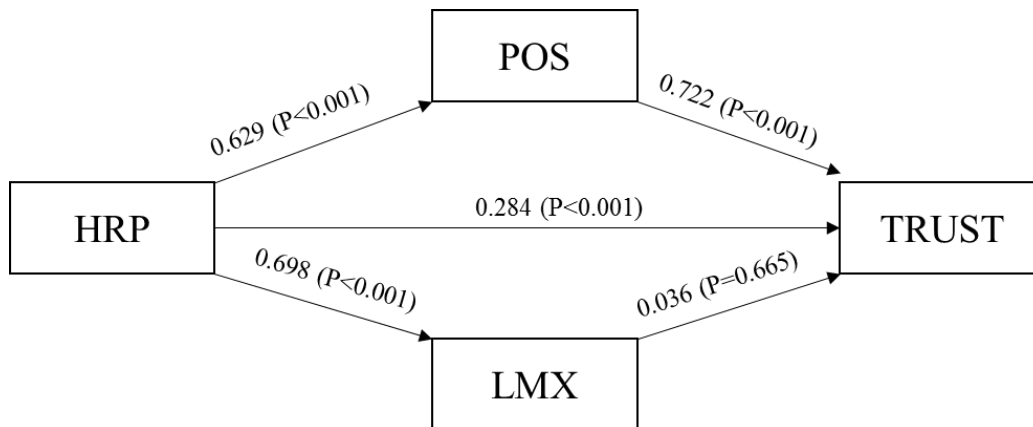
Variables	Me an	S. D.	1	2	3	4	5	6	7	8	9	10
1. Age	31.8 1	8.8 9										
2. Gender			0.15*									
3. Education			0.20**	0.04								
4. Job Tenure	6.58	8.1 6	0.83**	0.11	0.16*							
5. Managerial Level			0.60**	0.14 *	0.31**	0.55**						
6. TRUST	3.36	0.6 8	0.01	- 0.13 *	0.10	-0.07	0.02					
7. LMX	3.57	0.6 6	-0.07	- 0.07	0.03	-0.06	0.11	0.52* *				
8. EMP	3.38	0.6 8	0.01	0.06	0.07	0.01	0.19**	0.45* *	0.55* *			
9. COM	3.80	0.6 2	0.13*	- 0.05	0.17**	0.15*	0.21**	0.32* *	0.48* *	0.42* *		
10. ITR	3.24	0.9 0	0.21**	- 0.07	0.02	0.16*	0.15*	0.56* *	0.47* *	0.44* *	0.31* *	
11. HRP	3.64	0.5 5	0.12	- 0.08	0.21**	0.14*	0.16*	0.62* *	0.58* *	0.48* *	0.45* *	0.52 **

Table 3: The Impact of HRP on trust

Antecedent	M1 (POS)			M2 (LMX)			Y (TRUST)		
	Coefficient	SE	P	Coefficient	SE	P	Coefficient	SE	P
X (HRP)	0.629	0.051	<0.001	0.698	0.061	<0.001	0.284	0.066	<0.001
M1 (POS)	-	-	-	-	-	-	0.722	0.065	<0.001
M2 (LMX)	-	-	-	-	-	-	0.036	0.054	0.665
Constant	1.114	0.187	0.001	1.030	0.226	<0.001	-0.256	0.194	0.189
R ² =0.381			R ² =0.341			R ² =0.613			
F(1, 250) = 153.907			F(1, 250) = 129.559			F(3, 248)			
P<0.001			P<0.001			P<0.001			

Figure 2 shows the direct and indirect impacts of HRP on trust. As shown in the figure, the direct impact of HRP on trust is 0.284.

Figure 2: Direct and Indirect Effects of HRP on Trust



Bootstrapping to Test Indirect Effects

The PROCESS macro uses bootstrapping to test for indirect effects (Preacher and Hayes, 2008). The indirect and significant impact of HRP on trust through POS is $0.629 \times 0.722 = 0.454$ with bias corrected confidence intervals (BC CI) of 0.345, 0.581, which indicates a significant relationship. The indirect impact of HRP on trust through LMX is $0.698 \times 0.036 = 0.025$ with BC CI of -0.067, 0.117, which indicates a non-significant relationship since 0 is within the CI. In other words, the indirect impact of HRP on trust through POS is stronger than its direct impact. Table 4 examines HRP's impact on empowerment. We can see that HRP has a direct and significant impact on empowerment of 0.168 at the alpha level of 0.05. The table also shows that HRP, POS and LMX explain 37.9% of the variance in empowerment.

Figure 3 shows the direct and indirect impacts of HRP on empowerment. As shown in the figure, the direct and positive impact of HRP on empowerment is 0.168. The indirect impacts of HRP on empowerment through POS and LMX are $0.629 \times 0.305 = 0.192$ with BC CI of 0.080, 0.321 (significant) and $0.698 \times 0.341 = 0.238$ with CI of 0.143, 0.347 (significant), respectively. In other words, both indirect impacts of HRP ($0.192 + 0.238 = 0.430$) are stronger than its direct impact.

Table 4: The Impact of HRP on empowerment

Antecedent	M1 (POS)			M2 (LMX)			Y (EMP)		
	Coefficient	SE	P	Coefficient	SE	P	Coefficient	SE	P
X (HRP)	0.629	0.051	<0.001	0.698	0.061	<0.001	0.168	0.084	0.048
M1 (POS)	-	-	-	-	-	-	0.305	0.083	<0.001
M2 (LMX)	-	-	-	-	-	-	0.341	0.068	<0.001
Constant	1.114	0.187	<0.001	1.030	0.226	<0.001	0.515	0.247	0.038
R ² =0.381			R ² =0.341			R ² =0.379			
F(1, 250) = 153.907			F(1, 250) = 129.559			F(3, 248)			
P<0.001			P<0.001			P<0.001			

Figure 3: Direct and Indirect Effects of HRP on Empowerment

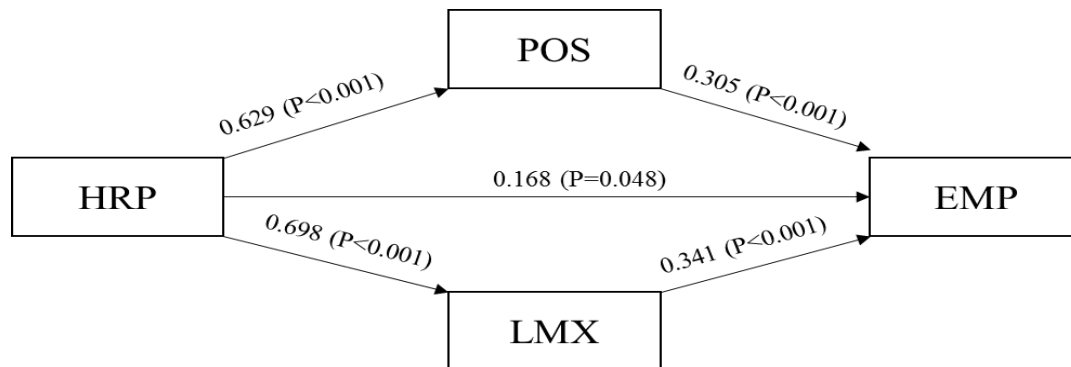


Table 5 examines the impact of HRP on commitment. As shown in the table, the direct impact of HRP on commitment is 0.257. The R² of 27.1% means that HRP, POS and LMX explains 27.1% of the variance in commitment. Figure 4 shows the direct and indirect impacts of HRP on commitment. The direct impact is 0.257 (p = 0.002). The indirect impact for POS is 0.629 x 0.077 = 0.048 with BC CI of -0.069, 0.175 indicating non-significance and for LMX 0.698 x 0.288 = 0.201 with BC CI of 0.094, 0.335 indicating significance. Thus, the direct effect of 0.257 is greater than the indirect effect of 0.201.

Table 5: The Impact of HRP on commitment

Antecedent	M1 (POS)			M2 (LMX)			Y (COM)		
	Coefficient	SE	P	Coefficient	SE	P	Coefficient	SE	P
X (HRP)	0.629	0.051	<0.001	0.698	0.061	<0.001	0.257	0.083	0.002
M1 (POS)	-	-	-	-	-	-	0.077	0.082	0.348
M2 (LMX)	-	-	-	-	-	-	0.288	0.068	<0.001
Constant	1.114	0.187	<0.001	1.030	0.226	<0.001	1.572	0.246	<0.001
R ² =0.381			R ² =0.341			R ² =0.271			
F(1, 250) = 153.907			F(1, 250) = 129.559			F(3, 248)			
P<0.001			P<0.001			P<0.001			

Figure 4: Direct and Indirect Effects of HRP on Commitment

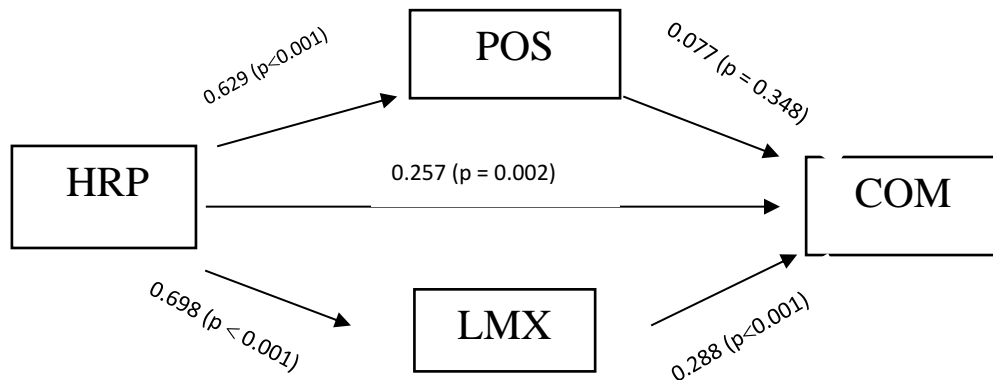


Table 6 is concerned with the impacts of HRP on ITR. As can be seen in the table, the direct impact of HRP on ITR is 0.357. The R^2 of 0.39 means that HRP, POS and LMX explain 39% of the variance in ITR. Figure 5 shows that the indirect impact of HRP through POS are $0.629 \times 0.604 = 0.380$ which is significant with BC CI of 0.234, 0.539. The indirect impact of HRP through LMX is $0.698 \times 0.173 = 0.121$, which is not significant because the BC CI is -0.045, 0.266. Thus, the indirect impacts, 0.380 is greater than the direct impact of 0.357.

Table 6: The Impact of HRP on ITR

Antecedent	M1 (POS)			M2 (LMX)			Y (ITR)		
	Coefficient	SE	P	Coefficient	SE	P	Coefficient	SE	P
X (HRP)	0.629	0.051	<0.001	0.698	0.061	<0.001	0.357	0.111	0.001
M1 (POS)	-	-	-	-	-	-	0.604	0.109	<0.001
M2 (LMX)	-	-	-	-	-	-	0.173	0.090	0.055
Constant	1.114	0.187	<0.001	1.030	0.226	<0.001	-0.727	0.324	0.026
R ² =0.381			R ² =0.341			R ² =0.390			
F(1, 250) = 153.907			F(1, 250) = 129.559			F(3, 248)			
P<0.001			P<0.001			P<0.001			

Figure 5: Direct and Indirect Impacts of HRP on ITR

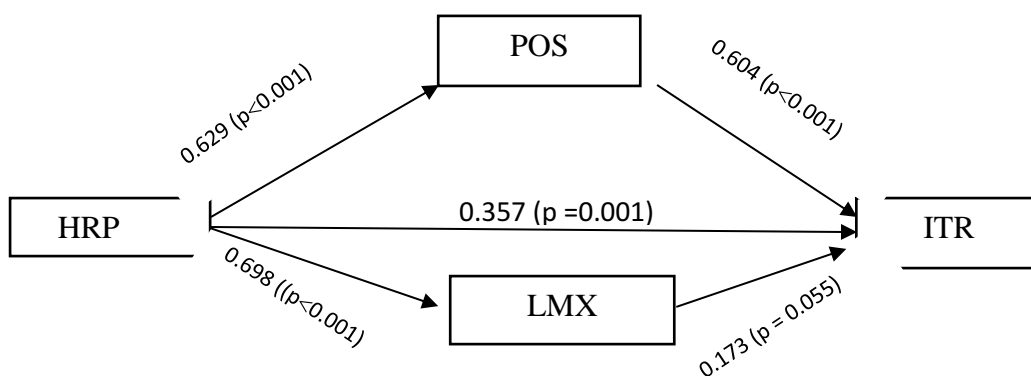


Table 7 summarizes the results of our hypotheses tests.

Table 7: Results of Hypotheses Tests

Hypothesis	Effect	p-value/BC CI	Decision
H1: HRP has a direct and significant effect on trust	0.317	<0.001	Supported
H1A: HRP has an indirect and significant effect on trust through POS	0.454	0.345, 0.581	Supported
H1B: HRP has an indirect and significant effect on trust through LMX	0.025	-0.067, 0.117	Not Supported
H2: HRP has a direct and significant impact on empowerment	0.168	0.048	Supported
H2A: HRP has an indirect and significant impact on empowerment through POS	0.192	0.080, 0.321	Supported
H2B: HRP has an indirect and significant impact on empowerment through LMX	0.238	0.143, 0.347	Supported
H3: HRP has a direct and significant impact on commitment	0.257	0.002	Supported
H3A: HRP has an indirect and significant impact on commitment through POS	0.048	-0.069, 0.175	Not Supported
H3B: HRP has an indirect and significant impact on commitment through LMX	0.201	0.094, 0.335	Supported
H4: HRP has a direct and significant effect on ITR.	0.357	0.001	Supported
H4A: HRP has an indirect and significant effect on ITR through POS	0.380	0.234, 0.539	Supported
H4B: HRP has an indirect and significant impact on ITR through LMX	0.121	-0.045, 0.266	Not Supported

Note: For all the three groups H1-H1B (trust), H2-H2B (EMP) and H4-H4B (ITR), the indirect impacts of HRP are stronger than the direct impact. However, for the H3-H3B group (OC), the direct impact is stronger.

CONCLUSION AND DISCUSSION

Three of the hypotheses were not supported. HRP did not have an indirect impact on trust through LMX. The possible reason for this could be attributed to the negative feedback from organization members who are members of the *out-group*. Secondly, HRP did not have an indirect impact on commitment through POS. The possible explanation for this is that commitment requires leader-member interaction rather than just perception of support. Finally, HRP did not significantly impact ITR through LMX. This may be due to the possibility that employees are influenced by factors other than LMX such as better terms and conditions of employment offered by other organizations. The grass can be greener elsewhere. The results of this study on our four dependent variables show that indirect impacts of human resource practices occur more frequently than the direct impacts. For the dependent variables of trust, empowerment and intention to leave, indirect results were more important than direct results. It was only in the case of the dependent variable of commitment that the direct impact was slightly stronger.

This study has certain limitations. The first is the sample, which is restricted to the manufacturing and service sectors. It would be beneficial to do a comparative study between these sectors to see if there are systematic differences sector wise. Furthermore, a comparative study between the profit and non-profit sectors could also be undertaken. Secondly, the study has employed a cross-sectional design. It would certainly be beneficial to conduct studies with longitudinal designs to improve the validity of results. This is especially true in studies like the present one, where human resource impacts take time for their impacts to be felt. Thus, pre-post studies would help to strengthen validity of findings.

The results of the study mean that organizations need to ensure that they have in place mechanisms that will contribute to employees perceiving that the organization supports their well-being and supervisors try to include their subordinates as part of a team when interacting with them. Human resource policies will need to be supplemented with other policies to increase the positive impact to the organization. Apart from the dependent variable of trust, which had an R^2 of 0.61, the R^2 for the remaining variables of empowerment, commitment and intention to remain, can be further enhanced by the addition of additional relevant independent variables. It would be useful to include variables from the resource-based view of the firm, such as human capital, social capital and organizational capital. Other relevant and interesting independent variables that could be included in future studies are culture and structure.

In this study, human resource practices have been conceived as a single dimension. However, future research could separate out the practices into separate bundles of motivation-enhancing, skill-enhancing and opportunity-enhancing practices (Jiang, 2012) so that the association with organization outcomes could be more clearly established. This is important because the different types of human resources have different organization impacts. Overall, the findings in this study underscore the need to pay careful attention to human resources in managing organizations. Further work on the impact of human resource practices on such dependent variables as innovation, employee performance and financial profitability are warranted as the findings could provide heuristics for practicing managers, who need guidance from empirical research on how to manage effectively and efficiently in the twenty first century.

REFERENCES

- Aryee, S., Budhwar, P.S. and Chen, Z.X. (2002). Trust as a mediator of the relationship between organizational justice and work outcomes: Test of a Social Exchange Model. *Journal of Organizational Behaviour*, 23, 267-285.
- Bagozzi, R.P., Youjae, Y. and Phillips, L.W. (1991). Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, 36 (3), 421-458.
- Blau, P.M. (1964). *Exchange and Power in Social Life*. New York: Wilay.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Butts, M.M., Vandenberg, R.J., DeJoy, D.M., Schaffer, B.S. and Wilson, M.G. (2009). Individual Reactions to High Involvement Work Processes: Investigating the Role of Empowerment and Perceived Organizational Support. *Journal of Occupational Health Psychology, 14* (2), 122-136.
- Chiang, C.F. and Jiang, S.S. (2008). The Antecedents and Consequences of Psychological Empowerment: The Case of Taiwan's Hotel Companies. *Journal of Hospitality & Tourism Research, 32* (1), 40-61.
- Cook, J. and Wall, T. (1980). New Work Attitude Measures of Trust, Organizational Commitment and Personal Need Non-fulfillment. *Journal of Occupational Psychology, 53* (1), 39-52.
- Cropanzano, R. and Mitchell, M.S. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management, 31* (6), 864-900.
- DeConinck, J.B. (2010). The Effect of Organizational Justice, Perceived Organizational Support and Perceived Supervisor Support on Marketing Employees' Level of Trust. *Journal of Business Research, 63*, 1349-1355.
- Dirks, K.T. and Ferrin, D.L. (2001). The Role of Trust in Organizational Settings. *Organization Science, 12* (4), 450-467.
- Dulebohn, J.H., Bommer, W.H., Liden, R.C., Brouer, R.L. and Ferris, G.R. (2012). A Meta-Analysis of Antecedents and Consequences of Leader-Member Exchange: Integrating the Past With an Eye Toward the Future. *Journal of Management, 38* (6), 1715-1759.
- Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D. (1986). Perceived Organizational Support. *Journal of Applied Psychology, 71*, 500-507.
- Emerson, R.M. (1976). Social Exchange Theory. *Annual Review of Sociology, 2*, 335-362.
- Erturk, A. and Vurgun, L. (2015). Retention of IT Professionals: Examining the Influence of Empowerment, Social Exchange and Trust. *Journal of Business Research, 68*, 34-46.
- Fukuyama, F. (1995). *Trust*. New York: Free Press.
- George, B., Batchelor, J.H., Seers, A., O'Boyle, E.H., Pollack, J.M., and Gower, K. (2014). What does team-member exchange bring to the party? A meta-analytic review of team and leader social exchange. *Journal of Organizational Behavior, 35*, 273-295.
- George, R.T., and Hancer, M. (2003). The impact of selected organizational factors on psychological empowerment of non-supervisory employees in full-service restaurants. *Journal of Foodservice Business Research, 6*(2), 57-65.
- Gomez, C. and Rosen, B. (2001). The Leader-Member Exchange as a Link Between Managerial Trust and Employee Empowerment. *Group and Organization Management, 26* (1), 53-69.
- Gooderham, P., Parry, E., and Ringdal, K. (2008). The Impact of Bundles of Strategic Human Resource Management Practices on the Performance of European Firms. *International Journal of Human Resource Management, 19* (11), 2041-2056.
- Gould-Williams, J. and Davies, F. (2005). Using Social Exchange Theory to Predict the Effects of HRM Practice on Employee Outcomes. *Public Management Review, 7* (1), 1-24.
- Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010). *Multivariate Data Analysis: A Global Perspective*. Singapore: Pearson.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Hayes, A.F. (2013). *Introduction to Mediation, Moderation and Conditional Process Analysis*. New York: Guilford Press.
- Hair, J.F., Gabriel, M.L.D., and Patel, V.K. (2014). AMOS covariance-based structural equation modeling (CB-SEM): guidelines on its applications as a marketing research tool. *Brazilian Journal of Marketing*, 13 (2), 44-55.
- Homans, G. (1961). *Social Behavior: Its Elementary Forms*. New York: Harcourt Brace Jovanovich.
- Huselid, M. (1995). The Impact of Human Resource Management Practices on Turnover, Productivity and Corporate Financial Performance. *Academy of Management Journal*, 38 (3), 635-672.
- Jiang, K., Lepak, D., Hu, J. and Baer, J.C. (2012). How Does Human Resource Management Influence Organizational Outcomes? A Meta-Analytic Investigation of Mediating Mechanisms. *Academy of Management Journal*, 55 (6), 1264-1294.
- Keller, T. and Dansereau, F. (1995). Leadership and empowerment: A Social Exchange Perspective. *Human Relations*, 48 (2), 127-146.
- Koberg, C.S., Boss, R.W., Senjem, J.C., and Goodman, E.A. (1999). Antecedents and Outcomes of Empowerment. *Group & Organization Management*, 24 (1), 71-91.
- Laschinger, H.K.S., Finegan, J., and Shamian, J. (2001). The impact of workplace empowerment, organizational trust on staff nurses' work satisfaction and organizational commitment. *Healthcare Management Review*, 26 (3), 7-23.
- Lian, T.K.F. (2001). *Determinants of Total Quality Management (TQM) Implementation and Impact: A Study of Selected Malaysian Public Organizations*. Unpublished doctoral dissertation, University of Georgia.
- Martin, R., Guillaume, Y., Thomas, G., Lee, A. and Epitropaki, O. (2016). Leader-Member Exchange (LMX) and Performance: A Meta-Analytic Review. *Personnel Psychology*, 69, 67-121.
- Maynard, M.T., Gilson, L.L. and Mathieu, J.E. (2012). Empowerment – Fad or Fab? A Multilevel Review of the Past Two Decades of Research. *Journal of Management*, 38 (4), 1231-1281.
- Meyerson, S. and Kline, T.J.B. (2007). Psychological and Environmental Empowerment: Antecedents and Consequences. *Leadership & Organization Development Journal*, 29 (5), 444-460.
- O'Brien, R.M. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. *Quality and Quantity*, 41, 673-690.
- Peccei, R. and Rosenthal, P. (1997). The Antecedents of Employee Commitment. *The International Journal of Human Resource Management*, 8 (1), 66-86.
- Podsakoff, P.M. MacKenzie, S.B. and Podsakoff, N.P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, 63, 539-69.
- Preacher, K. and Hayes, A.F. (2008). Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models. *Behavior Research Methods*, 40 (3), 879-891.
- Putnam, R. (1993). *Making Democracy Work.: Civic Traditions in Modern Italy*. New Jersey: Princeton University Press.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Rhoades, L. and Eisenberger, R. (2002). Perceived Organizational Support: A Review of the Literature. *Journal of Applied Psychology*, 87, 698-714.
- Scandura, T.A., and Pellegrini, E.K. (2008). Trust and Leader-Member Exchange: A Closer Look at Relational Vulnerability. *Journal of Leadership & Organizational Studies*, 15 (2), 101-110.
- Settoon, R.P. and Liden, R.C. (1996). Social Exchange in Organizations: Perceived Organizational Support, Leader-Member Exchange and Employee Reciprocity. *Journal of Applied Psychology*, 81 (3), 219-227.
- Seibert, S.E., Wang, G. and Courtright. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. *Journal of Applied Psychology*, 96, 91-1003.
- Singh, K. (2003). Strategic HR orientation and Firm Performance in India. *International Journal of Human Resource Management*, 14 (4), 530-543.
- Swenson, D.X. (1997). Requisite Conditions for Team Empowerment. *Empowerment in Organizations*, 5 (1), 16-25.
- Tabachnick, B.G. and Fidell, L.S. (1996). *Using Multivariate Statistics*. New York: Harper Collins
- Wat, D., and Shaffer, M.A. (2005). Equity and Relationship Quality Influences Organizational Citizenship Behaviors. *Personnel Review*, 34 (4), 406-422.
- Wayne, S.J., Shore, L.M., and Liden, R.C. (1997). Perceived Organizational Support and Leader-Member Exchange: A Social Exchange Perspective. *Academy of Management Journal*, 40 (1), 82-111.
- Wong, C.A. and Laschinger, H.K.S. (2012). Authentic Leadership, Performance and Job Satisfaction: The Mediating Role of Empowerment. *Journal of Advanced Nursing*, 69 (4), 947-959.
- Yeo, M., Ananthram, S., Teo, S.T.T. and Person. C.A. (2015). Leader-Member Exchange and Relational Quality in a Singapore Public Sector Organization. *Public Management Review*, 17 (10), 1379 -1402.

Assessing the Factors Affecting Tourism Demand in Malaysia: A Case Study of Penang

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Abstract

Tourism industry plays significant role in developing a nation's economy. The development and advancement of tourism industry in Malaysia able to improve and enhance the standard of living, natural environment, employment rate, infrastructure and government revenue. Despite the large amount of literatures investigating the factors influencing tourism industry by country, few known studies however were carried out to identify the factors that influence the demand of tourism by state. Particularly, this study is aimed to examine the factors influencing the tourism demand in Penang. There is 96.7% response rate from the 150 sets of questionnaire distributed in Penang. This study employed non- profitability convenient sampling in which the researcher selected forms a population to obtain the required data. Regression and factor analysis were employed to identify the factors that influence tourism demand in Penang. The results of this study indicated that overall four major factors affect the tourism demand in Penang.

Keywords: Tourism demand, Environmental, Transportation, Price, Service quality

INTRODUCTION

Tourism can be defined as any person travelling to a place other than his usual place of residence for a period of not less than 24 hours or one night for a purpose other than the exercise of a remunerated activity in the place visited (WTO, 1981, p. 89). Over the past decade, the number of tourist arrivals to Malaysia has shown a gradual increase in the trend except for year 2015 where the number of visitors dropped by about 6%. According to Tourism Malaysia (2017), tourist arrivals to Malaysia shows a positive growth after the slowdown in 2015 where the number of tourist in year 2015 are 25 721 251 increase to 26 757 392 in year 2016. The top 10 countries that visit Malaysia in 2016 were Singapore (13.3 million), Indonesia (3.1 million), China (2.1), Thailand (1.8 million), Brunei (1.4 million), India (0.64 million), South Korea (0.44 million), the Philippines (0.42 million), Japan (0.41 million) and the United Kingdom (0.40 million). Malaysia's 2017 tourism target is to attract 31.8 million tourists and contributing RM118bil worth of tourist receipts.

This study will focus on Penang one of the Malaysian state which is located on the northwest coast of Peninsular Malaysia by the Malacca Strait. This is because Penang has the highest population densities, one of the country's most urbanized states and a thriving tourist destination which is also known as a UNESCO World Heritage Site. This state's tourism industry is the second main source of income generation in the state after manufacturing. According to Penang Tourist Survey (2016), high-priority activities in Penang are sightseeing in the city (38.8%), visiting historical sites (34.9%), Experiencing local food(32.6%), Visiting museums or art galleries (26.3%), shopping (24%), visiting national parks or hiking or trekking (23.6%), enjoying water sports, swimming or sunbathing (19.1%), attending traditional cultural performances (18.9%), enjoying theme parks (17.8%), enjoying night life (10.8%), health treatment (10.6%), and playing sports(8.9%). The aim of these studies has been to determine the factors affecting tourism demand in Penang in order to develop appropriate policies for the tourism sector. In this respect, some of the key factors, namely environmental, transportation, service quality and price, will used to examine the effect on the demand for tourism in Penang. It is important to identify the key factors that influence tourism demand in order to effectively

understand the changes and trends in the tourism market, and create competitive advantages for the tourism industry professionals (Wang, Y. 2009).

LITERATURE REVIEW

Malaysia tourism industry has been growing recent years as stated in world travel and tourism council. In recent years, more attention paid in tourism industry which is believed to be a high contributor to economic growth. Investigating the relationship between tourism demand and economic growth is crucial as an improvement to achieve our vision. Most of the existing literature concerning the relationship between tourism industry and economic growth generally and lack of literatures focus on examining the tourism demand in specific states or region. Price is the other possible significant determinants in influencing the tourism demand (Chigora & Vutete, 2015; Ooi, Hooy, & Som, 2013; Kadir, Abdullah, & Nayan, 2008; Salleh, Othman, & Ramachandran, 2007). Salleh et al. (2007) found that tourism price have a negative relationship with the tourism demand to the Malaysia. This is supported by Ooi et al. (2013) where their study also found that price is negatively influencing both of the ASEAN and Non-ASEAN tourists' demand. Indeed, Salleh, Othman, Noor, and Hasim (2010) stated that every 10 per cent increase in the travelling expenses in Malaysia will cause a reduction of tourist from Middle East by 21.4 per cent.

Although Tang and Tan (2016) argued that the negative impact of the price of tourism will only cause a little drop in the tourist arrival to the host nation but the authority of host nation may still need to ensure the price of tourism is remain competitive to their rival in order to gain tourism demand (Kadir et al., 2008). Arsad and Johor (2010) stated that the arrival of European tourist to Malaysia will increase when the relative prices between Thailand, France, Germany and Netherland had increased. Moreover, Kadir, Nayan, and Abdullah (2013) indicated that when the price of tourism in Indonesia and Philippines are relatively expensive than Malaysia will then increase the arrival of tourists from ASEAN countries to Malaysia. Indeed, if price of tourism in Singapore is relatively expensive then Malaysia then this will enhance the arrival of tourist form OECD countries to Malaysia. Hence, it is important for the tourism sectors' supplier in Malaysia to ensure that the price charge must be worthy with the service provided (Habibi, Rahim, Ramchandran, & Chin, 2009).

Service quality is another important determinant in influencing the tourism demand. Service quality is defined as to which extension of the services provided fulfills the need of the tourist (Lewis & Mitchell, 1990). Ducker (1991) defined the service quality as what the tourist willingness to pay for rather than what the suppliers supply the services. Moreover, Zeithaml, Berry and Parasuraman (1996) defined the service quality as the overall impression of tourist towards the service weakness. In term of tourism demand, Sachdev and Verma (2004) stated that services quality in tourism demand is able to be measured by the customer expectation, customer attitude, customer satisfaction and also the customer perception on the services provided by the host nation. Hence, it is important to evaluate the services quality that provided to tourist to enhance the customer satisfaction (Ekinci, 2003). Dawkins and Reichheld (1990) explain that service quality is considered the essential for the suppliers to be able to sustain in the competitive environment. Moreover, a positive service quality provided to customer may influence the consumer behavior that leads to the customer's loyalty (Henning-Thurau, Langer & Hansen, 2001). Hence, delivering of quality in services in the tourism industry is an element of strategic differentiation and this fact is related to the rise of competitiveness among tourism companies (Grande, Valejo & Moya, 2002).

The existing literature has proposed that the major concerns of environmental impacts of tourism are associated with various entities, which may affect the life of various population and community. According past studies in developing countries tourism one of the important tool to promote economic and social development (Huang, 2012). Tourism is assuming a noteworthy part in the accomplishment of the MDG 7-natural manageability (UNWTO, 2011). Tourism provides compensation factors which as preserved historic sites and resources, recreation facilities, and higher quality of roads and facilities (Mair & Jago, 2010). At the same time, it is the environmental quality of a place that will determine the success of the tourism industry, since it is the main attraction for tourists. The natural resources support the growing of

tourism industry, the economic well-being and development of a country (Clarke, 1991). However, as environmental impacts are not immediate phenomena, but gradual and cumulative, a consistent environmental consideration is required for successful tourism planning. Allen et al. (1988) also pointed out that as environmental concerns appear to be the most sensitive to change in tourism development, tourism managers and developers must recognize these impacts and establish comprehensive efforts for the preservation of the environment in order to increase tourism activity.

Transportation is a key link in achieving full participants as community life. It is imperative that transportation planning is considered as part of overall service delivery. Besides, focus on impact of car travel on tourism in rural area (Dickinson & Robbins, 2008). Subsequently, as indicated by the Tourism and Transport Discussion (Tourism and Transport Gathering, 2012), tourism infrastructure is the production network of transport, social and natural framework working together at a territorial level to make an alluring tourism goal. Transport foundation in this chain gives goal get to voyagers from the universal and household advertises, and incorporates streets, air terminals, and railways. According to Aguilo et al. (2012); Martin-Cejas and Sanchez, (2010) the relationship between street transport and tourism has gotten little consideration and fundamentally centered on assessing street transport utilization in traveller islands and deciding tourism related externalities. In addition, (Seetanah & Khadaroo, 2009; Khadaroo & Seetanah, 2008) have pointed out the contribution of transport infrastructure to the attractiveness of tourism destinations. Transportation systems can be defined as networks that must be connected to travel routes. Government plays a significant role in developing the infrastructure to support tourist transportation. Currie and Falconer (2013) suggested that tourism stakeholders should to increase reliance on transportation systems from central transportation hubs to public transportation areas for delivery to tourist attractions. Blancheton and Marchi (2013) suggested that rail tourism systems is an effective approach to tourism sustainability because rail systems can bring many people to tourist attractions at once and are safe for the environment.

RESEARCH METHODOLOGY

Research Instrument

The questionnaire used for this study consists of 3 parts and it is made up of 23 questions. Modifications of statements and wording changes were made following suggestions from them to ensure that the questions were understandable by the tourists. The questions were developed from Shrestha (2010) and Chandrasekher (2013). Questions in PART A were used to obtain the basic information about the choose tourism demographic characteristic which as gender, age, religion, income, job position and nationality. In Part B, question 7 to 9 are used to indicate the relationship of environmental with tourism demands in Penang. Environmental is an important factor that will affect the well-being of tourism demands in Penang. Part B the transportation for tourism demands in Penang these questions 10 to 13 were used to indicate the extent of how transportations relates to the overall of tourism demands in Penang. The PART B questions 15 to 17 for price were required the respondents to view their perception of the price relates to the tourism demands in Penang. It was valued accordingly from strongly agree to strongly disagree. Question 18 to 21 of the service quality in order to carry out the relationship of the service quality how the important to the tourism was demands in Penang. There are three questions consists in PART C which from questions 22 to 25. These questions were developed to evaluate the well-being of the tourism demands in Penang. The questions were drafted out to identify the significant factors that will affect the tourism demands in Penang. Finally, the questions will set it up to carry out the respondent's opinion on the demand of Penang tourism.

DATA COLLECTION

The questionnaire was designed to measure the effects and the feeling of the tourism demand towards their visit Penang, which lead to the overall of tourism demand in Penang. Hundred and fifty responses who travel to Penang include either they came from outstations and overseas of any purpose to Penang were collected. Although the sample size of 150 sets of

questionnaire might not be enough to represent the overall respondents of the tourism and those who had been here in Penang, but it is useful to get the sufficient information on how a tourism demand basically feel during their visit to Penang. The sample of method used, is a non- profitability convenient sampling in which the researcher selected form a population to obtain the required data. Descriptive statistics and factor analysis were adopted in this research for designed questions, and the Statistical Package for the Social Sciences (SPSS) was utilized. From these 150 questionnaires only 145 of respondents were contributed between (96.7%) valid in questionnaire was gained among the respondents. Each questionnaire was checked by the researcher, and all data were subsequently inputted manually by the researcher into the SPSS computer program.

DATA ANALYSIS

Based on the table show, (23.22%) of the respondents do strongly agree on the statements on tourism demands in Penang, (48.28%) of them agreed. There are (27.13%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (0.92%) and (0.48%) of them are strongly disagree which tourism demands in Penang. Since the total of 429 respondents was distributed (98.62%) agreeing, only 6 respondents were distributed between (1.38%) disagreeing. Based on the table show, (22.24%) of the respondents do strongly agree on the statements on tourism demands in Penang, (32.24%) of them agreed. There are (32.24%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (7.41%) and (0.17%) of them are strongly disagree which tourism demands in Penang. Since the total of 536 respondents was distributed (92.41%) agreeing, 44 respondents were distributed between (7.59%) disagreeing. Based on the table show, (22.24%) of the respondents do strongly agree on the statements on tourism demands in Penang, (32.24%) of them agreed. There are (32.24%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (7.41%) and (0.17%) of them are strongly disagree which tourism demands in Penang. Since the total of 536 respondents was distributed (92.41%) agreeing, 44 respondents were distributed between (7.59%) disagreeing.

Based on the table show, (21.64%) of the respondents do strongly agree on the statements on tourism demands in Penang, (42.18%) of them agreed. There are (28.0%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (8.18%) and (0%) of them are strongly disagree which tourism demands in Penang. Since the total of 505 respondents was distributed (91.81%) agreeing, 45 respondents were distributed between (8.18%) disagreeing. Based on the table show, (24.48%) of the respondents do strongly agree on the statements on tourism demands in Penang, (45.17%) of them agreed. There are (25.34%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (5.0%) and (0%) of them are strongly disagree which tourism demands in Penang. Since the total of 551 respondents was distributed (95.0%) agreeing, 29 respondents were distributed between (5.0%) disagreeing. Based on the table show, (23.44%) of the respondents do strongly agree on the statements on tourism demands in Penang, (47.76%) of them agreed. There are (25.69%) of respondents are choose somehow agree for the statements. The respondents that disagree in about (3.10%) and (0%) of them are strongly disagree which tourism demands in Penang. Since the total of 562 respondents was distributed (96.90%) agreeing, 18 respondents were distributed between (3.10%) disagreeing.

Table 1: Response Rate (%) for each Variables according to Scale

Variables	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Tourism	24.48	45.17	25.34	5.0	0
Environmental	23.22	48.28	27.13	0.92	0.48

Transportation	22.24	37.93	32.24	7.41	0.17
Price	21.64	42.18	28.0	8.18	0
Service Quality	24.48	45.17	25.34	5.0	0

CONCLUSION AND DISCUSSION

This research is about finding the level of tourism demands in Penang. The results for the first IV which environmental came out accept with a percentage (98.62%) respondents agreeing the statements under the environmental and (1.38%) disagreeing. This show that environmental does affect the level of tourism demands in Penang. The next IV is transportation, the results for this IV came out accept with a higher level of respondents agreeing to statements rather than disagreeing. The percentage for this IV is (92.41%) agreeing and (7.59%) disagreeing to the statements under transportation. This concludes that transportation does affect the level of tourism demands in Penang. Furthermore, price would be the next IV. The results for this IV came out accept with a percentage of (91.81%) totals of respondents agreeing to the IV and (8.18%) of respondents disagreeing. This is clearly shows that price does affect the level of tourism demands in Penang. The last IV is service quality, the results for this IV came out accept and the percentage for this IV is (95.0%) respondents agreeing to the statements under service quality and (5.0%) disagreeing. This also concludes that service quality also affect the level of tourism demands in Penang.

In this research, the overall four independent variables relationship between to the tourism demands in Penang which as environmental, transportation, price and service quality. The four of independent variable results shows accepted but the main results are show of the environmental which (98.62%) respondents are agreeing. It is also the main rank of results show in hypothesis statements. Hence, the overall results of this study can be used as a ground for developing a better understanding on tourism growth in Malaysia by shading the lights to tourism demand by state. In future, researchers are recommended to add more variables that relate to socio-demographic, trip characteristics and activities of visitors. Furthermore, in macro level, more research is needed to determine the appropriate policy and plans in order to increase the tourism demand in Malaysia.

REFERENCES

- Aguilo, E., Palmer, T., & Rossello, J. (2012) Road Transport for Tourism: Evaluating Policy Measures from Consumer Profiles. *Journal of tourism economic*, 18(2).
- Allen, L.R., P.T. Long, R.R. Perdue, & S. Dieselbach. (1988). The impact of tourism development on resident's perception of community life. *Journal of Travel Research* 27(1): 16-21.
- Arsad, Z., & Johor, N. B. M. (2010). Estimating European tourism demand for Malaysia. *International Journal of Mathematical, Computational, Physical, Electrical and Computer Engineering*, 4(6).
- Blancheton, B., & Marchi, J. J. (2013). The three systems of rail tourism: French case. *Tourism Management. Perspectives*, 5, 31-40. <http://dx.doi.org/10.1016/j.tmp.2012.09.008>.
- Chigora, F., & Vutete, C. (2015). Comprehending determinants of demand: Zimbabwe tourism destination scenario. *International Economics and Business*, 1(2). <http://doi.org/10.5296/ieb.vli2.8689>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Currie, C., & Falconer, P. (2013). Maintaining sustainable island destinations in Scotland: The role of the transport-tourism relationship. *Journal of Destination Marketing & Management*.
- Dawkins, P. and Reichheld, F. (1990). Consumer as a Competitive Weapon," *Directors and Boards*, 14 (Summer), pp 42-47.
- Dickinson, J. E. & Robbins, D. (2008). Representations of tourism transport problems in a rural destination. *Tourism Management* 29 (2008) 1110–1121.
- Ducker, P. (1991). *Innovation and entrepreneurship: practice and principles*. Louisiana, Louisiana State University Press.
- Ekinci, Y. (2003). An investigation of the determinants of customer satisfaction. *Tourism Analysis*, 8(2), 193-196.
- Grande, F., Valejo, M. & Moya, D. (2002). Análisis de las expectativas de la oferta y la demanda relativas a la cualidade del servicio en zonas turísticas de interior: implicaciones de gestión. *Estudios Turísticos*, pp. 79-112. Review from Valter Jose Marques da Silva(2014) The Impact of Service Quality on Customer Satisfaction in a Dublin Hostel - Case Study
- Habibi, F., Rahim, K. A., Ramchandran, S., & Chin, L. (2009). Dynamic model for international tourism demand for Malaysia: Panel data evidence. *International Research Journal of Finance and Economics*, (33). Retrieved from <http://www.eurojournals.com/finance.htm>
- Henning-Thurau, T., Langer, M. & Hansen, U. (2001). Modeling and managing student loyalty: An approach based on the concept of relationship quality. *Journal of Service Research*, 3(4), pp. 331-344.
- Huang, Y.W. (2011). 'Ecotourism Development and Promotion in Taiwan: Perspective on the Role and Actions of the State'. *Journal of National Park* 21(1):1-22.
- Mair, J., & Jago, L. (2010). The development of a conceptual model of greening in the business events tourism sector. *Journal of Sustainable Tourism*, 18(1), 77–94.
- Martin-Cejas, R. R. & Sanchez, P. P. R. (2010). Ecological footprint analysis of road transport related to tourism activity: The case for Lanzarote Island. *Tourism Management* 31 (2010) 98–103.
- Kadir, N., Abdullah, M. S., & Nayan, S. (2008). Demand for tourism in Malaysia by tourists from four major industrial countries: A panel data analysis. *Tourism and Management Studies*, 4, 31–39.
- Kadir, N., Nayan, S., & Abdullah, M. S. (2013). A panel data analysis of international tourist arrivals from ASEAN countries to Malaysia. In *Procedia Economics and Finance*, 7 (pp. 80–85). Elsevier B. V.
- Kusni, A., Kadir, N., & Nayan, S. (2013). International tourism demand in Malaysia by tourists from OECD countries: A panel data econometric analysis. In *Procedia Economics and Finance*, 7 (pp. 28–34). Elsevier B. V. [http://doi.org/10.1016/S2212-5671\(13\)00214-1](http://doi.org/10.1016/S2212-5671(13)00214-1)
- Lewis, B., & Mitchell, V. (1990). Defining and Measuring the Quality of Customer Service. *Marketing Intelligence & Planning*, 8(6), 11-17. <http://dx.doi.org/10.1108/eum000000001086>

- Ooi, C.-A., Hooy, C.-W., & Som, A. P. M. (2013). Tourism crises and state level tourism demand in Malaysia. *International Journal of Business and Society*, 14(3), 376–389. Retrieved from <http://www.researchgate.net/publication/259715658>
- Penang Tourist Survey (2016). *Research facts and figures*. Available from: http://penangmonthly.com/article.aspx?pageid=9243&name=tourism_and_ecotourism_in_numbers
- Sachdev, S.B. and Verma, H.V. (2004). Relating Importance of Service Quality Dimensions: A multi sectoral study, *Journal of Services Research*, Vol.4, No.1 (April – Sept. 2004).
- Salleh, N. H. M., Othman, R., Noor, A. H. S. M., & Hasim, M. S. (2010). Malaysian tourism demand from the Middle East market: A preliminary analysis. *International Journal of West Asian Studies*, 2(1), 37–52. Retrieved from <http://www.researchgate.net/publication/228694194>
- Salleh, N. H. M., Othman, R., & Ramachandran, S. (2007). Malaysia's tourism demand from selected countries: The ARDL Approach to cointegration. *International Journal of Economics and Management*, 1(3), 345–363. Retrieved from <https://www.researchgate.net/publication/277985868>
- Seetanah, B. & Khadaroo, J. A. (2008) the role of transport infrastructure in international tourism development: A gravity model approach. *Tourism Management* 29 (2008) 831–840.
- Seetanah, B. & Khadaroo, J. A. (2009). "Transport Infrastructure and Poverty Reduction in Mauritius: Macroeconomic Evidences." *The International Journal of Environmental, Cultural, Economic, and Social Sustainability* 5 (1): 313-332. doi:10.18848/1832-2077/CGP/v05i01/54553.
- Tang, C. F., & Tan, E. C. (2016). The determinants of inbound tourism demand in Malaysia: Another visit with non-stationary panel data approach. *An International Journal of Tourism and Hospitality Research*, 27(2), 189–200.
- Tourism Malaysia (2017). *Research facts and figures*. Available from: <http://www.tourism.gov.my/>
- Wang, Y. (2009). The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, 30(1), 75-82. <http://dx.doi.org/10.1016/j.tourman.2008.04.010>
- World Tourism Organisation (WTO). (1981). *Tourism Multipliers Explained*. Madrid: World Tourism Organisation and Horwarth and Horwarth. From Tourism Development: A Geographical Perspective.
- Zeithaml, V., Berry, L., & Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal Of Marketing*, 60(2), 31. <http://dx.doi.org/10.2307/1251929>

A Study on Environmentally Responsible Behaviour in Perak: The Role of Facilitating Conditions

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Abstract

With abundance of natural attractions and the world's most beautiful mountains, caves, mangrove and tropical forests, Perak has the potential to become one of the ideal natural environment destinations in Malaysia. Several important action plans have been taken by the government over the years when it comes to protecting the natural environment. Conversely, despite continuous efforts made in preserving natural areas in Perak, many ecological destinations are still suffering from environmental degradation. This may be due to lack of attentiveness and examinations on environmental issues. The existing literatures indicate the limited investigation on the factors affecting environmentally responsible behaviour among outdoor enthusiasts in Perak. Consequently, this research attempts to present the notion of understanding through the empirical studies on environmentally responsible behaviour for strategies development with an emphasis on the role of facilitating conditions. The analysis method used is based on multiple linear regression analysis. The major findings show that environmental concern is important for environmental attitude in order to cultivate the environmentally responsible behaviour among the outdoor enthusiasts. Environmental knowledge is not positively related to environmental attitude. Likewise, facilitating conditions is directly related to environmentally responsible behaviour instead of having the moderating effect on environmental attitude. This study contributed pioneering in reassuring the outdoor enthusiasts' participation in the environmentally responsible behaviour. Learning about environmental protection is seen as important as the lack of environmentally responsible behaviour may result in the loss of a high-quality natural environment. This implies that government should focus on infrastructure development at the natural environment destinations.

Keywords: Facilitating conditions; Attitudes, Environmentally Responsible Behaviour; Outdoor Enthusiasts, Moderating Effect.

INTRODUCTION

The issue of environmental degradation has become a major concern in recent years (Najam, Runnalls, & Halle, 2016). In this regard, the conservation of protected areas by the locals especially the outdoor enthusiasts is vital for responsible behaviour to protect the areas sustainably. However, it is always challenging to ensure that the natural resources do not experience deprivation in the process of environmental protection (Vira, 2015; Gera, 2016). Thus, proper planning and management of natural resources are essential to prevent adverse impacts to the natural environment. In Malaysia, several important action plans have been taken by the government over the years especially Perak state when it comes to protecting the natural environment and resources. For instance, the Perak state government officially closed down Pulau Sembilan, the island famous for "blue tears" of seawater that appear at night time, due to the excessive visitation. The preservation and protection of natural environment are also prioritised in every five-year development plan as special policies and regulations are designed to ensure proper development of sustainable and protection (Bhuiyan, Siwar & Ismail, 2015).

However, despite continuous efforts made in preserving natural areas in Malaysia, many ecological destinations are still suffering from environmental degradation that may be due to lack of awareness and audits on environmental issues (Tsaur, Lin & Lin, 2006). For instance,

the poor regulated visitors and human-wildlife conflict are the particular major issues that threaten Royal Belum State Park in the state of Perak as indicated by World Wide Fund for Nature (WWF). Apparently, there is lack of environmentally responsible behaviour in preserving and protecting the natural environment while carrying activities at the natural environment destinations (Yusof, Abidin, Zailani, Govindan & Iranmanesh, 2016). Although, Malaysia has undergone an excellent development followed by governmental efforts to attract foreign investor to invest for natural environment protection in Malaysia, the practices of environmental responsible behaviour are still low. For example, garbage thrown by visitors is the main cause of river pollution. The visitation at the sites incurs the tremendous problem in terms of hygiene. In order to inculcate the ethics of visitation, proper management is required to regulate the visitors for the nature conservation. Thus, there should be greater environmental concern and knowledge of the need to conserve the natural environment. In addition, it is necessary to identify the antecedents of such attitudes on environmentally responsible behaviour. Thus, this research attempts to present the notion of understanding between the empirical study of natural environment approach and the realities of outdoor enthusiasts' environmentally responsible behaviour on strategies developed by the government. This study aims to identify the factors influencing environmentally responsible behaviour in order to give environmental educationalists a feel for some of the research on current environmental education theory and practice.

LITERATURE REVIEW

The concept of environmentally responsible behaviour has been widely discussed in the past literature (Lu, GURSOY, & Del Chiappa, 2016; Raviv, Becken, & Hughey, 2013; Su & Swanson, 2017). Most of the existing literature has been focusing on identifying measures to reduce the adverse impacts of visiting the attractions activities (Chiu, Lee & Chen 2014; Iwata, 2001) and assessing the behaviour that is harmful to the environment behaviour that enables environmental protection (Chiu, Lee & Chen, 2014). Chan and Lee (2016) explore the influence of both personal (values and attitude) and environmental factors (social influences and facilitating conditions) on environmental beliefs among Malaysian consumers. With the growing availability of government supporting on operation equipment and resource factors, the absence of the required facilitating resources could results an obstacle to environmental practise. Hence, there is a research gap to identify the importance of the moderating effect from facilitating conditions as indispensable pre-requisites to enhance the performance of environmental responsible behaviour. This study draws on the conceptual framework from Social Cognitive Theory (SCT) (Bandura, 2004) which evolved from social learning theory by Albert Bandura. SCT posits a multifaceted causal structure in the regulation of human motivation, action and well-being (Abraham, Norman & Conner, 2000) whereby there is a continuous dynamic interaction between the individual, environment and behaviour. Most importantly, SCT can probe an avenue to further develop an understanding of the factors influencing environmentally responsible behaviour.

Environmentally Responsible Behaviour

Environmental responsible behaviour is formally defined as "a state in which a person expresses an intention to take action directed toward remediation of environmental problems, acting not as an individual consumer with own economic interests, but through a citizen consumer concept of societal-environmental wellbeing. Further, this action will be characterized by skill in pursuing own chosen action, and possession of a genuine desire to act after having weighed own locus of control and determining that these actions can be meaningful in alleviation of the problem" (Stone et al., 1995). According to Cottrell (2003), environmentally responsible behaviours are also said to happen when someone aims to do what is right to protect the environment in general daily practice. People with the traits of environmental responsible behaviour portray behaviours that minimize impacts on the natural environment and even perform actions that benefit the environment (Cheng, Wu, & Huang, 2013).

In the existing literature, different categories of environmentally responsible behaviours have been analysed by the researchers in the areas such as green consumption, recycling and energy saving. From the perspectives of outdoor enthusiasts' environmentally responsible behaviours, it refers to protecting the natural environment and minimising the interference of the local environment, and taking steps to reduce degradation to a particular destination (Han, Lee,

& Hwang, 2016). In some cases, outdoor enthusiasts may not be aware that their behaviour is harmful to the natural environment of the destination visited. Thus, it is vital to cultivate environmentally responsible behaviour among the outdoor enthusiasts to avoid damage to the ecosystem of the natural environment. The importance of factors affecting environmentally responsible behaviour is discussed below.

Environmental Concern

Environmental concern can also be known as an attitude towards a general or specific environmental issue (Fransson & Garling, 1999). According to Hines et al. (1987), individuals who had higher environmental concern are discovered to have higher tendency to engage in pro-environmental activities such as recycling and petitioning. Many other researches also confirm that there is a positive relationship between environmental concern and pro-environmental behaviour (Singh & Gupta 2013). Further, it is proven by Juvan and Dolnicar (2014) that visitors who concern with environmental issues will undergo a psychological guilt or stress when they do not follow through these concerns into their attitudes and behaviour. In the study of Lee, Choi, Kim, Ahn and Katz-Gerro (2012), it is noted that environmental concerns have a positive impact on environmental responsible behaviour. Hedlund (2011) also ascertains that when individuals are environmentally concern, they are willing to spend more in order to protect the environment and to purchase alternatives packages that are more ecologically sustainable. Furthermore, Individual who is exposed to environmental literatures such as books and magazines will have higher level of environmental concern and subsequently lead to ERB (Corral- Verdugo & Armendariz, 2000; Johnson, Bowker & Cordell, 2004). As outdoor enthusiasts are presumed to be the natural lovers, they would show their concern to preserve the natural environment. Hence, the hypothesis is formed as follows:

H1: Environmental concern is positively related to environmental attitudes in environmentally responsible behaviour

Environmental knowledge

Another term used for environmental knowledge is “knowledge of ecology”, which is implied as a foundation for making ecological decision. It is conferred to be a significant element that will lead to environmental behaviour when decisions are to be made with regards to ecological concept. Environmental knowledge is occasionally used to show the connection with behaviour (Holt, 1988). According to Hines, Hungerford and Tomera (1987), environmental behaviour is influenced by cognitive knowledge, cognitive skills and personal factors. They conclude that knowledge is one of the most important variables to have impact on environmentally responsible behaviour (ERB). This is further confirmed by Bamberg and Moser (2007) that ERB is indirectly affected by these cognitive elements, through the forming of ethic norms. The study conducted by Moodley and Sershen’s (2015) found that although the respondents have good environmental knowledge in respect of various aspects related to climate change, there is no clear proof that it will lead to their engagement in environmental best practices and their intention to offset carbon emissions. In this study, we presumed people who have higher general environmental knowledge, such as outdoor enthusiasts, could be more empathetic for the environmental issue and engage in ERB (Weaver, 2002; Monroe, 2003). Thus, the following hypothesis is proposed:

H1: Environmental knowledge is positively related to environmentally responsible behaviour.

Environmental Attitudes

The concept of environmental attitudes refers to attitude towards protection of environment. It can be defined as an overall assessment and beliefs organised for different aspects of the environment (Papagiannakis & Lioukas, 2012; Flannery & May, 2000). Cassells and Lewis (2011) posit that being environmentally responsible is synonym to being ecologically responsible. The level of ecological sensitivity relies on the interplay between both attitudes and behaviour. Past studies comment that pro-environmental attitude is one of the traits that must be observed in individuals who are environmentally responsible (Taufique, Siwar, Talib & Chamhuri, 2014; Hannibal, Liu, & Vedlitz, 2016). Attitude is also one of the socio-psychological constructs that being used to predict environmentally responsible behaviour (Chen & Tung, 2014; Kim et al., 2013). In the field of sustainable environment, such as, purchase of green products (Goh & Balaji, 2016; Chan & Lau, 2002), recycling behaviour and waste behaviour

(Pakpour et al., 2014), attitude is positively related with behavioural intentions. In addition, Cordano and Frieze (2000) find that environmental-friendly attitudes have high effects on eagerness to reduce plant pollution. There is a strong relationship between attitude toward environmentally responsible behaviour and intention for treating harmful wastewater (Flannery & May, 2000). Hence, environmental attitudes are found to be related and are important to decide on a person's environmentally responsible behaviours (Polonsky, Vocino, Grimmer, & Miles, 2014; Takahashi & Selfa, 2014; Lee, Jan & Yang, 2013). Based on the above discussion, it was hypothesized as follows:

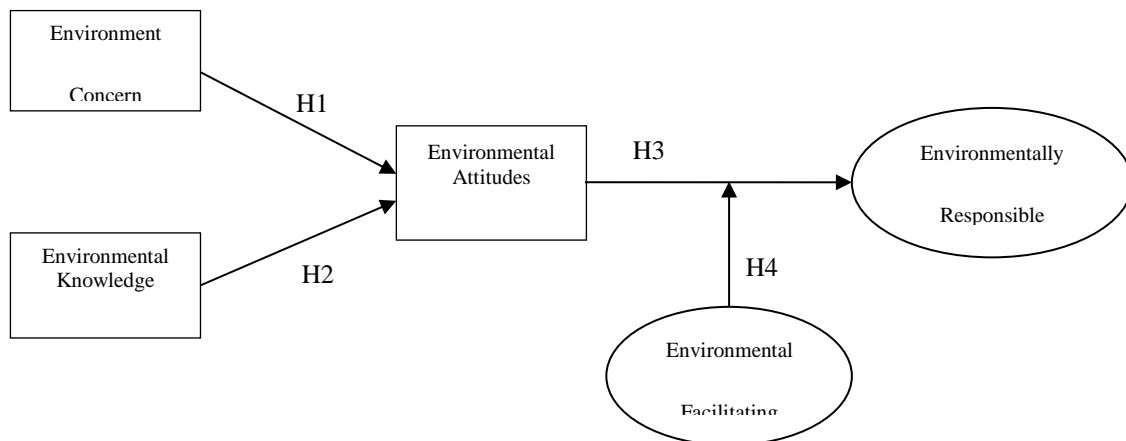
H3: Environmental attitude is positively related to environmentally responsible behaviour

The moderating effect of Environmental Facilitating Conditions

Facilitating conditions reflect the availability of resources needed to perform particular behaviours. Indeed, with the growing availability of government supporting on operation equipment and resource factors such as administrative and financial management (resources of facilitating conditions), environmentally responsible behaviour will also become increasingly manageable. The absence of the required facilitating resources could present a barrier to usage and to the formation of intention (Taylor & Todd, 1995). In order to practice environmentally responsible behaviour, outdoor enthusiasts need to have facilitating conditions available in terms of resources such as determining the site locations for garbage disposal, selecting human waste disposal system, supplying water requirements on protected area demands of fauna and flora, and choosing soled waste disposal alternatives and etc. With this, it is expected that the presence of environmental facilitating conditions by the authorities as moderators are likely to result in higher level of environmental responsible behaviour. We therefore hypothesises that:

H4: Facilitating conditions are significantly moderate the relationship between environmental attitude and environmentally responsible behaviour.

Figure 1: The Conceptual Framework



RESEARCH METHODOLOGY

Sampling Design

A quantitative technique was adopted by using self-administered survey method. The target population was the outdoor enthusiasts who visited the natural environment destinations in Perak. The selection of samples was based on the quota sampling technique as the sampling frame is not available. It is also to ensure the samples collected is representative toward its population. The fieldwork was conducted in nature sites, such as lake, gardens, beaches, caves, mountains, mangrove swamp parks and recreational parks. A total of 500 sets of questionnaires were distributed to the respondents at each selected natural environment destination. Only 315 sets of questionnaire were returned. Out of 315 samples, 52 samples were not usable and discarded from the data sets. The frequencies and percentages of respondents are presented in Table 1. As observed, the respondents comprise of 104 males (39.5%) and 158 females (60.1%) which are made up of 160 Buddhist/Taoist (60.8%), 35

Christian (13.3%), 28 no religion (10.6%), 21 Hindu/Sikh (8.0%), 17 Muslim (6.5%) and 2 other religions (0.8%) respectively. The outdoor enthusiast aged between 21-30 is the age group who most frequently visit the natural environment destinations in Perak with the number of 101 respondents (38.4%), followed by the group aged below 21 (25.1%) and between 31-34 (17.9%) respectively. This implies that the young generation Z are more enthusiasm and energetic in exploring the natural environment area. Majority of respondents who possess either college diploma or bachelor's degree are the group with high consciousness on the environmental protection and conservation and visited the nature sites most frequently as compared to other group of respondents with postgraduate education qualification (n=40, 15.2%), high school or secondary level education qualification (n=60, 22.8%) as well as primary or lower education qualification (n=11, 4.2%). In term of occupation, it is indicates that students (n=136, 51.7%) predominantly visit the natural environment areas in Perak while those who are retired, housework, freelance professional and unemployed possess low intention for the visitation to nature sites. Furthermore, it is surprisingly found that the group with lowest annual personal income (n= 174, 66.2%), have higher intention to visit the natural environment destinations in Perak compared to those with higher annual income. It could be suggested that the promotion campaign of environmental protection to be concentrated on those with high and middle income groups in order to augment their visitation.

Table 1: Respondents' Personal Demography

	Frequency	Percentage
Gender:		
Male	104	39.5%
Female	158	60.1%
Age group:		
Below 21	66	25.1%
Between 21 – 30	101	38.4%
Between 31 – 40	47	17.9%
Between 41 – 50	33	12.5%
Between 51 – 60	14	5.3%
61 and above	2	0.8%
Religion:		
No religion	28	10.6%
Muslim	17	6.5%
Hindu/Sikh	21	8.0%
Christian	35	13.3%
Buddhist/Taoist	160	60.8%
Other	2	0.8%
Educational level:		
Primary or below	11	4.2%
High school or secondary level	40	15.2%
College diploma or undergraduate	152	57.8%
Postgraduate and above	60	22.8%
Occupation:		
Unemployed	5	1.9%
Freelance professional	3	1.1%
Employed	100	38.0%
Student	136	51.7%
Self-employed	10	3.8%
Housework	5	1.9%
Retired	2	0.8%
Others	2	0.8%
Annual personal income:		
Below RM20,000	174	66.2%

RM20,001 – RM40,000	34	12.9%
RM40,001 – RM60,000	33	12.5%
RM60,001 – RM100,000	17	6.5%
RM100,001 – RM200,000	3	1.1%
More than RM200,000	2	0.8%

Research Instruments

The questionnaire consists of two sections. Section A consists of questions such as gender, age, religion, educational level, occupation and annual personal income. For section B, it comprised of 26 questions with five point likert-type scale ranging from 1 representing strongly disagree to 5 representing strongly agree. For these 26 questions, each independent variable: environmental concern, environmental knowledge, environment attitude and environment facilitating conditions measured by five items, while the dependent variable, environmentally responsible behaviour is measured by six items. Prior to data collection, a pilot study was conducted to ensure the items are reliable within each construct. Table 2 indicates the value of Cronbach's alpha for Environment Concern (EC), Environmental Knowledge (EK), Environmental Facilitating Conditions (EFC) and Environmentally Responsible Behaviour (ERB) are estimated as 0.800, 0.777, 0.761 and 0.722 respectively. This indicates a high level of internal consistency for the scale as the Cronbach's alpha is greater than the threshold value of 0.70. On the other hand, the items of Environmental Attitude (EA) are moderately reliable with the Cronbach's alpha of 0.629.

Table 2: Reliability Analysis Result

	Number of Items	Cronbach's Alpha
Environmental Concern	5	0.800
Environmental Knowledge	5	0.777
Environmental Attitude	5	0.629
Environmentally Facilitating Conditions	5	0.761
Environmentally Responsible Behaviour	6	0.722

RESULTS AND DISCUSSION

Based on multiple linear regression analysis result, the results of tolerance and variance Inflation Factor (VIF) value were acceptable as the tolerance value of each variable is more than the threshold value of 0.10 and VIF value for each variable is less than the specified value of 10. Therefore, this implies that there is no multi-collinearity issue. For the overall model fit, the regression model is show significant at 0.000 with F statistic of 62.925 where at least one variable is significantly contributes to the environmental attitude. The R-square value is indicated as 0.326 which mean the four predictors are able to explain 32.6% of the variation in environmental attitude. By looking specifically to each proposed path, environmental concern significantly influences the environmental attitudes towards environmental responsible behaviour at the 1% level. Its coefficient asserts that one unit increase in environmental concern would increase the environmental responsible behaviour by 0.429 units in support of H1. This finding is consistent with Singh and Gupta (2013) and Juvan and Dolnicar (2014) who claim that the concern on environmental issues will lead to an influence on the attitude of visitor such as psychological guilt or stress.

Unlike for the environmental knowledge, it is found be insignificant in explaining environmental attitudes towards environmentally responsible behaviour. This result does not support H2, implying that the outdoor enthusiasts might not have the environmental best practices and intention to offset the destruction although they possess good environmental knowledge (Moodley & Sershen, 2015). In contrast, Monroe (2003) and Weaver (2002) argue that people who possess higher general environmental knowledge are more empathetic for the environmental issue and engage in environmentally responsible behaviour.

Table 3: Results of Multiple Regression on Environmental Attitude

	Coefficient	Standard error	t statistic	p-value
Constant	1.686	0.199	8.460	0.000
Environmental Concern	0.429	0.056	7.694	0.000
Environmental Knowledge	0.072	0.062	1.155	0.249

R²=0.326; Standard error of regression=0.404; F statistic =62.925; p-value for F-statistic=0.000

Note: Dependent variable is Environmental Attitude

Next, H3 and H4 are tested to evaluate whether the environmental facilitating conditions contributes to the moderating effect between environmental attitude and environmental responsible behaviour. The results of moderator regression are summarized in Table 4. As observed, the results ascertain that environmental attitude is positively explaining environmentally responsible behaviour at the 5% significance level. One unit increase in environmental attitude would increase the environmentally responsible behaviour by 0.229 units. The positive relationship between environmental attitude and environmental responsible behaviour is in line with the study conducted by Cheng and Tung (2014) on the purchase of green products, Pakpour et al. (2014) on recycling and waste behaviour, and plant pollution and harmful wastewater for Cordano and Frieze (2000) and Flannery and May (2000), respectively. In addition, Young et al. (2010) also support that environmental attitude is a pre-requisite for environmental behaviour change.

As shown in Table 4, the interactive term between environmental facilitating conditions and environmental attitude is found to be statistically insignificant. This result does not support H4, indicating that the moderating effect of environmental facilitating conditions is not exist between environmental attitude and environmentally responsible behaviour among outdoor enthusiasts. However, the direct effect from environmental facilitating conditions was found on environmentally responsible behaviour. The results point that one unit increase in environmental facilitating conditions has increased the environmental responsible behaviour by 0.121 units. This implies that the availability of facilitating conditions in the natural environmental destinations such as garbage disposal site, human waste disposal system, water supplying for protection of fauna and flora is important to the environmental responsible behaviour by the outdoor enthusiasts without the moderation effects between environmental attitudes and environmentally responsible behaviour.

Table 4: Results of Moderated Multiple Regression on Environmental Responsible Behaviour

	Coefficient	Standard error	t statistic	p-value
Constant	3.746	0.028	132.440	0.000
Environmental Attitude	0.229	0.029	7.863	0.000
Environmentally Facilitating Conditions	0.121	0.030	4.025	0.000
Interactive Term	-0.027	0.025	-1.069	0.286

R²=0.331; Standard error of regression =0.426; F statistic =42.716; p-value for F-statistic =0.000

Note: Dependent variable is Environmental Responsible Behaviour. Interactive Term = Environmental Attitude X Environmentally Facilitating Conditions

CONCLUSION

The issue of environmental degradation especially for protection of natural environment attract further attention by government in this era. Although there are many alternatives such as conservation laws, ecotourism campaigns, ecotourism research and planning to be implemented by government, it is challenging to ensure that no deprivation on natural resources during the process of environmental protection. To identify the actual environmentally responsible behaviour of outdoor enthusiasts, this study provides the inclusive understanding of

its major determinants based on the theory of Social Cognitive Theory. This study allows us to know in depth what the efforts needs to be taken in order to provide motivations towards the environment protection. Unlike the knowledge on the environment issues, concern about the environment does have a significant effect to the outdoor enthusiasts' attitudes towards environmental responsible behaviour. On the other hand, facilitating conditions are directly related to environmentally responsible behaviour instead of having the moderating effect to enlighten the role of the government in conserving the natural environments. Hence, more information needs to be disseminated through awareness campaign on how to be more environmentally responsible as outdoor enthusiasts.

Implications

With the understanding of major determinants towards environmentally responsible behaviour in Perak, Malaysia, the government and policy makers are believed to conserve the natural environment in a proper way with the consciousness of relevant parties. The outdoor enthusiasts and individuals will gain the concern about the relevant environmental issues, in turn, to be willingly involved in the environmentally improvement and protection. Sensitivity to environmental issues shifts outdoor enthusiasts' behaviour towards supporting the growth and diffusion of environmental publicising and ecologically-conscious behaviour. With the greater awareness of environmental problems, increased media coverage, impact of major industrial disasters on public opinion, and the rise of pressure group activities are among the factors driving environmental concerns.

Remarkably, the facilitating conditions are found to have no moderating effect on the environmentally responsible behaviour. However, the significance falls on the direct effect between environmental facilitating conditions and environmentally responsible behaviour is significant to enlighten the role of the government in conserving the natural environments. This implies that government should focus on infrastructure development at the natural environment destinations. The Ministry of Tourism and Culture Malaysia are encourage to support this development by financing the projects such as regional tourism centres, facilities and complexes, river and waterfront development in order to reduce the effects of environmental issues. Moreover, government should pledge the foreign investment in ecotourism projects where this might also facilitate the local communities with the opportunity of involving business activities related to ecotourism.

Limitation and Recommendation for Future Study

Although the comprehensive constructs used to scrutinize the outdoor enthusiasts' environmentally responsible behaviour, it is merely the perception based on the likert scale of measurement. Hence, the behavioural-based interview methods can be employed to further explore the actual behaviour among the outdoor enthusiasts. On the other hand, it is believed that the facilitating conditions at the natural environment destinations also depend on the local resources and management. To overcome this limitation, future studies should consider the responses from the tourism stakeholder and local communities in preserving the natural environment.

ACKNOWLEDGEMENT

The authors wish to express their sincere thanks to IPSR for assisting in this research which was awarded by Fundamental Research Grant Scheme (FRGS) (Ref: FRGS/1/2017/SS08/UTAR/03/1), 15 August 2017 – 14 August 2019.

REFERENCES

- Abraham, C., Norman, P., & Conner, M. (2000). Towards a psychology of health-related behaviour change. In P. Norman, C. Abraham & M. Conner (Eds), *Understanding and Changing Health Behavior: From Health Beliefs to self-regulation* (pp.343-369). Amsterdam: Harwood.

- Bamberg, S., & Moser, G. (2007). Twenty years after Hines, Hungerford and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of Environmental Psychology, 27*, 14-25.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior, 31*(2), 143-164.
- Bhuiyan, M. H., Siwar, C., & Ismail, S. M. (2015). Sustainability measurement for ecotourism in Malaysia: A study on Lake Kenyir, Terengganu. *Social Indicators Research, 128*(3), 1029-1045.
- Cassells, S., & Lewis, K. (2011). SMEs and environmental responsibility: do actions reflect attitudes? *Corporate Social Responsibility and Environmental Management, 18*, 186-199.
- Chan, R. Y. K., & Lau, L. B. Y. (2002). Explaining green-purchasing behaviour. *Journal of International Consumer Marketing, 14*(2), 9-40.
- Chan, S. K., & Lee, F. N. (2016). The influence of personal and environmental factors on ecological beliefs. *Journal of Global Business and Social Entrepreneurship, 1*(5), 9-19.
- Chen, M., & Tung, P. (2014). Developing an extended theory of planned behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management, 36*, 221-230.
- Cheng, T. M., C., Wu, H., & Huang, L. M. (2013). The influence of place attachment on the relationship between destination attractiveness and environmentally responsible behavior for island tourism in Penghu, Taiwan. *Journal of Sustainable Tourism, 21*(8), 1166-1187.
- Chiu, Y. T. H., Lee W. I., & Chen, T. H. (2014). Environmentally responsible behaviour in ecotourism: antecedents and implications. *Tourism Management, 40*, 321-329.
- Cordano, M., & Frieze, I. H. (2000). Pollution reduction preferences of U.S. environmental managers: Applying Ajzen's theory of planned behaviour. *Academy of Management Journal, 43*, 627-641.
- Corral-Verdugo, V., & Armendariz, L. I. (2000). The "new environmental paradigm" in a Mexican community. *Journal of Environmental Education, 31*, 25-31.
- Cottrell, S. P. (2003). Influence of sociodemographic and environmental attitudes of general responsible environmental behaviour among recreational boaters. *Environment and Behaviour, 35*(3), 347-375.
- Flannery, B. L., & May, D. R. (2000). Environmental ethical decision making in the U.S. metal-finishing industry. *Academy of Management Journal, 43*, 642-662.
- Fransson, N., & Garling, T. (1999). Environmental concern: Conceptual definitions, measurement methods, and research findings. *Journal of Environmental Psychology, 19*, 369-382.
- Gera, W. (2016). Public participation in environmental governance in the Philippines: the challenge of consolidation in engaging the state. *Land Use Policy, 52*, 501-510.
- Goh, S. K., & Balaji, M. S. (2016). Linking green skepticism to green purchase behavior. *Journal of Cleaner Production, 131*, 629-638.
- Han, J. H., Lee, M. J., & Hwang, Y. S. (2016). Tourists' environmentally responsible behaviour in response to climate change and tourist experiences in nature-based tourism. *Sustainability, 8*(7), 644-657.

- Hannibal, B., Liu, X., & Vedlitz, A. (2016). Personal characteristics, local environmental conditions, and individual environmental concern: a multilevel analysis. *Journal of Environmental Sociology*, 2(3), 286-297.
- Hedlund, T. (2011). The impact of values, environmental concern, and willingness to accept economic sacrifices to protect the environment on tourists' intentions to buy ecologically sustainable tourism alternatives. *Tourism and Hospitality Research*, 11(4), 278–288.
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis of research on responsible environmental behavior: a meta-analysis. *Journal of Environmental Education*, 18, 1-8.
- Holt, J. G. (1988). *A study of the effects of issue investigation and action training on characteristics associated with environmental behaviour in non-gifted eighth grade students*. Unpublished research paper, Southern Illinois University.
- Iwata, O. (2001). Altitudinal determinants of environmentally responsible behaviour. *Social Behavior and Personality: An International Journal*, 29(2), 183-190.
- Johnson, C. Y., Bowker, J. M., & Cordell, H. K. (2004). Ethnic variation in environmental belief and behavior: An examination of the new ecological paradigm in asocial psychological context. *Environment and Behavior*, 36, 157-186.
- Juvan, E., & Dolnicar, S. (2014). The attitude-behaviour gap in sustainable tourism. *Annals of Tourism Research*, 48, 76–95.
- Kim, Y., Njite, D., & Hancer, M. (2013). Anticipated emotion in consumers' intentions to select eco-friendly restaurants: augmenting the theory of planned behaviour. *International Journal of Hospitality Management*, 34, 255-262.
- Lee, Y. K., Choi, J. G., Kim, M. S., Ahn, Y. G., & Katz-Gerro, T., (2012). Explaining pro-environmental behaviors with environmentally relevant variables: A survey in Korea. *African Journal of Business and Management*, 6(29), 8677-8690.
- Lee, T. H., Jan, F., & Yang, C. (2013). Environmentally responsible behaviour of nature-based tourists: a review. *International Journal of Development and Sustainability*, 2(1), 1-15.
- Lu, A. C. C., Gursoy, D., & Del Chiappa, G. (2016). The influence of materialism on ecotourism attitudes and behaviors. *Journal of Travel Research*, 55(2), 176-189.
- Monroe, M. C. (2003). Two avenues for encouraging conservation behaviors. *Human Ecology Review*, 10, 113-125.
- Moodley, K. & Sershen. (2015). Delegates' environmental attitudes, knowledge and behaviour at the 17th Conference of the Parties (COP17) in Durban, South Africa. *African Journal for Physical Health Education, Recreation and Dance: Supplement 1*, 21, 138-154
- Najam, A., Runnalls, D., & Halle, M. (2016). Environment and Globalization: Five Propositions (2010). *The Globalization and Environment Reader*, 94.
- Pakpour, A. H., Zeidi I. M., Emamjomeh, M. M., Asefzadeh, S., & Heidi, P. (2014), Household waste behaviours among a community sample in Iran: An application of the theory of planned behaviour, *Journal of Waste Management*, 34(6), 980–986.
- Papagiannakis, G., & Lioukas, S. (2012). Values, attitudes and perceptions of managers as predictors of corporate environmental responsiveness. *Journal of Environmental Management*, 100, 41-51.

- Polonsky, M. J., Vocino, A., Grimmer, M., & Miles, M. P. (2014). The interrelationship between temporal and environmental orientation and pro-environmental consumer behaviour. *International Journal of Consumer Studies*. Advance on line publication, <http://dx.doi.org/10.1111/ijcs.12131>.
- Raviv, C., Becken, S., & Hughey, K. F. (2013). Exploring Values, Drivers, and Barriers as Antecedents of Implementing Responsible Tourism. *Journal of Hospitality & Tourism Research*, 40(1), 19-36.
- Singh, N., & Gupta, K. (2013). Environmental attitude and ecological behaviour of Indian consumers. *Social Responsibility Journal*, 9(1), 4-18.
- Stone, G., James, H. B., & Cameron, M. (1995). ECOSCALE: a scale for the measurement of environmentally responsible consumers. *Psychology & Marketing*, 12(7), 595-612.
- Su, L., & Swanson, S. R. (2017). The effect of destination social responsibility on tourist environmentally responsible behavior: Compared analysis of first-time and repeat tourists. *Tourism Management*, 60, 308-321.
- Takahashi, B., & Selfa, T. (2014). Predictors of pro-environmental behaviour in rural American communities. *Environment and Behavior*, 47(8), 856-876.
- Taufique, K. M. R., Siwar, C. B., Talib, B. A., & Chamhuri, N. (2014). Measuring Consumers' Environmental Responsibility: A Synthesis of Constructs and Measurement Scale Items. *Current World Environment*, 9(1), 27-36.
- Taylor, S., & Todd, P. (1995). An integrated model of waste management behavior: A test of household recycling and composting intentions. *Environment and Behavior*, 27, 603-630.
- Tsaur, S. H., Lin, Y. C., & Lin, J. H. (2006). Evaluating ecotourism sustainability from the integrated perspective of resource, community and tourism. *Tourism Management*, 27(4), 640-653.
- Vira, B. (2015). Taking natural limits seriously: implications for development studies and the environment. *Development and Change*, 46(4), 762-776.
- Weaver, A. A. (2002). Determinants of environmental attitudes: A five county comparison. *International Journal of Sociology*, 32, 77-108.
- Young, W., Hwang, K., McDonald, S. & Oates, C. J. (2010). Sustainable consumption: green consumer behaviour when purchasing products. *Sustainable Development*, 18(1), 20-31.
- Yusof, N. A., Abidin, N. Z., Zailani, S. H. M., Govindan, K., & Iranmanesh, M. (2016). Linking the environmental practice of construction firms and the environmental behaviour of practitioners in construction projects. *Journal of Cleaner Production*, 121, 64-71.

Factor Influencing Real Estate Purchase Intention in Malaysia

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Abstract

The realization of owning a house in urban Malaysia is a dream to everyone who is employed here. Sky rocket house prices are partly due to the short supply of houses especially the affordable houses. Low income group household living in highly urbanized states experienced higher inflation. This low income groups are the bottoms 40% of households which felt vulnerable due to the increase in the cost of living; these households are those who saved and earning fixed income (REDHA Bulletin, 2017, March). Hence, it is believe that these lower income group is vulnerable in buying a property in urban area. A better understanding of factors contributing to decision making of buyers in real estate markets would be beneficial to both buyers and housing industry. Therefore, this study aims to understand factors that impact the consumer purchase intention of real estate in Malaysia by applying the Theory of Planned Behavior. The perceptual constructs consist of attitudes, subjective norm, perceived control behavior and financial factor. The output construct refers to house purchase intention. The study also sees whether the gender and marital status will affect the consumers' behavior. 300 questionnaires were collected from the working adult age range between 25-64 at the high traffic areas such as shopping centers and railway stations. Multiple linear regressions was used to find out the relationship between the factor; t-test and ANOVA test were used to see whether there are any significant difference among the different gender and marital status group in their buying intention. The findings shown perceived behavior control has the highest positive impact on property purchase intention followed by subjective norm, attitude and financial factor which have the least positive impact. Both the demographic factors of gender and marital status found no impact on purchase intention of real estate in Malaysia.

Key words: Theory of Planned Behavior, financial, Consumer's Purchase intention, demographic, real estate, urban Malaysia

INTRODUCTION

It is not surprising that each Malaysian aspires to own at least one property in their lifetime. However, to realize their homeownership dream, this has caused mixed emotions and uncertainties as this may lead many to engulf with doubts given the huge responsibility and long commitment to own a house especially in urban city area. Majority of the potential homebuyers still face hurdles when it comes to buying properties due the mismatch between demands and supply for affordable housing especially in the urban area (REHDA, June 2016). Migrant who plan to own a house in urban area such as Klang Valley are mostly of young age, low income level, newly-weds or those small families who understand that the importance of owning a house where they worked rather than tenant a house or a room where the rental keep increasing and moving is another issue when the tenancy is due. Homeownership became more difficult in Malaysia especially in urban area when bankers are stricter on loan financing since January 2010. The loan eligibility was based on net income instead of gross income. Financial institutions are also very careful in approving loans with detail checking on the borrower's financial blacklist through CCRIS and CTOS to minimize the risk of non-performing loan. According to The Association of Banks in Malaysia (ABM), it reported that the approval rate for housing loans in 2016 is high at 73.8% (The Edge Property.com., 2017, March 17). However, according to MIER's residential property survey 4Q 2016, found that 58% respondents reported decline in their loan application while quarter 3 in 2016, rejection rate is as high as 68%. (REHDA Bulletin, 2017, February). In line with these housing issues and scenario, this study been carried out with the objective to identify factors that influence home

ownership in urban area in Malaysia. Hence, the policy maker, developers, bankers as well as home buyers can use the finding to better understand, influence, supply and create better policy to meet the society's homeownership.

LITERATURE REVIEW

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) improvised the Theory of Reasoned Action (TRA) by Azjen & Fishbein (1980) which was proposed by Azjen in 1985. It suggested that intention is affecting by three factors which are attitude, subjective norm and perceived behavior control. The intention to purchase will be the determinant of actual purchase behavior (Ajzen, 1991). This study seeks to modify the TPB by adding on the financial factor as an immediate antecedent of intention to purchase of real estate property in the urban area of Malaysia. All the relationship with its criterion variable will be discussed subsequently.

Purchase intention (PI)

Elbeck and Mandernach (2008) described the readiness of potential customers in terms of purchase intention about a product. Intentions are presumed to be an indicator of to what extent people are willing to approach certain behavior and how many attempts they are trying in order to perform certain behavior; and intention is an immediate antecedent of behavior (Ajzen, 1991). The purchase intention of a product significantly affects the actual purchase behavior (Bai, Law & Wen, 2008; Chiew, Md Ariff, Zakuan & Mohd Tajudin, 2014). According to Han, Shu & Sheu (2009) and Taylor & Todd (1995), they found that intention is a strong predictor of behavior and the result was supported by Phungwong (2010) and Han et al. (2009). Hartmann & Apaolaza-Ibáñez (2012) stressed that psychological benefits potentially enhance consumer's attitudes and increases the Spain customers' purchase intention on green energy brand products. As such, it is important for businesses to understand their customers' purchase intentions. In this study, intention is the dependent variable and it is predicted by independent variables, namely attitude, subjective norm, perceived behavioral control and financial factor. Al-Nahdi, Nyakwende, Banamah & Jappie (2015) found that purchase intention of real estate was affected by attitude, subjective norm and finance. However, it had no significant relationship with perceived behavior control in Saudi Arabia. In this study, purchase intention refers to 'intention to purchase residential property'.

Attitude (A)

Attitudes represent the cluster of beliefs, assessed feelings, and behavioral intentions towards a person, object or event. Attitudes are judgments. Attitudes involved evaluations of an attitude object and we usually aware and consciously think about those evaluation and usually it's stable over time (McShane & Glinow, 2017). Bagozzi (1992) address attitudes as the role of cognitive and emotional self-regulatory mechanism that link to evaluative appraisal. Hartmann et al. (2012) revealed that when consumer have positive attitude toward certain product's brand, they will be positive effect on the purchase intention. Cheah, Phau & Liang (2013) in their study also found that attitudes positively affect consumers' purchase intention towards e-deal. This result was supported by Tih & Zainol (2012) in their study related to green attitude towards intention to engage in recycling activities in Klang Valley, Malaysia. Numerous researches in real estate industry also found the positive relationship, includes green house purchase in Thailand (Numrakrakul, Ngarmyarn and Panichpathom, 2012). Thus, the propose hypothesis is:-

H1: The more positive the attitude, the greater is the consumer's purchase intention of real estate in Malaysia

Subjective norm (SN)

Subjective norm is a silent social context factors that can influence individual behavior. It occurs when a person's emotions, opinions or behaviors are affected by others. Subjective norm measures the influence of social pressures on individual to perform or not a particular behavior. It's referring to the change of individual thinking, attitude, behavior or feeling resulting from the influence of another individual or group (Jamaluddin and Ibrahim, 2017). Bagozzi (1992) described subjective norm as a positive or negative emotional reaction associated with

appraisals of deviation and conformance to both the self and other's expectation. Ajzen (1991) refer subjective norm as an awareness of social pressure affecting an individual's behavior intention. Such pressure is perceived as important influence to attitude or behavior (Ajzen, 1991; Tih and Zainol, 2012; Kim and Han, 2010). Subjective norm is a function of normative beliefs which an individual's beliefs was affected by important parties in our life such as family members (Rivis and Sheeran, 2003). Sakpichaisakul (2012) found that family was the main influencer in purchase decision for furniture in Thailand. The results further stresses by another study in Thailand, they found that children are the most influential party and second followed by the spouse, while elderly parents and friends revealed less influential in house purchase intention (Sangkakoon, Ngarmyarn and Panichpathom (2014). This further supported by Numrakrakul et al. (2012) found subjective norm has the greatest influence on the green house purchase intention in Thailand. Hence: the proposed hypothesis is:-

H2: The more positive the subjective norm, the greater is the consumer's purchase intention of real estate in Malaysia

Perceived Behavior control (PBC)

Perceived behavior control (PBC) is defined as the *belief* that one can determine own internal states and behavior, influence one's environment, and/or bring about desired outcomes (Wallston, Wallston, Smith & Dobbins, 1987). The important dimensions includes able to control past and future event, or able to control over the outcome, behavior, or process (Wallston et al. 1987). Mahbob, Wan Sulaiman, Wan Mahmud, Mustaffa & Abdullah (2012) found that element of self-efficacy have the greatest influence on perceived behavior control as compared to facilitation. And numerous researchers showed that perceived behavioral control are positively affecting the purchase intention (Baker, Al-Gahtani & Hubona, 2007; Kang, Hahn, Fortin, Yong & Eom, 2006; Mahmoud Ahmad (2014). Perceived behavioral control behavior was also positively related to the purchase intention on Halal product among the international graduate students who study in Malaysia's Universities (Mohamed Omar, Nit Mat, Imhemed and Ahmed Ali, 2012). Ai-Nahdi et al. (2015) revealed that there was a positive effect between subjective norms on intention to purchase real estate in Jeddah and have similar case in Malaysia (Md. Razak, Hoo, Ibrahim, Alias and Osman, 2013). Thus, the proposed hypothesis is:

H3: The more positive the perceived behavior control, the greater is the consumer's purchase intention of real estate in Malaysia

Financial factor (FF)

Finance is the most important factor that needs to be considered when purchasing a house. Normally the real estate purchasers need to borrow large amounts of money from the bank and pay at least 10 percent down payment. Besides that, the buyer also must get ready with a sum of money to pay the lawyers and banker for processing fees. Buyer also need to consider about the mortgage interest rate, household income, house price and ability to obtain financing (Reed and Mills, 2006). Pako and Raposo (2009) found that financial factors had the highest influence on decision to purchase. Dua (2004) study shows that both current and future interest rates have most significant impact on house purchase decisions and followed by expectations of real disposable income in the country of India. Therefore, it was proposed that:

H4: The more positive the financial factor, the greater is the consumer's purchase intention of real estate in Malaysia

Demographic factor

Men and women were found to be different when they were processing and making decision (Peter & Olson, 1996; Livette, 2006; Chiew et al. 2014). Sethi & Sethi (2017) found that both gender and marital status did impact on purchase intention in India. Haddad, Judeh, & Haddad (2011) found that gender does affect the consumer's purchasing behavior when buying real estate in Jordan. However, they found that they are no effect of marital status on the purchasing decision-making. On the other hand, an empirical study on demographic found that both marital status and gender does affect the purchasing criteria on property (Majid, Said, & Daud, 2012). Opoku & Abdul-Muhmin (2010) did a study on the gender and marital status in specific selection of the attributes when choosing a house. With respect to some of the

elements or attributes in housing selection, both gender and marital status does indicate some form of significant differences. Even though some past studies does indicate some form of effect of gender and marital status on choosing and purchasing properties, yet Livette (2006) found both the gender and marital status does not have any effect on selection of housing decision for retirement purposes. Thus, the following hypothesis was form:

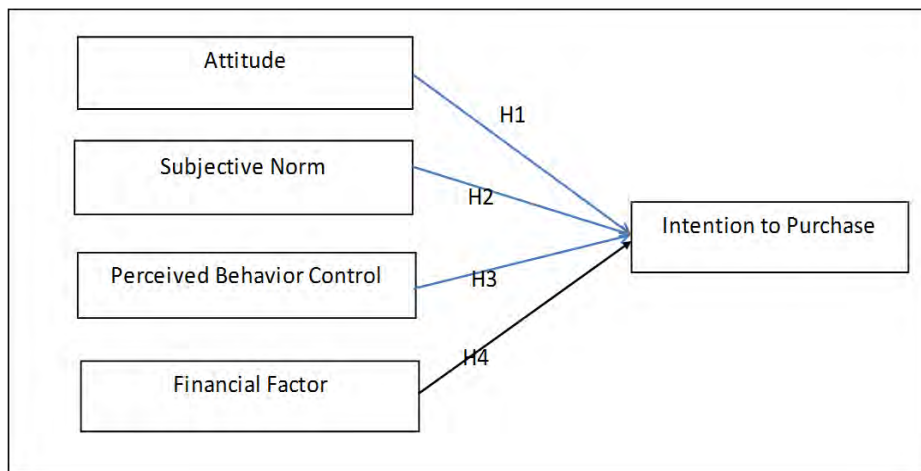
H5: There is a significant difference between the genders towards purchase intention of the real estate in Malaysia.

H6: There is a significant difference between the marital statuses towards purchase intention of the real estate in Malaysia

CONCEPTUAL FRAMEWORK

The following research framework (Figure 1) was proposed for the purpose of the current study based on the Theory of Planned Behavior and past literatures as proposed above.

Figure 1: The Proposed Conceptual Framework



RESEACH METHODOLOGY

Sampling Design

In order to find out what are the factors influencing the real estate purchase intention in urban area in Klang Valley, data were collected through survey questionnaires distributed in high traffic area such as shopping centers and LRT main stations in Klang Valley using self-administrated questionnaire. The target respondents' age are between 25-64 years old who are still financially sound and afford to own a house. The researchers worked in pairs and collected back the questionnaire on the spot where the questionnaires checked to ensure that all the questions being answered. Hence, all the 300 questionnaires collected were usable. To ensure getting the right respondents, the respondents will be asked questions such as age range and whether they have intention to purchase a house in Klang Valley in the near future. The questions were adapted from two main researchers' namely Al-Nahdi, Habib and Albdor (2015) and Saw and Tan (2014). In the first section respondents were asked about their demographic factors and in the second section, they were asked about variables related to the constructs which the independent variables include attitude, subjective norm, perceived behavior control and financial factors; and purchase intention was the dependent variable. Seven-point Likert Scale was used ranging from 1, strongly disagree to 7, strongly agree.

Research Procedure

A total of 30 pilot tests were conducted in order to ensure no ambiguous questions were asked. The reliability to pre-test the research instrument before large scale distribution. In order to ensure that the instruments used to test the hypotheses are reliable, Cronbach Alpha was used to analyze the reliability of the instrument. After the collection of questionnaires, process

such as checking, editing, data coding, transcribing and cleaning will be done before running all the analysis. SPSS version 22 was applied in this study to analyze the data profile and the hypothesis testing. Multiple Linear Regression analysis was used for hypotheses testing to investigate the relationship between the independent and dependent variables. T-test and ANOVA testing were used to analyze the significant difference for demographic variables towards purchase intention.

DATA ANALYSIS

Analysis and Result

The profile of respondent shows and as depicted in table 1 below:-

Table 1: Profile of respondents

Respondent's profile	Category	Frequency	Percentage
Gender	Male	158	52.7
	Female	142	47.3
Age	25-34	88	29.3
	35-44	105	35.0
	45-54	77	25.7
	55-64	30	10.0
Marital Status	Single	114	38.0
	Married	166	55.3
	Others	20	6.7
Monthly income (RM)	<3500	63	21.0
	3501-5000	104	34.7
	5001-7000	79	26.3
	7001 and above	54	18.0

Most of the respondents are male with 52.7% which falls into the age bracket between 35-44 years old (35%). The respondents are also mainly married (55.3%) and has income between RM3501-RM5000 (34.7%).

Reliability Analysis

Cronbach's alpha was calculated to examine internal consistency of the scales used in this study. The coefficient value can range from 0.00 to 1.0. Value close to 1.0 indicates a high internal consistency of the scale. Table 2 results shown all the variables are good as all the Cronbach's alpha value are above 0.80 level.

Table 2: Reliability test for independent and dependent variables

Variables	No. of Items	Cronbach's alpha
Attitude	4	0.879
Subjective Norm	4	0.914
Perceived Behavior Control	4	0.902
Financial Factor	3	0.868
Purchase Intention	4	0.921

Testing for hypothesis

Hypothesis 1 to 4 is used to predict the relationship between independent variables which include attitude, subjective norm; perceived control behavior and financial factor are positively related to the dependent variable which is the intention to purchase. The multiple regression analysis technique was used to test this relationship in this model. Table 3(a) and 3(b) below show the results of R square = 38.50%, which means that about 38.50% of the variation in the dependent variable can be explained by the independent variables. The F value = 46.235, and $p = 0.00 < 0.01$ which is significant, implying that the model is adequate and fit for measurement.

Table 3(a): Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.621 ^a	.385	.377	3.01742	.385	46.235	4	295	.000

a. Predictors: (Constant), TOTAL_FF, TOTAL_A, TOTAL_PBC, TOTAL_SN

Table 3(b) ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1683.831	4	420.958	46.235	.000 ^b
	Residual	2685.915	295	9.105		
	Total	4369.747	299			

Table 3(c): Multiple Regression Results between the Independent Variables Attitude (A), Subjective Norm (SN), Perceived Behavior Control (PBC), Financial Factor (FF) with Dependent Variable Purchase Intention

Coefficients							
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	Collinearity Statistics
	B	Std. Error	Beta			Tolerance	VIF
	(Constant)	2.061	1.848		1.115	.266	
1	TOTAL_A	.237	.060	.226	3.976	.000	.644
	TOTAL_SN	.240	.058	.236	4.124	.000	.635
	TOTAL_PBC	.251	.053	.270	4.746	.000	.642
	TOTAL_FF	.163	.082	.091	1.975	.049	.989

a. Dependent Variable: Total Purchase Intention

H1: The more positive the attitude, the greater is the consumer's purchase intention of real estate in Malaysia

Table 3(c) shows the result between attitude and intention to purchase real estate. Based on the results, attitude was significant $p < 0.001$ with standardized coefficients Beta = 0.226 and have positive effect on intention. Thus, H1 is supported.

H2: The more positive the subjective norm, the greater is the consumer's purchase intention of real estate in Malaysia

Table 3(c) shows the result between subjective norm and intention to purchase real estate. Based on the results, subjective norm was significant $p < 0.001$ with standardized coefficients Beta = 0.236 and have positive effect on intention. Thus, H2 is supported.

H3: The more positive the perceived behavior control, the greater is the consumer's purchase intention of real estate in Malaysia

Table 3(c) shows the result between perceived behavior control and intention to purchase real estate. Based on the results, perceived behavior control was significant $p < 0.001$ with standardized coefficients Beta = 0.270 and have positive effect on intention. Thus, H3 is supported.

H4: The more positive the financial factor, the greater is the consumer's purchase intention of real estate in Malaysia

Table 3(c) shows the result between financial factor and intention to purchase real estate. Based on the results, financial factor was significant $p < 0.05$ with standardized coefficients Beta = 0.091 and have positive effect on intention. Thus, H4 is supported.

Table 4 (a): Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
TOTAL_PI	1	158	21.1139	3.72968	.29672
	2	142	20.6901	3.92516	.32939

Table 4 (b) Independent Samples t-Test for Gender

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TOTAL_P I	Equal variances assumed	.242	.623	.959	298	.339	.42378	.44212	-.44629	1.29385
	Equal variances not assumed			.956	290.741	.340	.42378	.44333	-.44876	1.29632

H5: There is a significant difference between the genders towards purchase intention of the real estate in Malaysia.

In this study, t-test was used to identify the significant differences in the purchase intention of real estate in Malaysia according to the gender. Based on table 4(b), Levene's Test for Equality of Variances shows the sig > 0.05, thus equal variances are assumed. The t-test ($t = 0.959$, $p > 0.05$) shows that there are no significant different between male and female in their intention to purchase real estate. Therefore, the H5 is not supported.

H6: There is a significant difference between the marital statuses towards purchase intention of the real estate in Malaysia

Table 5(a) Test of Homogeneity of Variances

TOTAL_PI			
Levene Statistic	df1	df2	Sig.
.651	2	297	.522

**Table 5(b) Test for significance
ANOVA**

TOTAL_PI					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.036	2	4.518	.308	.735
Within Groups	4360.711	297	14.683		
Total	4369.747	299			

Table 5(c) Multiple Comparisons

Dependent Variable: TOTAL_PI

Tukey HSD

(I) Marital	(J) Marital	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	.18189	.46609	.920	-.9160	1.2798
	3	.71140	.92894	.724	-1.4767	2.8995
2	1	-.18189	.46609	.920	-1.2798	.9160
	3	.52952	.90696	.829	-1.6068	2.6659
3	1	-.71140	.92894	.724	-2.8995	1.4767
	2	-.52952	.90696	.829	-2.6659	1.6068

Based on Table 5(a), One-Way ANOVA Levene's Test for homogeneity of variances is not significant ($p > 0.05$) so it can be assumed that the population variances for each group are approximately equal and the assumption of homogeneity is not violated. However, ANOVA test in Table 5(b) shows that $F = 0.308$, $p > 0.05$ which fail to reject null hypothesis where there is no significant different between the marital group in their intention to purchase real estate. Therefore, H6 is not supported.

CONCLUSION AND DISCUSSION

In this study, the purchase intention is positively affected by all the variables which include attitude, subjective norm, perceived behavior control and financial factor. Perceived behavior control ranked top, has the highest impact on purchase intention in Malaysia real estate market and followed by subjective norm and attitude. Financial factor has the least impact. However, both gender and marital status shows no significant difference towards purchase intention of real estates in Malaysia. Gender and marital status found no significant difference towards purchase intention of real estate in Malaysia as compared to countries such as Saudi Arabia and India, where men are more dominant in terms of power and women who are not working are expected to accept a position subservient to males and subordinate their personal preference to the needs of others in India (Chadda & Shinha Deb (2013). While study in Middle East countries result always found gender and marital status may have differences in terms of purchase intention (Opoku et al., 2010; Sethi et al, 2017; Haddad et al., 2011). Whereas, Malaysia human development report reported that Malaysia gender inequality index (GII) value of 0.210, ranked 39 out of 149 countries in the 2013 index among the Asia Pacific countries. The lower GII ranking shows less gender inequality or bias (Malaysia Human Development Report, 2013). Hence, this study supports the above MHDR report which found no significant difference between men and women in purchase intention of real estate in Malaysia.

As a conclusion, it is important for marketers to understand clearly the factors affecting the purchase intention of real estate as it will lead to the actual purchase behavior. As marketers, developing a marketing strategy that focus on influencing the purchase intention through their family members, certain promotions or rebate can be considered to influence the purchase intention. Whereas, the developers and bankers should revealed all the true information about the property values and borrowing details which enable to create positive attitude and increase the confidence level of the potential buyer in buying the said property. The government should educate people in financial planning and provide support for those who are not eligible for loan such as lending the down payment to them and repaying back

through salary deduction. Government should also think of how to increase the productivity of the Malaysian, hence improve their abilities to own a house in urban area such as Klang Valley. As for the future research, the number of respondents and area covered should be increased to enhance the results and findings. Purchase intention for real estate is affected by many other factors, such as property features and price, surrounding, location and network transportation that should be included in the future research.

REFERENCES

- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action. Control: From cognition to behavior* (11-39). Heidelberg: Springer.
- Ajzen, I., (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Al-Nahdi T. S., Nyakwende, E., Banamah, A. M. and Jappie, A. A. (2015). Factors affecting purchasing behavior in real estate in Saudi Arabia. *International Journal of Business and Social Science*. 6(2).
- Al-Nahdi, T. S., Habib, S.A., and Albdour, A.A. (2015). Factors influencing the intention to purchase real estate in Saudi Arabia: moderating effect of demographic citizenship. *International Journal of Business and Management*, 10(4), 35-48. <http://dx.doi.org/10.5539/ijbm.v10n4p35>
- Bagozzi, R. P. (1992). The Self-Regulation of Attitudes, Intentions, and Behavior. *Social Psychology Quarterly*, 55(2), Special Issue: Theoretical Advances in Social Psychology Jun., 178-204.
- Baker, E. W., Al-Gahtani, S. S. & Hubona, G. S. (2007), "The effects of gender and age on new technology implementation in a developing country", *Information Technology & People*, 20(4), 352-375. <http://dx.doi.org/10.1108/09593840710839798>
- Bai, B., Law, R. & Wen, I. (2008). The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors. *International Journal of Hospitality Management*, 27, 391-402.
- Chadda, R. K. & Shinha Deb, K. (2013). Indian family systems, collectivistic society and psychotherapy. *Indian Journal of Psychiatry*, 55(2). 299-309. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3705700/>
- Cheah, I., Phau, I. & Liang, J. (2013). Factors influencing consumers' attitudes and purchase intentions of e-deals. *Marketing Intelligence & Planning*, 33(5), 763-783, <https://doi.org/10.1108/MIP-05-2014-0081>
- Chiew, S.W., Md Ariff, M. S., Zakuan N. & Mohd Tajudin, M. N. (2014). Consumers perception, purchase intention and actual purchase behavior of organic food products. *Review of Integrative Business & Economic Research*, 3(2), 378-397.
- Dua, P. (2004). Analysis of Consumers' Perceptions of Buying Conditions for Houses. Delhi School of Economics, Delhi, India & Economic Cycle Research Institute, New York, U.S.A. CDE working paper, 127.
- Elbeck, M., & Mandernach, B. J. (2008). Expanding the value of scholarly, open access e-journals. *Library and Information Science Research*, 30(4), 237-241.

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- Haddad, M., Judeh, M., & Haddad, S. (2011). Factors affecting buying behavior of an apartment an empirical investigation in Amman, Jordan. *Research Journal of Applied Sciences, Engineering and Technology*, 3(3), 234-239.
- Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate data analysis* (5thed.) New Jersey: New Jersey.
- Han, H., Shu, L. T. & Sheu, C. (2009). Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31, 325–334. doi:10.1016/j.tourman.2009.03.013
- Hartmann, P & Apaolaza-Ibañez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, 65, 1254–1263.
- Jamaluddin, F. & Ibrahim, A. (2017). Exploring the influence of subjective norm towards green technology implementation among Malaysian university staffs: A Literature review. *International Journal of Academic Research in Business and Social Sciences*. 7(2), 893-897. Retrieved from: <http://dx.doi.org/10.6007/IJARBS/v7-i2/2831>
- Kang, H., Hahn, M., David R. Fortin, D. R., Yong, J. H. & Eom, Y. (2006). Effects of Perceived Behavioral Control on the Consumer Usage Intention of E-coupons. *Psychology and Marketing*, (2006, October) Retrieved form: <https://www.researchgate.net/publication/227537391>
- Kim, Y., and Han, H., (2010). Intention to pay conventional-hotel prices at a green hotel - a modification of the theory of planned behavior. *Journal of Sustainable Tourism*, 18(8), 997 – 1014.
- Livette, M. (2006). Retirement housing for sale and differences in the decision to purchase that are determined by gender or marital status. *Property Management*, 24(1), 7-19.
- Mahbob, M. H., Wan Sulaiman, W. I., Wan Mahmud, W. A., Mustafa, N. & Abdullah, M. Y. (2012). The elements of behavioral control in facilitating the acceptance of technological innovation on Malaysia on-line government services. *Asian Social Science*, 8(5). URL: <http://dx.doi.org/10.5539/ass.v8n5p125>
- Mahmoud, Mahmoud Ahmad (2014) *Attitudes, subjective norms and perceived behavioural control on entrepreneurial intention of Nigerian postgraduates in UUM*. (Master thesis, Universiti Utara Malaysia, 2014)
- Majid, R., Said, R., & Daud, M. N. (2012). The impact of buyers' demography on property purchasing. *Journal of Surveying, Construction & Property*, 3(2), 1-18.
- Malaysia Human Development Report (2013). Retrieved from: <http://www.mhdr.my/page/224/Gender-Inequality-Index/>
- McShane, S. L. & Glinow. M. A. V. (2017). *Organizational Behavior: Emerging knowledge. Global Reality* (7th ed.). Global Edition. Asia: McGraw-Hill Education.
- Md. Razak, M. I., Hoo, J., Ibrahim, R., Alias, Z. & Osman, I. 2013). Purchasing intention towards real estate development in Setia Alam, Shah Alam: Evidence from Malaysia. *International Journal of Business, Humanities and Technology*, 3(6), 66-75.
- Mohamed Omar, K. M., Nik Mat, N. K., Imhemed, G. A., Ahamed Ali, F. M. (2012). The direct effects of halal product actual purchase antecedents among the international muslim consumers. *American Journal of Economics*, (2012, June, Special Issue), 87-92 DOI: 10.5923/j.economics.20120001.20

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Numraktrakul, P., Ngarmyarn, A., & Panichpathom, S. (2012). Factors affecting green housing purchase. 17th International Business Research Conference, Toronto, Canada.
- Opoku, R. A., & Abdul-Muhmin, A. G. (2010). Housing preferences and attribute importance among low-income consumers in Saudi Arabia. *Habitat International*, 34, 219-227.
- Paço, A., & Raposo, M. (2009). "Green" segmentation: an application to the Portuguese consumer market. *Marketing Intelligence & Planning*, 27(3), 364-379, <https://doi.org/10.1108/02634500910955245>
- Peter, J. P., & Olson, J. C. (1996). *Consumer behavior and marketing strategy* (4th ed.). London: Irwin.
- Phungwong, O. (2010). Factors influencing home purchase intention of Thai single people (Doctoral dissertation, International graduate school of business, University of South Australia, Adelaide, Australia, 2010).
- Reed, R., & Mills, A. (2006). Identifying the drivers behind housing preferences of first-time owners. *Property Management*, 25(3), 225-241.
- REHDA Bulletin (2017, February). Retrieved from: <http://rehda.com/wp-content/uploads/2017/06/02-REHDA-Bulletin-February-2017-3.pdf>
- REDHA Bulltin (2017, March) Retrieved from: <http://rehda.com/wp-content/uploads/2017/06/03-REHDA-Bulletin-March-2017-45.pdf>
- Rivis, A. & Sheeran, P. (2003). Descriptive norms as an additional predictor in the theory of planned behaviour: A meta-analysis. *Current psychology*, 22(3), 218–233. Retrieved from: <https://link.springer.com/article/10.1007/s12144-003-1018-2>
- Sakpichaisakul, T. (2012). Consumer behavior in purchase home furnishing products in Thailand. (Master Thesis, Graduate school of Commerce Waseda University, 2012)
- Saw, L. S. and Tan, T. H. (2014). Factors affecting the purchase decision of investors in the residential property in Malaysia. *Journal of Surveying, Construction and Property*. 5(2). Retrieved from: <https://www.researchgate.net/publication/277013389>
- Sethi UJ & Sethi RS (2017). Does demography influence online purchase intention? Evidence from north-west India. *International Journal of Advances in Management and Economics*, 6(2), 01-08.
- Songkakoon, P., Ngarmayarn, A. and Panichpathom, S., (2014). The influence of group references in home purchase intention in Thailand. Retrieved from: http://eres.scix.net/data/works/att/eres2014_191.content.pdf
- Taylor, S. & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176. doi:10.1287/isre.6.2.144
- TheEdgeProperty.com. (2017, March 17). Retrieved from: <https://www.theedgeproperty.com.my/content/1097206/approval-rate-housing-loans-hits-high-738-2016>
- Tih, S. & Zainol, Z. (2012). Minimizing waste and encouraging green practices, *Jurnal Ekonomi Malaysia*, 46(1), 157 – 164.
- Wallston, K.A., Wallston, B.S., Smith, S. & Dobbins, C.J. (1987). *Current Psychology*, 6(5). Retrieved from: <https://link.springer.com/article/10.1007/BF02686633>

Industry 4.0 Revolution: Towards a Conceptual Framework in SMEs

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Abstract

Raising the topic of a fourth industrial revolution, the so called Industry 4.0 immediately prompts digitization of the manufacturing sector, with embedded sensors in virtually all product components and manufacturing equipment, ubiquitous cyber physical systems, and analysis of all relevant data. As Industry 4.0 influences mission-critical applications in manufacturing processes, the transformation is to be far-reaching but the pace of change to be slower than in the digital disruption of the consumer Internet. Due to long investment cycles, companies tend to be conservative in their decision making when it comes to fundamental disruption. Therefore, the aim of the study is to propose a conceptual study investigating the association of four clusters of disruptive technologies which consists of data, computational power, and connectivity, analytics and intelligence, human-machine interaction and digital-to-physical conversion towards Industry 4.0 revolution in manufacturing SME. The novelty of the proposed conceptual framework shall increase the understanding that manufacturing SMEs should act along three dimensions to capture the potential of Industry 4.0; drive the next horizon of operational effectiveness, adapt business models to capture shifting value pools, and build the foundations for digital transformation.

Keywords: Industry 4.0, Cyber physical system, small medium enterprises, manufacturing

INTRODUCTION

Industry 4.0 (I 4.0) is also known as the fourth industrial revolution. The word started from a project that was part of the Germans high technological strategy. It is now widely debated topic in Germany. The key issue is the integration of Cyber-Physical Systems (CPS) in production and logistics. It also requires the application of "internet of things" (IoT) and "connectivity" in the manufacturing processes. This includes the fruits of value creation, new business models, marketing services and new organizational structures (Friedrich-ebert-stiftung, 2017). Great economic value is attributed to the IoT technology in industry. Readiness of Malaysia for IoT Malaysia has a good environment and a good starting point to encourage and catapult IoT the market domestically because of to the high mobile usage at 143.7 percent and phenomena of multiple hand held devices ownership. The present study shall thus focus on the main challenges for SME companies regarding Industry 4.0 and how the relevant framework needs to be custom made to support them in meeting these challenges. the application of IoT technologies in intermediate and end products gives rise to cross-sectoral potentials for additional business support services (business-to-business) and for household services (business-to-consumer).

LITERATURE REVIEW

The new changes and perspectives of "Industry 4.0", with cloud computing, cyber-physical systems and smart factory, lead to an increasing complexity, in particular for small and medium enterprises. (Stock T. &, 2016) These changes and approaches related to the vision of Industry 4.0 and Smart Factories can help SMEs to remain competitive. The consistent trends of miniaturization and the dropping of prices for sensors, information and communication technologies as well as the constant trend towards servitization enable approaches related to the vision of Industry 4.0 (I4.0) and Smart Factories. Challenges demanding for SME are the

development of new business models and employee training. SMEs need tailored information and implementation solutions that fit to their size and needs. The barriers for adopting 4.0 approaches and technologies are still high. For SMEs it is difficult to find the suitable research partner and acquire the required administrative knowledge to apply for funding from public research programs. The term Cyber- Physical Systems refers to the close conjoining of and coordination between the physical assets and their computational capabilities, where hardware and software components are deeply intertwined, demonstrating multiple and distinct behavioural modalities, and interacting with each other in diverse ways that change with context.

Therefore, new approaches, methods and tools are required to connect SMEs and research institutions, in order to support SMEs in the development and of new products and services with elements in the physical and digital world (Cyber-Physical System or CPS) along with new business models enabled by these technologies. (Faller, n.d.) Digitization enters many different areas of life. The automotive industry is working hard on autonomous driving and the consumer industry offers more and more solutions on the way to a smart home. About 6.573 billion things were connected via the internet in the year 2014. This number will even increase over 25 billion in 2020. This development has a tremendous impact on future manufacturing. It offers possible solutions to well-known and frequently described challenges like the explosion of variants and increased complexity in manufacturing due to technological progress and increasing rate of changes, The German National Academy of Science and Engineering - Acatech - puts the smart factory in the center for the analysis of opportunities and challenges of digitization and connection of humans, objects and systems in manufacturing. This new level of organization and control of the whole value- adding system considering the complete product life cycle with the goal of fulfilling individual customer needs can be identified as Industry 4.0.

The realization of Industry 4.0 requires an ongoing coalescence of the digital and the physical domain. The technical realization is called cyber-physical systems (CPS) or more precisely for the field of manufacturing: cyber-physical production systems (CPPS). Therefore, not only to connect physical objects like components, machines or sensors to the cyber domain but also the application of software services to provide additional functionality to the user in manufacturing is required. One of the key enabler is the smart use of data with latency as short as possible aiming at a digital real-time image of the physical production. (Landherr, 2016) Especially small and medium sized enterprises (SMEs) have the difficulty to be highly skilled in applications and technologies of Industry 4.0. This is caused by the fact that those companies usually don't have the manpower to look ahead and beyond their own product and production range to enter new areas and they usually don't have the possibility to invest in emerging technologies as an early adaptor in order not to lose money by focusing on the wrong technologies. However, those companies need to be trained in demanding technologies to be able to produce efficiently to survive in the globalized environment. Therefore regions with traditionally small SMEs need the support and knowledge to develop those skills in an effective way (Faller C. , 2015).

CONCEPTUAL FRAMEWORK

Time to market and customer responsiveness are today's key factors of competitiveness, and companies are investing in automation and robotics technologies that have the potential to meet labor cost levels in any location. Companies are redesigning their manufacturing networks and moving closer to their customers and R&D centers (Cheng et al., 2015). The pressure on companies continues to increase, and many are looking for new opportunities to boost productivity. The disruptive technologies of Industry 4.0, such as IT-enabled manufacturing and increased computing capacity, hold the promise of smart factories that are highly efficient and increasingly data integrated. Data is the core driver and leaders across industries are leveraging data and analytics to achieve a step change in value creation. A big data/advanced analytics approach can result in a 20 to 25 percent increase in production volume and up to a 45 percent reduction in downtime (Gallaher et al., 2016).

For the purpose of this study, we define all digitally enabled disruptive technologies that are likely to have a significant impact on manufacturing within the next 10 years as Industry 4.0

relevant. Some of these technologies are real innovations, such as augmented reality, while others like big data and advanced analytics have already been applied in manufacturing for some time now. At this point, the question arises: What is the novelty here? Is Industry 4.0 just another rehash of what has been known as manufacturing execution systems (MES) since the 1990s? We believe otherwise. Most research shows that all of the following technologies, for various reasons, are at a tipping point today and are ripe to disrupt the manufacturing value chain (Thiesse et al., 2015). To be more precise, there are four clusters of technologies that need to be examined. Different drivers are leading to an acceleration of use on a large scale for each of these clusters.

Data, computational power, and connectivity

With the rapid development of processing and storage technologies and the success of the Internet, computing resources have become cheaper, more powerful and more available than ever before. This technological trend has enabled the realization of a new computing model called cloud computing, in which resources are provided as general utilities that can be leased and released by users through the Internet in an on-demand fashion (Avram, 2014). The organizations are gaining more experience in the cloud and they start to shift more core business functions onto cloud platforms. Because of this fact, we are seeing that cloud adoption is significantly more complex than we imagined initially, particularly in terms of data management, system integration and the management of multiple cloud providers.

This cluster, which comprises big data, the Internet of Things (IoT), and cloud technology, is mainly driven by a significant reduction in costs that makes the ubiquitous use of sensors and actuators possible and allows for affordable yet powerful storage, transmission, and processing. For example, in the IoT, sensors and actuators embedded in physical objects are interconnected via wired and wireless networks. These networks churn out large volumes of data that flow to computers for analysis, while all physical objects are able to both sense their environment and communicate autonomously among each other. Today, all prerequisites for IoT applications are finally falling into place: interoperability is made possible by new communication protocols designed especially for seamless machine-to-machine (M2M) interaction. Connectivity is enabled by LPWA technologies that provide the wireless infrastructure to connect thousands of IoT nodes. Some of the companies are moving towards cloud computing just because it is the latest trend in information technology. On the other hand, other companies cannot even take into consideration the idea of having their sensitive data outside their premises. Both of these cases represent companies that are just not very well informed. We are not sustaining that cloud computing is a perfect solution for everybody, but adopting it or not should be result of a very well informed analysis

Analytics and intelligence

Big data analytics have been embraced as a disruptive technology that will reshape business intelligence, which is a domain that relies on data analytics to gain business insights for better decision-making. Today, in an Industry 4.0 factory, machines are connected as a collaborative community. Such evolution requires the utilization of advance- prediction tools, so that data can be systematically processed into information to explain uncertainties, and thereby make more “informed” decisions (Lee, et al., 2014). Cyber-Physical System (CPS) based manufacturing and service innovations are two inevitable trends and challenges for manufacturing industries (Gao, 2015). This paper addresses the trends of manufacturing service transformation in big data environment, as well as the readiness of smart predictive informatics tools to manage big data, thereby achieving transparency and productivity. Significant knowledge advances have taken place in this area over the last few years.

While for a long period of time, only simple and repetitive tasks could be performed by robots, advances in artificial intelligence and machine learning as well as the exponential increase in available data and improved statistical techniques enable digitization and automation of knowledge work and advanced analytics. IBM's cognitive system Watson,⁴ for example, is able to answer complex questions based on insights synthesized from vast amounts of unstructured data. One prominent application of the software lies in cancer care. Several US hospitals use Watson to identify treatment options for individual patients by analyzing their medical information against research literature, case histories, and established treatment guidelines, along with feedback from expert oncologists. This is just one example of

how knowledge-based activities can be automated to yield value, and represents a preview of the things to come. For most manufacturing companies, a disruptive approach to implementing new and thus unknown technologies is rather risky. Industry 4.0 technologies are at the heart of most manufacturing processes and influence critical steps within the value chain. The cost of production downtime per day is high, and thus manufacturing companies will carefully weigh the benefits of introducing new technologies against possible risks to process reliability (Katzenbach & Smith, 2015). As a result, companies approach fundamental disruptions with caution, so that change will be rather incremental.

Human-machine interaction

The development of Industry 4.0 will be accompanied by changing tasks and demands for the human in the factory. As the most flexible entity in cyber-physical production systems, workers will be faced with a large variety of jobs ranging from specification and monitoring to verification of production strategies (Gorecky et al., 2014). Through technological support it is guaranteed that workers can realize their full potential and adopt the role of strategic decision-makers and flexible problem-solvers. The use of established interaction technologies and metaphors from the consumer goods market seems to be promising. This paper demonstrates solutions for the technological assistance of workers, which implement the representation of a cyber-physical world and the therein occurring interactions in the form of intelligent user interfaces. Besides technological means the paper points out the requirement for adequate qualification strategies, which will create the required, inter-disciplinary understanding for Industry 4.0 (Tashev, 2013). The driver of greater human-machine interaction is increased consumer familiarity with new ways of interacting with machines that come from the growing use of personal devices. Touch interfaces are already ubiquitous in the consumer world today and gesture recognition as well as virtual and augmented reality devices are increasingly in use.

The familiarity with such devices will ease the implementation of human-machine interaction as a natural feature in the manufacturing environment. In fact, companies such as the German start-up Ubimax already pioneer apps that run, for example, on smart glasses from different providers to make warehouse, assembly, and service processes more efficient through live instructions that are overlaid on the visual field of the worker wearing the device. Another dimension is the increasing physical interaction between machines and humans, where machines and humans both work in much closer physical proximity and where machines can ease previously strenuous tasks for humans (Truschzinski et al., 2014). An example is the Festo ExoHand, which functions as an exoskeleton emulating the anatomy and physiology of the human hand. It is worn as a glove and can support straining manual movements by transmitting human hand movements to a robot's hand. As a result, the worker can conduct a given task for a longer period of time and faster than before.

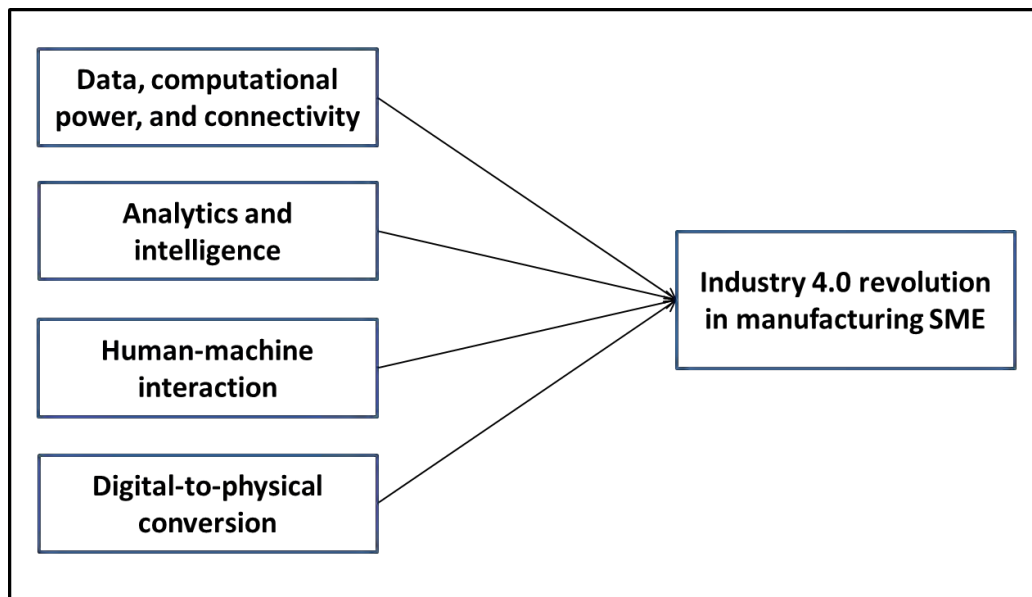
Digital-to-physical conversion

The digital thread is the starting point for designing the production system, not just its digital counterpart, since a growing share of the value creation is taking place in the digital rather than the physical world. The later the digital-to-physical conversion happens, the more efficient the production system can be (Harboe, & Huang, 2015). This means (i) digital prototyping before a physical prototype is ordered, (ii) having the model for the suppliers in a digital format instead of providing them with molds, and (iii) tracking the supply chain logistics digitally instead of using paper delivery slips. In the extreme, even distribution may be digital, such as sending out all the information about a product to many microplants located in the target markets (relying heavily on 3D printing). This would open up new pockets of savings potential avoiding import tax and logistics costs, to mention just two examples. As digital will be at the core of the business, it needs to be considered in every major decision concerning the setup of the company itself (Peppard & Ward, 2016). When building assets be they machinery as physical assets, intellectual property as intangible assets, a companies' organizational structure as an organizational asset, or capabilities as human capital the development needs to align with the digital core and digital strategy of the company.

Companies should increase their efforts to ensure the right level of investment in their digital capabilities in the same way they do for other assets. Furthermore, many companies are still struggling to determine this level (Here, a combination of decreasing costs, expanding range of materials, and advances in precision and quality are the drivers of relevance. For

example, 3D printing has moved from only being applicable to polymers and metals to a broad range of materials, including glass, biocells, sugar, and cement. At the same time, the maximum size of 3D printing has increased by more than tenfold from the 1990s to today. It is not just additive manufacturing that is becoming more relevant, but also technologies like advanced robotics and increasingly cost-effective options for storing energy and innovative ways of harvesting energy (Ramalingam et al., 2016). Significant advances in artificial intelligence, machine vision, and M2M communication have been made within the field of advanced robotics, along with cheaper actuators.

Figure 1: Proposed Conceptual Framework



CONCLUSION

Using Industry 4.0 as the path to the future of manufacturing will allow companies to do more than just upgrade their equipment and eliminate inefficiencies to increase their operational effectiveness. It will also give them the freedom to make the right strategic decisions and reinvent their business model, preparing them to maintain a competitive edge in the global manufacturing market of the future. This conceptual study reviewed and summarized the literature pertaining to adoption of Industry 4.0 in manufacturing SMEs and had identified the four clusters of technologies that need to be examined. Accordingly, this study shall contribute to a new body of knowledge, where it will provide valuable insights on adoption of Industry 4.0 is significant and warrants investigation. On the other hand, this conceptual study may help and give ideas to production managers to rethink their overall business strategy in incorporating Industry 4.0 into their core values and actions. As far improvements, further surveys and research should be carried out using structural equation modeling analysis to test, validate and enhance the framework shown above. The results obtained will be presented in a later article.

REFERENCES

- Avram, M. G. (2014). Advantages and challenges of adopting cloud computing from an enterprise perspective. *Procedia Technology*, 12, 529-534.
- Beata. (2017). Towards Lean Production in Industry 4.0.
- Cheng, Y., Johansen, J., & Hu, H. (2015). Exploring the interaction between R&D and production in their globalisation. *International Journal of Operations & Production Management*, 35(5), 782-816.

- Faller, C. (2015). Industry 4.0 Learning Factory for regional SMEs.
- Gallaher, M. P., Oliver, Z. T., Rieth, K. T., & O'Connor, A. C. (2016). Smart Manufacturing.
- Gao, R., Wang, L., Teti, R., Dornfeld, D., Kumara, S., Mori, M., & Helu, M. (2015). Cloud-enabled prognosis for manufacturing. *CIRP Annals-Manufacturing Technology*, 64(2), 749-772.
- Gorecky, D., Schmitt, M., Loskyll, M., & Zühlke, D. (2014, July). Human-machine-interaction in the industry 4.0 era. In *Industrial Informatics (INDIN), 2014 12th IEEE International Conference on* (pp. 289-294). IEEE.
- GTAI,(nd).https://www.gtai.de/GTAI/Content/EN/Invest/_SharedDocs/Downloads/GTAI/Broachers/Industries/Industrie4.0-smart-manufacturing--for-the-future-en.pdf
- Harboe, G., & Huang, E. M. (2015, April). Real-world affinity diagramming practices: Bridging the paper-digital gap. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems* (pp. 95-104). ACM.
- I-Scoop.eu, (nd). <https://www.i-scoop.eu/industry-4-0/>.
- Katzenbach, J. R., & Smith, D. K. (2015). *The wisdom of teams: Creating the high-performance organization*. Harvard Business Review Press.
- Landherr, M. (2016). The Application Centre Industry 4.0. El Sevier.
- Lee, J., Kao, H. A., & Yang, S. (2014). Service innovation and smart analytics for industry 4.0 and big data environment. *Procedia Cirp*, 16, 3-8.
- Peppard, J., & Ward, J. (2016). *The strategic management of information systems: Building a digital strategy*. John Wiley & Sons.
- Ramalingam, B., Hernandez, K., Prieto Martin, P., & Faith, B. (2016). Ten Frontier Technologies for international development.
- Schwab, K. (2016, Jan). <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>.
- Stock, T., & Seliger, G. (2016). Opportunities of Sustainable Manufacturing in Industry 4.0. *Procedia CIRP*, 40, 536-541. doi:10.1016/j.procir.2016.01.129
- Tashev, I. (2013). Kinect development kit: A toolkit for gesture-and speech-based human-machine interaction [best of the web]. *IEEE Signal Processing Magazine*, 30(5), 129-131.
- Thiesse, F., Wirth, M., Kemper, H. G., Moisa, M., Morar, D., Lasi, H., & Minshall, T. (2015). Economic Implications of Additive Manufacturing and the Contribution of MIS. *Business & Information Systems Engineering*, 57(2), 139-148.
- Truschzinski, M., Dinkelbach, H. Ü., Müller, N., Ohler, P., Hamke, F., & Pretzel, P. (2014, October). Deducing human emotions by robots: Computing basic non-verbal expressions of performed actions during a work task. In *Intelligent Control (ISIC), 2014 IEEE International Symposium on* (pp. 1342-1347). IEEE.

Supply Chain 4.0 Challenges and Readiness Among Malaysian 3rd Party Logistics (3PL): A Conceptual Study

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Abstract

With the evolving of Industry 4.0 and the rapid development of technologies, the supply chain will become fully digital and globally integrated; from suppliers, manufacturers, intermediaries to the customers. Supply chain will perform an important role in the new model which eyeing holistically outside the existing silos and functions. The optimization of supply chain will comprise both hyperactive communication and big data, in order to achieve the highest efficiency and agility. Each item and activities in the supply chain may have its own Internet Protocol (IP) address communicating with others such as components, parts, containers, trucks, ships and the digital to physical transmissions. With the support of Internet of Thing (IoT) and Artificial Intelligent (AI), everything in the near future may become a distinct part of the smart supply chain. The 3rd Party Logistics (3PL) firms need to change the way they doing their business, to synchronize with the emerging digital business ecosystem. The objective of this study is to construct a conceptual framework that is needed for the 3PL firms especially for employees who manage the supply chain activities so that they could have a better understanding and to further explore the challenges and readiness among Malaysian 3PL firms towards Supply Chain 4.0. This study adds to the present literature by explaining conceptually the three independent theoretical domains i.e. supply chain 4.0, challenges and readiness in relation to the Malaysian 3PL firms.

Keywords: Supply Chain Management (SCM), Supply Chain 4.0 (SC 4.0), 3rd Party Logistics (3PL).

INTRODUCTION

In today's immense competitive commercial environments, managing the digital supply chain is not trivial for the 3PL to excel and sustain competitive advantage. With emerging trailblazing technology, such as Artificial Intelligence (AI), Internet of Things (IoT) by interconnectivity between machines, 3D printing and Big Data, and augmented and Virtual Reality (VR), becoming the synonyms in Supply Chain 4.0. The digitization of SC 4.0 technologies equipped with smart sensors, analytics, automation, and new data sources enable firms intensely enhance the customer experience (John, 2016). Products and services are now can be customized in short lead times, the variations of products and services can be minimized. These delivers opportunities and threats to Malaysian Third Party Logistics (3PL) companies.

There were merely short logistics or Supply Chain 4.0 articles written in local journals, newspapers and business magazines. This paper is unable find specific studies on the 3PL sector in Malaysia except for a study on the usage of 3PL providers in Malaysia, done by Sohail and Sohal in 2003, and 2006 which was published in Technovation Journal and the authors also confirmed that there were no comprehensive studies reported in the literature focusing on the extent of 3PL firms in Malaysia (Sohail & Sohal, 2003, Sohail, Bhatnagar, & Sohal, 2006), Salina (2004). The Development of Third Party Logistics in Malaysia, as highlighted by Mustaffa & Potter (2009), present the trend of logistics focusing in outsourcing of logistics activities and the growth of Malaysian 3PL. Referring to Figure 1, the regional standing of Malaysia with selected Asian countries, the bench marking depicts that Malaysia's overall performance comparing to Singapore still has a wide gaps.

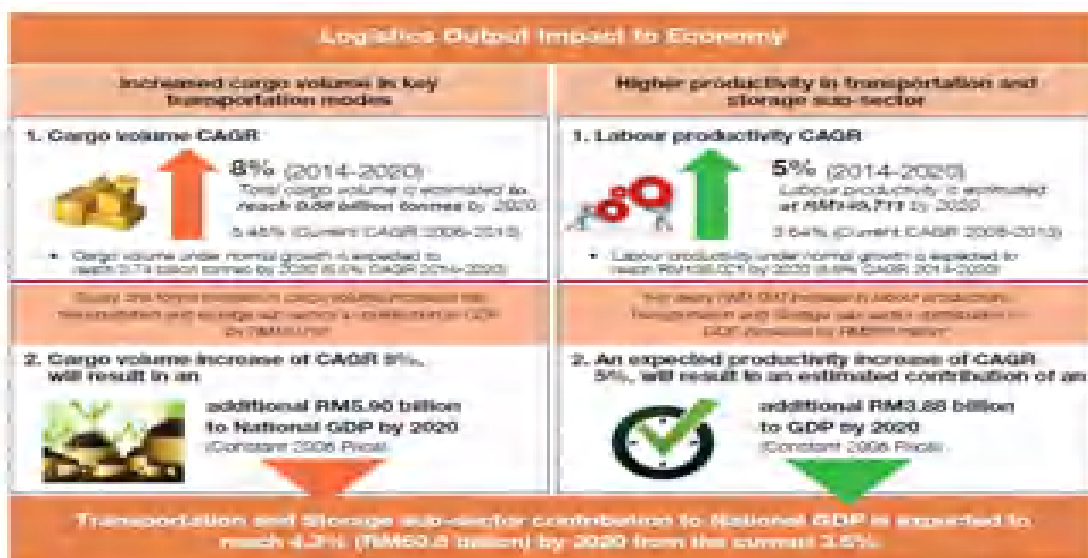
Figure 1: Regional Standing of Malaysia with Selected Asian Countries

Country	Malaysia	Indonesia	Thailand	Singapore	Hong Kong	Compared to the best-in-class*
Air						
Air Transport (billion tonne-km)	1,392.9	988.1	2,644.4	6,512.2	3,439.9	30%
Air Freight Vol. (million tonnes)	0.5	1.6	1.8	1.8	3.1	50%
Sea						
Container Traffic (million tonnes)	20.8	75.1	7.9	22.8	22.4	64%
Sea Freight Vol. (billion tonnes)	632.2	1,470.9	688.9	989.9	216.1	34%
Land						
Trade Costs (US\$ per container)						
Import	470 (450)	980	780	440 (480)	340	1.03x
Export	450	910	680	480	190	
Warehouse						
Building & warehouse						
Procedure (no)	10	17	7	10	8	2.60x
Time (days)	7.4	21.1	1.3	20	16	2.85x
Trade Facilitation						
Time Requirement (days)						
Import	8	25	13	4	8	1.9x
Export	7.1	17	14	8	6	

Source: Mustafa & Potter (2009).

In this paper, logistics industry will be the focal, and to identify its challenges and readiness of Malaysian 3PL service providers towards the Supply Chain 4.0. In 2017, the 21st Annual Third-Party Logistics Study on current state of the 3PL market shows that shippers and their third-party logistics providers continue to diverge from primarily transactional relationships and toward meaningful partnerships. The study showed that 75% of those who use logistics services (shippers) and 93% of 3PL providers said the use of 3PL services has contributed to overall logistics cost reductions, and 86% of shippers and 98% of 3PL providers said the use of 3PLs has contributed to improved customer service. A study done on 24 Malaysian public listed companies reviewed that 68% of these companies used 3PLs and 45% of those 3PL providers had facilitated the service for more than 5 years. The study indicated that ninety four percent of the respondents gained from the use of 3PLs that attained cost savings (28%), time saving (17%) and customer service (7%).

Figure 2: shows the transportation and storage sub-sector output that contribute to the Malaysian GDP and is expected to reach RM50.8 billion by 2020.



Source: Department of Statistic Malaysia (2016)

The volatility in global markets and global economies, had direct impacts on demand for 3PLs providers and supply chain services. Figure 3 provides the snapshot of Malaysian Top 3PLs providers' cumulative net profit and losses.

Figure 3: Malaysian Public Listed 3PL Players

Snapshot of logistics companies					
	P/E (x)	Last price as of March 24 at 12pm (RM)	Market cap (RM mil)	Market cap growth from March 17 (RM mil)	Cumulative net profit/loss (RM mil)*
Century Logistics	18.92	0.995	387.9	5.8	20.17
Complete Logistics	10.09	1.12	138.6	7.37	(9M) 10.28
Freight Management	11.61	1.35	251.3	16.81	(6M) 10.32
GD Express	72.36	1.99	2,774.2	181.17	(6M) 17.31
Integrated Logistics	22.95	0.87	150.3	10.41	5.83
Nationwide Express	-	0.655	78.8	10.89	(9M) -9.49
Pos Malaysia	32.54	4.62	3,616.4	46.83	(9M) 73.42
Tasco	13.74	2.17	434	34	(9M) 23.15
Tiong Nam Logistics	8.69	1.68	702.8	29.34	(9M) 43.75
Transocean	57.82	0.85	34.8	-2.1	0.847
Xin Hwa	12.36	1.00	216	-4.32	10.86

Source: Bloomberg, Bursa Saham (2017)

LITERATURE REVIEW

Definition of Supply Chain Management (SCM)

The origin of the name seems a mystery and exactly what is SCM as compared with physical distribution and logistics is being debated. Some are saying that it is a fulfillment of the activity integration promise implied in early definitions while others think it is a new and bold concept. The claim is that SCM is not new and they recognize that the logistics pioneers had many of the ideas promoted by current supply chain enthusiasts. Each removal of goods from one business unit to the next requires the coordination of supply and demand between many different institutions in the channel, from the grower of wheat seed to the ultimate consumer of flour. Specifically, they refer to the entire supply channel from upstream to downstream and suggest that coordination is needed throughout the channel. These are ideas that form the basis for SCM as practiced today (Ballou, 2007). The Council of SCM Professionals (CSCMP), which is the premier organization of supply chain practitioners, researchers, and academics, has defined SCM as:

Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies.

Put another perspective, SCM can be viewed as having three dimensions. These are activity and process administration, inter-functional coordination and inter-organizational coordination. Activity and process administration is much of what logistics has been doing. That is, managing activities such as order processing, materials and inventories management, transportation and warehousing are within the responsibility of the logistics function. Inter-functional coordination refers to working together and developing good relationships with other departments or functional areas in the same firm such as with operations marketing and finance. Inter-organizational coordination has to do with collaborating and coordinating materials flow among the channel members, i.e. those firms that are not owned or operated by the immediate firm. Therefore, SCM is viewed as managing materials flow across multiple enterprises whereas logistics is seen as managing the activities just within the firm. This is a deviation from the view that the early visionaries had for logistics. A contemporary view of SCM is to think of it as managing a set of processes, where a process is a group of activities relevant to achieving a defined objective, such as filling orders.

Based on collaboration with the industry leaders, Lambert, Cooper and Pagh (1998) defined eight key sub-processes for SCM. These are:

- (1) Customer relationship management (CRM)
- (2) Customer service
- (3) Demand management

- (4) Order fulfillment
- (5) Manufacturing management
- (6) Supplier relationship management (SRM)
- (7) Product development and commercialization, and
- (8) Returns management or Reverse logistics

Taken together, they represent SCM in its entirety. These processes are to be coordinated through collaboration and relationship management throughout the various echelons of the supply channel, from initial suppliers to the end consumers. Ballou (2007) highlighted that collaboration among supply chain members is at the heart of SCM and will be the key to its future success. The essence of channel collaboration has several identifiable features. First, it is about managing a supply channel of vertically-related but legally separate firms. Second, it represents an untapped opportunity because channel members often work at cross purposes. Third, cooperation and trust are the keys to realizing the benefits from collaboration. Fourth, the benefits may “pool” with one or a few channel members, thus creating the need for sharing the benefits. Fifth, redistributing the benefits requires: metrics to identify and measure potential benefits; information sharing among the members to build trust; and sharing methods for a fair benefits distribution.

Supply Chain 4.0 (SC 4.0)

SCM has always embraced new technologies that promised to transform the way supply chains operate. Containers were introduced which could be used by rail, truck and ship to efficiently move goods around the globe. Computer supported planning software improved production scheduling beyond imagination and RFID technology promised to revolutionize processes by identifying products without a direct line of sight. The accelerating digitization of supply chain in recent years has triggered many new technologies that are now becoming relevant for further investigation. All stages in the supply chain are potentially affected. Planning can benefit from the real time availability of new data and the automation of processes like demand planning or order management; production can take advantage of additive manufacturing; warehouses are seeing performance improvements due to investments in picking automation and self-driving and platooning fleets of trucks are knocking on transportation’s door. These massive digital innovations that will transform the entire supply chain is known as Supply Chain 4.0 or SC 4.0. However, to justify investments, any SC 4.0 technology needs to provide tangible benefits that either result in cost reductions, increase revenues or, ideally, both. Hoberg and Alicke (2017) stated that the mechanisms for achieving these benefits differ. It could be differentiated with four key value opportunities as stated below;

First value opportunity is the process improvement with increased efficiency is the most frequent driver for introducing new technologies. Automated Guided Vehicle (AGV) based goods to person solutions such as Amazon’s Kiva robots enable the reduction of the cost of labor while the automation of planning and machine learning enables firms to significantly improve demand forecasts, thus minimizing overstocks and obsolescence problems. A second value opportunity is the increased flexibility to react immediately to competitor promotions or to new sales opportunities. Joint planning in the Cloud platform reduces lead times and 3D printing of slow moving or obsolete parts enables firms to react quickly to new demands. A third value opportunity lies in the exploitation of data that is now available as never before. Data on traffic, weather or potential new pickup locations allows firms to improve vehicle routing, minimizing overtime and fuel consumption. So far, untapped data sources enable firms to gather information about the use of their products. Rolls Royce, for example, uses data from the turbines on its jet engines to optimize maintenance schedules and fine tune the deployment of spare parts across the globe. Business models like “power by the hour” are enabled by more granular and accurate data.

However, a fourth value opportunity is often overlooked. SC 4.0 technologies can dramatically boost the customer experience. Automation, analytics, smart sensors and new data sources enable firms to make the customer experience as easy and convenient as never before. Products can be customized in ultra-short lead times, customers can minimize their effort for buying consumables and delivery issues are addressed proactively when a deviation is tracked. In the end game, a customer could order his personalized coffee capsules with the simple push of a button on the coffee machine in the morning and see the delivery person at the

door the moment he arrives home in the evening, eager for a fresh cup of coffee. To enable this level of customer experience, supply chain managers have to understand the opportunities that new technologies offer and then create their vision of the customer experience.

Definition of 3rd Party Logistics (3PL)

Third Party Logistics (3PL) involves the use of external companies to perform logistics functions that have traditionally been performed within an organization. The functions performed by the third party can encompass the entire logistics process or selected activities within that process (Lieb, Millen and Wassenhove, 1993). According to this definition, third party logistics includes any form of externalization of logistics activities previously performed "in-house". For example, a company with its own transport facilities decides to employ external transporters, this would, according to the above definition, be an example of third party logistics. The same applies to a company which closes its warehouse and instead uses an external warehouse.

Berglund (2000) in his doctoral dissertation describes 3PL as an external provider who manages, controls and delivers logistics activities on behalf of a shipper. The relationship can be formal or informal and should be mutually beneficial and a continuous one. The activities performed can include all or a part of the logistics activities but at least should include the management and execution of transport and warehousing activities. A similar definition was offered by Coyle, Bardi and Langley (2003) i.e. 'Essentially, a third party logistics firm may be defined as an external supplier that performs all or part of a company's logistics functions'. However, they also pointed out that a 'true' 3PL providers offer an integrated multiple logistics activities with solutions to logistics or supply chain problems. Marco, Tieman (2015) summarized the basic characteristics of five different types of logistics service providers as per Table 1 below.

Table 1: Basic characteristics of five different types of logistics service providers

Types	Characteristics
1PL	The first party logistics (1PL) is the shipper, a vendor or supplier of goods, who does not outsource its logistics activities to third parties. All logistics activities are performed in-house and under own control. Some examples can be found in the oil & gas and army sector.
2PL	Second party logistics (2PL) the shipper hires a transporter or a warehouse operator (the 2PL) for clearly defined operational activities. The transporter or warehouse operator is a sub-contractor and works under direct control of the shipper. Examples in Malaysia can be found in the cement distribution and chemical and industrial supply chains. The shipper can also outsource a complete package of activities to a third party logistics (3PL) service provider.
3PL	The third party logistics (3PL) organizes all the activities and works with selected subcontractors, transporters and warehouse operators. The 3PL manages the relationship with the customer of the shipper and becomes a link in the supply chain.
4PL	The fourth party logistics (4PL) where the logistics service provider not only organizes, but also controls the logistics activities. The 4PL controls the entire supply chain, both sourcing as well as distribution. In the most pure form, a 4PL is independent; non-asset based and subcontracts the physical transportation and warehousing activities to the best logistics service provider for the job. A 4PL is involved in the interface management and orchestrates a complete logistics concept. They have been used in consumer electronics and automotive supply chains.
5PL	The fifth party logistics (5PL) manages networks of supply chains with an extensive e-business focus across all logistic operations. The 5PL model supports a circular economy, an industrial economy that is based on zero waste and its energy, including logistics, from renewable resources.

Source: Marco, Tieman (2015)

Services handled by 3PL

Nowadays, managers in the manufacturing industries are interested to increasingly outsource logistics functions to third-party logistics (3PL) service providers in order to reduce

supply chain complexities, curtail costs and overheads. The important 3PL services utilized by manufacturing companies as perceived by the previous work were inbound transportation, outbound transportation, warehousing, in-plant material handling, freight forwarding, scrap disposal, fleet management, demand forecasting, inventory management, order entry and processing, customs clearance, product labeling, packaging, after sales support, procurement, distribution and channeling. The various activities involved in the different logistics functions given by Dhayanidhi, Azad and Narashiman (2011) are mentioned in the Table 2 below;

Table 2: Logistics Functions and 3PL Activities

Logistics Functions	Activities
Transportation	Shipping, forwarding, deconsolidation, contract delivery, freight bill payment/audit, cross-docking, household goods relocation, load tendering, brokering.
Warehousing	Storage, receiving, return goods, kitting.
Inventory management	Forecasting, location analysis, network consulting, slotting/layout design.
Order processing	Order entry/fulfillment, consignee management, call center.
Information systems	EDI, routing/scheduling, bar-coding, RFID, web-based connectivity, tracking and tracing.
Value added activities	Packaging, marking/labeling, billing, call center activities, customization.

Source: Dhayanidhi, Azad and Narashiman (2011)

Hertz and Alfredsson (2003) categorized 3PL according to the different types and level of services offered, namely;

- i) The *Standard 3PL Provider* offers the standardized warehousing, distribution, pick and pack;
- ii) The *Service Developer* provides focus on creating economies of scales and scope. They provide advanced value-added services, i.e. cross docking, specialty packaging etc. to the customers.
- iii) The *Customer Adapter* takes over customers' existing total logistics and warehousing activities, improves the efficiency in handling but doesn't develop the service further. They also relies on a few very close customers; and
- iv) The *Customer Developer* often takes over its customers' whole logistics operation and develop advanced customer solutions for each customer. They share the risk and rewards of the logistics management with the customer.

An analysis on the level of outsourcing of logistics services by manufacturing organizations in Malaysia is reported by Sohail (2006). Respondents indicated that 31% of organizations in Malaysia employed contract logistic provider exclusively for domestic operations. 2.4% of the respondents indicated that the organizations use 3PL services for international operations. In Malaysia, the most commonly used services are fleet management, shipment consolidation, freight payment, carrier selection and warehouse management.

CHALLENGES TO SUPPLY CHAIN 4.0 FACED BY 3PL FIRMS

Majority of 3PL providers facing issues in Malaysia are small and medium sizes operators, servicing the local area around major ports in Malaysia such as Port Klang, Port of Tanjung Pelepas and Pasir Gudang, Penang Port, Kuantan Port and Bintulu Port. Majority of the big local 3PL providers are subcontracting to the smaller players some part of the logistics services e.g. conventional transportation, warehousing service and equipment. The challenges to Supply Chain 4.0 faced by 3PL firms are examined into 5 categories as below;

Limited capabilities of 3PL service providers

Currently, the majority of local 3PL service providers offer only basic services, such as inbound and outbound transportation, warehouse storage and freight forwarding. In this rapid changing environment, 3PL need to provide integrated services such as cross-docking, mixing,

and other value added services and on-site services. There were niche markets such as oil and gas, healthcare and high end electrical and electronics industries that need specialized logistics services. However the low number of providers with such plans raises concerns about the readiness of Malaysian 3PL to compete domestically and internationally.

Skilled human capital shortages

In the supply chain 4.0, particularly in logistics industry, the transformation from a modal transport sector into an integrated transport and logistics services sector has widened the skills gap in the industry. The industry lacks expertise in the design of supply chain network, integrated warehouse management and information technology application which is indispensable. The 3PL providers is also marked by the shortage of qualified goods vehicle drivers. As well, the long working hours with erratic road hazards, unattractive remuneration in relation to long working hours and the perceptions on haulage drivers as a low rank or taboo profession have been the obstacles. Malaysia is now lack of 1,000 skillful container truck drivers to accommodate the average increase of 50-60 percent of TEUs (Nadzri, 2017)

Investment Implication

In technology, Malaysia is ranked 60th out of 144 economies in the category of Technological Readiness in the Global Competitiveness Index Report 2014-2015, highlighting the country's low technology adoption rate (Malaysia Logistics Directory, 2016/2017). 3PL service providers state that their adoption of advanced technology is minimal due to limited expertise and high upgrading costs. Tiong Nam spends more than 100 million of Ringgit investing in its technologically advanced five-storey warehouse with one million square feet and facilities that allow for trucks to be parked on top of the building. (Victor Ong, Malaysia Logistics Directory Report, 2016/2017)

Technology Immaturity

The 3PL companies like Pos Malaysia Berhad was investing RM 60 million in its new e-commerce distribution center that handle 34 million items in year 2018 and 64 million items in 2019 and could further invest in robotics that can drive around its facilities gathering items for orders. (The Star, May 2017) However, it needs humans for the last step to pick up items of various shapes, then packing the right ones into the correct boxes for shipping. It's a classic example of an activity that's simple, almost mindless, for humans, but still unattainable for robots. Another example is Otto driverless truck, the world's first autonomous truck delivery, delivering 50,000 cans of Budweiser beer from Fort Collins to Colorado Springs. Its technology currently only works on the highway while maintaining safe following distance and changes lane when necessary. Its technology works only on the highway, where it doesn't have to deal with tricky variables like cross over pedestrians, four-way stops, or kids on bicycles. It maintains a safe following distance, and changes lanes only when absolutely necessary. (Alex, 2016)

Institutional Challenges

In Malaysia, the 3PLs providers facing a stiff institutional challenges, currently there is still an absence of a champion for the logistics industry. Although the Ministry of Transport (MOT) is the lead agency which oversees land transport, aviation and maritime subsectors, MOT has minimal role in planning, developing and overseeing these subsectors. In addition, the absence of lead agencies which promote other logistics activities such as container depot, freight forwarding and warehousing further hinders the orderly development of the logistics sector. The 3PL providers has to charge the shippers on higher haulage costs due to that regulation has not changed to align with the advances in haulage technology . For example, it is claimed that new prime-movers are able to haul heavier loads but the current licensing regime does not allow carriage for heavier loads. Shippers are also concerned with the many old vehicles being used in the haulage industry.

READINESS TOWARDS SUPPLY CHAIN 4.0

It is important for the Malaysian 3PL firms to make themselves equipped with necessary resources to faces stiff competition in today's global business. The 3PL firms must get ready towards the evolving of supply chain. Alicke, Rexhausen and Seyfert (2017) pointed out that the

digitization of the supply chain enables firms to address the new requirements of customers, the challenges on the supply side and the remaining expectations in efficiency improvement. Digitization leads to a Supply Chain 4.0, which becomes;

Faster

New approaches to product distribution can reduce the delivery time of fast runners to few hours. How this could be carried out? Through an advanced forecasting approaches, such as predictive analytics of both, internal data, for e.g., demand and external data, for e.g., market trends, weather, school vacation, construction indices, when combined with machine-status data for spare-parts demand, provide a much more precise forecast of customer demand. What once were monthly forecasts instead now become weekly—and, for the very fastest-moving products, now become daily. In the future, we will even see “predictive shipping,” for which Amazon holds a patent: products are shipped before the customer places an order. The customer order is later matched with a shipment that is already in the logistics system, and the shipment is then re-routed to the exact customer destination. 3PL must have the ability to see, i.e. a full visibility based on real time information and understand the activities and events of multiple players from the origin until the shipment arrives at the destination.

More flexible

Real-time planning allows companies to respond flexibly to changes in demand or supply, minimizing planning cycles and frozen periods. Planning becomes a continuous process that is able to react dynamically to changing requirements or constraints (e.g., real-time production capacity feedback from machines). Even after products are sent, agile delivery processes let customers re-route shipments to the most convenient destination. New business models increase the supply-chain organization’s flexibility. Rather than maintaining resources and capabilities in-house, companies can buy individual supply-chain functions as a service on a by-usage basis. Service providers’ greater specialization creates economies of scale and scope, increasing the potential for attractive outsourcing opportunities. An “Uberization” of transport—crowd sourced, flexible transport capacity—will significantly increase agility in distribution networks as well. Manufacturers may therefore see new direct-to-consumer opportunities in what once was a playing field only for retailers.

More granular

With customers looking for more and more individualization in the products they buy, companies must manage demand at a much more granular level, through techniques such as micro segmentation, mass customization and more-sophisticated scheduling practices. Innovative distribution concepts, including drone delivery, will allow companies to manage the last mile more efficiently for single-piece and high-value, dense packages—fulfilling customers’ customization needs while delivering their orders even faster than is possible today with mass-market, standard products.

More accurate

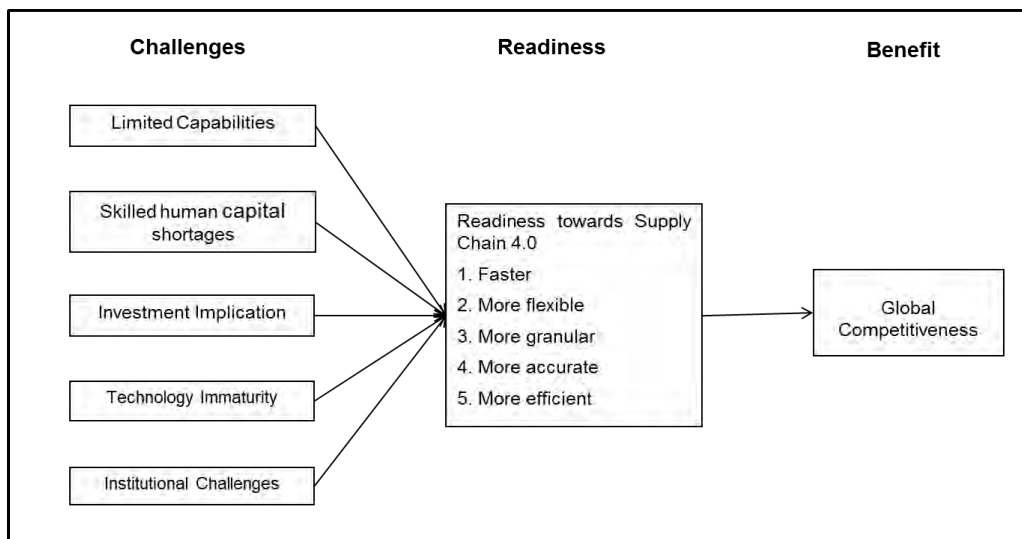
Next-generation performance management systems provide real-time, end-to-end transparency throughout the supply chain. The span of information reaches from synthesized top-level key performance indicators, such as overall service level, to very granular process data, such as the exact position of trucks in the network. The integration of that data from suppliers, service providers, and others in a “supply chain cloud” ensures that all stakeholders in the supply chain steer and decide based on the same facts. In digital performance-management systems, clean-sheet models for warehousing, transport, or inventory set targets automatically. To keep performance-management aspirations in focus even if supply-chain disruptions occur, the systems will automatically adjust targets that can no longer be achieved to more realistic aspiration levels. We will see performance-management systems that “learn” to automatically identify risks or exceptions, and that change supply-chain variables to mitigate harm. These capabilities enable the automatic performance-management control tower to handle a broad spectrum of exceptions without human involvement, engaging human planners only for disruptive, unplanned events. The resulting continuous-improvement cycle will push the supply chains closer to its efficient frontier.

More efficient

The automation of both physical tasks and planning boosts supply-chain efficiency. Digital supply chain management isn't all about the Internet of Thing (IoT) and visibility into goods in transit—it will also involve mobile robotics at the DC level to reduce labor requirements and help DCs keep pace with e-commerce growth. Robots handle the material (pallets or boxes as well as single pieces), completely automatically the warehouse process from receiving/unloading, to putting away, to picking, packing, and shipping. Mobile robotics, are more flexible than traditional automated materials handling systems that require extensive fixed infrastructure. Mobile robotics/smart AGVs that can carry or pull inventory to workstations—or function as smart, driverless lift trucks—would alleviate the labor needs at the DC level, and allow for DC automation that's quicker to install and reconfigure. Autonomous trucks transport the products within the network. To optimize truck utilization and increase transport flexibility, companies share capacity through cross-company transport optimization. The network setup itself is continuously optimized to ensure an optimal fit to business requirements. To create an ideal workload in the supply chain, the system leverages the high degree of transparency and dynamic planning approaches to drive advanced demand-shaping activities such as special offers for delivery time slots with low truck utilization.

CONCEPTUAL FRAMEWORK

Figure 4: Illustrated below the proposed conceptual framework of the challenges and readiness towards Supply Chain 4.0 among Malaysian 3rd. Party Logistics (3PL) and the benefit gained.



Source: Developed for the study.

FINDING AND DISCUSSION

This paper has identified five major challenges towards Supply Chain 4.0 among the Malaysian 3PL firms that include limited capabilities, skilled human capital shortages, investment implication, technology immaturity and institutional challenges. For example, the problem on lack of skilled manpower in the logistics service sector in Malaysia have been one of the constraint in achieving operational efficiency. Malaysian 3PL firms do not have appropriate skills in introducing new services and limited investment capability has restricted them from acquiring an advanced technology and bringing innovative solutions for the high end customers. Malaysian 3PL firms must equipped themselves with necessary resources and capabilities in order to cope and face the evolution of Supply Chain 4.0 that demanded them to be faster, more flexible, more granular, more accurate and more efficient. Industrial Malaysian Plan (IMP) 3 that runs from 2006 to 2020 with the aim to achieve long-term global competitiveness among the manufacturing and services sectors could be used as the transformation and innovation platform. Only if Malaysian 3PL firms are fully ready to face this new development in the supply

chain, then they are able to drive towards global competitiveness in the supply chain and logistics businesses.

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Supply chains become increasingly more multifaceted, one may never be able to take risk completely off the table. 3PLs like Freight forwarders are the key solution for logistics managers to avoid supply chain disruptions in the ever changing freight market. Future research could include a comprehensive empirical collection of representative samples of 3PLs in whole Malaysia. In addition, future research could also evaluate IT uses by fourth party logistics providers (4PL), which are generally asset free but information intensive. As more logistics activities are outsourced to logistics companies, the services offered by 3PL providers are extended from traditional to advanced services, such as procurement and financial and accounting services. Therefore, it is expected that the numbers of 4PL providers will increase rapidly and further research in this direction can supply the logistics providers with a wider perspective on the level of IT use in Malaysia. Future research opportunities exist for exploring collaboration relationships between 3PL, 4PL and 5PL providers. Supply chain collaboration is among the future supply chain 4.0 that demands for Malaysian 3PL to explore. The future study should collaborate between the 3PL providers in Asean region particularly in Singapore and Thailand whereby the local 3PLs such as Tiong Nam, Freight Management and Century Logistics had the cross-border services with these countries.

REFERENCES

- Agility Emerging Markets Logistics Index (2016). [http://www.agility.com/EN/About-Us/Documents/Agility Emerging Markets Logistics Index 2016.pdf](http://www.agility.com/EN/About-Us/Documents/Agility_Emerging_Markets_Logistics_Index_2016.pdf) (Accessed on the 12 August, 2017)
- Alex Davies (25th October, 2016). <https://www.wired.com/2016/10/ubers-self-driving-truck-makes-first-delivery-50000-beers/> (Accessed on the 13 August, 2017)
- Alicke, K., Rexhausen, D., & Seyfert, A. (2017). <http://www.mckinsey.com/industries/consumer-packagedgoods/ourinsights/supplychain40inconsumergoods> (Access on the 15 August, 2017).
- Ballou, R. H. (2007). The evolution and future of logistics and supply chain management. *European Business Review* Vol. 19 No. 4, 2007 pp. 332-348
- Dhayanidhi, K., Azad, A., & Narashiman, K. (2011). The use of third party logistics services – a literature review. *International Journal of Operations System and Human Resource Management* Vol. 1, Nos. 1- 2, January-December 2011, pp. 29–43;
- Hertz, S., & Alfredsson, M. (2003). Strategic development of third party logistics providers. *Industrial Marketing Management*, 32, 139–149.
- Hoberg, K. and Alicke, K. (2017). How supply chain 4.0 creates game changing customer experience. <http://digiplus.runwise.co/supplychain40createsgamechangingcustomerexperience> (Accessed on the 27 July, 2017).
- John, L. (2016) 2017 Annual Third Party Logistics Study. The State of Logistics Outsourcing. *Capgemini*. 1-64.
- Lambert, D.M., Cooper, M.C. and Pagh, J.D. (1998). Supply chain management: implementation and research opportunities. *The International Journal of Logistics Management*, Vol. 9 No. 2, pp. 1-19.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Logistics and Trade Facilitation Master plan 2015-2020 (March 2015). <http://www.mot.gov.my/SiteCollectionDocuments/logistik/Logistics%20and%20Trade%20Facilitation%20Masterplan%20Performance%20Report%202016.pdf> (Access on the 13 August, 2017)
- Marco Tieman (2015) Realignment Logistics Model, *ProQuest*. <http://ezproxy.usm.my:2941/docview/1676167740?accountid=14645>(Accessed 8.8.2016)
- Mustafa, N. H., & Potter. A. (2009). Healthcare supply chain management in Malaysia: a case study. *Supply Chain Management: An International Journal* 14(3), 234-243.
- Nazri, K. (2017) <http://www.thestar.com.my/news/nation/2017/05/08/jpj-more-truck-drivers-needed-dg-job-pays-up-to-rm9000-a-month-but-sees-few-takers/> (Accessed on the 5 May, 2017)
- Salina, U., (2004). The Development of Third Party Logistics in Malaysia: An Overview. Malaysia University of Science and Technology. 1-116.
- Sohail, M.S. (2006). Benchmarking usage of third party logistics: a comparison of practices between firms in Malaysia and Saudi Arabia", *World Review of Intermodal Transportation Research*, 1(1), 2006, pp. 69-81.
- Sohail, M. S., & Sohal, A. S. (2003). The Use of Third Party Logistics Services: A Malaysian Perspective, *Technovation: An International Journal*, 23(5), 401-408, 2003. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.2650360>
- The evolution of digital supply chain (2017). <http://www.fdlgroup.gr/theevolutionofdigitalsupplychain/?lang=en> (Access on the 27 July, 2017).
- The Star Newspaper (2017) Pos Malaysia, Lazada Developing E-commerce Distribution Center. STAR Biz News, FRIDAY, 5 MAY 2017. p.4 (Accessed on the 9 May, 2017)
- Xu, Y., (2014). Status of third party logistics: a comprehensive review. *Journal of Logistics Management*, 3(1), 17-20 DOI: 10.5923/j.logistics.20140301.03

The Factors Influencing the Tertiary Student Satisfaction: The Case Study of Universiti Tunku Abdul Rahman

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Abstract

This study intends to investigate the influential factors that influenced students' satisfaction on the demand for higher education service. Since Malaysian government easing the policy for the establishment of private higher education institutions, the number of private universities and foreign branches had rises sharply to offer higher education services to Malaysian students. Hence, it is important for the university authorities to understand the factors that influence the satisfaction of students to remain the competitiveness in the higher education industrial. A total of 550 self-administrated survey forms were distributed in Universiti Tunku Abdul Rahman Kampar campus and Sungai Long campus, however, only 500 valid to be analyzed. Logistic regression is employed to identify the influential factors that affecting the students' satisfaction. The finding shows that service quality that provided by the university to students, the study environment and the reputation achieved by the university significantly influence the students' satisfaction. Hence, improving the service quality provided to students, preparing a comfortable study environment to students and enhancing the university reputation is important to be carried out by the related authorities.

Keywords: satisfaction, reputation, environment, service quality, private universities.

INTRODUCTION

According to Kotler and Clarke (1988) satisfaction is a state felt by a person who has experienced performance or an outcome that fulfill his or her expectation. Satisfaction is a function of relative level of expectations and it perceives performance. Satisfaction also perceived as the intentional performance, which results in one's contentment (Malik et al., 2010). According to Athiyaman (2007), satisfaction helps consumer to make decision. Furthermore, positive satisfaction indicates that consumer willing to continue enjoying the products or services whereas negative satisfaction makes consumer to stop consuming those products or services. Therefore, consumer tends to purchase more goods and services only if he/she is highly satisfied. Higher satisfaction on performance of fresh graduates is highly demanded in labor market. Based on El-Hilali et al. (2015), students' satisfaction and their achievement could influence the demand for education. The researchers also mentioned that student believes higher education level will bring more achievements or developments to them. Students' satisfaction toward higher education will increase the demand for education programs.

The number of Malaysian higher education institutions has grown from one (University Malaya) since the independence in 1957 to 20 public universities and 28 private universities today (Ministry of Higher Education, 2017). The numbers of private universities are expecting to grow continuously since Malaysian government is keen in attracting more foreign university branches to establish in Malaysia and also upgrading colleges to university colleges as well as university colleges to university status. The sharp growth of Malaysian private higher education institutions has begun since private higher education institutions act 1996 is enacted. Until today, the Malaysian higher education industry has a tough competition among the private institutions and the public institutions for the postgraduate "customers".

University Tunku Abdul Rahman (UTAR) is one of the Malaysian private universities that was established in year 2002. UTAR is a private and non-profit institution¹ that establish with the help of Malaysian Chinese Association, Malaysian Chinese community and Malaysian government that carry the objective of offering tertiary education services for all Malaysian (History of UTAR, n.d.). UTAR has not been excluded from facing competition from other private higher education institutions. Moreover, Malaysian government approved the request to upgrade Tunku Abdul Rahman College (KTAR) to Tunku Abdul Rahman University College (TARUC) in 2013 and TARUC is expecting to become a full-fledged university soon. This possess a major competition to UTAR since both of well-known non-profit private higher education institutions are competing for the similar group of community in Malaysia. According to Varghese (2001), depreciation of currency value will affect the capacity to pursue education abroad. The researcher stated that there are possibilities for students to choose to enroll in local universities, which offered overseas degree programmes rather than enrolling in foreign universities due to currency depreciation. The parents tend to be more selective in choosing suitable educational institution for their children due to the depreciation of the value of ringgit against USD (Khuo, Teoh, Chow, Beh & Chong, 2015). However, based on the statistics provided by Department of Admission and Credit Evaluation, UTAR, the number of student enrollment is quite consistent at 24,000 students since year 2012 to 2016. This show that UTAR has facing a tight competition post by those newly upgraded private university college and full-university. Therefore, it is important for the UTAR authorities to understand the factors that influence the satisfaction of students to remain the competitiveness in the higher education industrial. This paper is organized into six sections. Introduction in section one followed by a discussion of literature review in second section. Section three discusses the methodology while findings of this study presented in section four. Section five will be the discussion of this study and the final section concludes the paper by providing some policy recommendations.

LITERATURE REVIEW

Relationship between Demand and Satisfaction

Belasha, Popovb, Ryzhova, Ryaskova, Shaposhnikova and Shestopalova (2015) concluded that satisfaction for university education and training graduates influence the demand in labor market. According to Naidua and Derani (2015), the satisfaction for public or private university will influence the demand of student. Poturak (2014) concluded that private university should improve in service quality in order to increase student satisfaction. According Butt and Rehman (2010), students' satisfaction can be influenced by teaching expertise. Better teaching expertise for student will increase the student satisfaction, so this will increase the student demand for education. Students choose higher education institution by depending on the value it can offers them and by comparing the costs involved with the future benefits (Avram, 2012). Total utility is the total satisfaction obtained from all units of a particular commodity consumed over a period of time. Summing up total utility is the amount of satisfaction (utility) obtained from consuming a particular quantity of goods or services within a given time period. It is the sum of marginal utilities of each successive unit of consumption.

$$\text{Total Utility, } TU_x = \sum MU_x$$

The Relationship between Students' Satisfaction and Service Quality

According to Usman (2010), by providing excellent services, academics or facilities go a long way to meet their satisfaction towards the institution. It is being said that lecturers and tutors not only concern about student academic aspects, but also highlight positive attitude to students, providing meaningful feedbacks and motivational advices to students (Ahmed & Masud, 2014). Parasuraman, Zeithmal, and Berry (1994) agreed that service quality is main factor to affect students' satisfaction. They defined service quality as a form of attitude, a long run overall evaluation from a higher education institution. They also assumed that reliability is related to the outcome of service, so those high education institutions should improve their

¹ The ground rule of the non-profit organization has to be established is that none of the profit gained through the organizations are to be distributed to its members, employees but to be used for the purpose of the organizations such as employees' basic salaries, bill payments and funds for fund raising events (McNamara, 2008).

tangibles, assurance, responsiveness, and empathy in order to improve student satisfaction. Besides that, according to Ibrahim, Rahman and Yasin (2012), students play the most important role in a higher education institution, whether private or public education institution because satisfaction of students could determine education services quality provided by a higher education institution. The students who are highly satisfied with the higher education institutions would attract more students by recommending those higher education institutions to their friends (Alves & Raposo, 2010).

The Relationship between Students' Satisfaction and Facility Quality

Tangibles are part of the 5 dimensions in service qualities and it focuses on physical assets. In the case of UTAR, a quality higher education institution should possess appropriate infrastructures and facilities such as sport facilities, adequate classrooms, computer laboratories (Ibrahim, Rahman & Yasin 2012). Library, computer facilities (Farahmandian, 2013) and security management (Kaur & Bhalla, 2015) stated that these plays a big part in students' satisfaction. Mansor, Hasanordin, Rashid & Rashid (2012) emphasized that improving classrooms with better audio and visual system receive positive response from the students as it will contribute to more comfortable environment and increase the suitability for learning. Butt and Rehman (2010) stated that adequate IT and classroom facilities are the important aspects in fulfilling students' satisfaction and suggested that facilities should be upgraded to enhance students' sense of satisfaction towards the institution. According to Muthamia (2016), physical facilities such as furnishing, lighting and audio systems in lecture halls and tutorial classrooms, cleanliness of the cafeteria, convenience of transports to campus are all important in the eyes of the students when it comes to determining the quality of the institution.

The Relationship between Students' Satisfaction and Cost

Value creation occurs when the students receive benefits from the university quality service, reputation and reasonable tuition fees (Samuel & Devie, 2015). Furthermore, perceived value measured by the rate of their tuition fees paid reflect to business school's capacity offer sufficient services to students and convince them that they are receiving a quality services in exchange (Hasan, Ilias, Rahman & Razak, 2008). Moreover, El-Hilali, Al-Jaber, and Hussein (2014) consider tuition fees as an influential factor of students' satisfaction due to majority of the private business institutions are profit oriented. It also affects the students' parents' perception of quality in relation to the money paid. The price and quality of service received by the students will have significant influence towards students' satisfaction (Sumaedi, 2011).

Relationship between Student's Satisfaction and Environment

Mariani, Rancatib and Gordini (2015) stated that better university environment could improve the academic performance of students which will lead to an increase in students' satisfaction. Moreover, Kaur and Bhalla (2015) stated that learning environment of campus will influence the behaviour and attitude of students. A better behaviour or attitude of students will lead to an improvement in students' learning skill and overall performance. Finding from Hasan, Ilias, Rahman and Razak (2008) shows that campus environment will influence the teachers' teaching quality. In addition, Adom (2015) stated that a better learning environment provided by education institution will attract more students to choose to study in that university as better learning environment will improve students' satisfaction.

The Relationship between Students' Satisfaction and Reputation

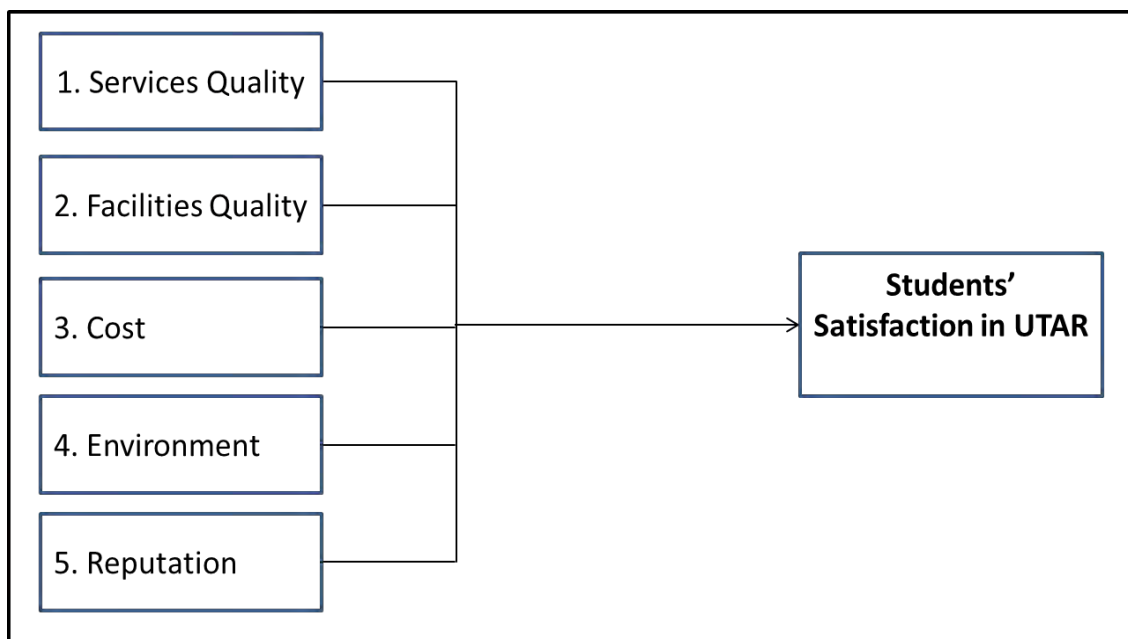
Elements such as academic achievement, research and development, contentment of university ranking locally and globally, and university philanthropy are reasons why students satisfy with their current university reputation. Helgesen and Nettet (2007) said that there was a spillover effect regarding university reputation with education courses' reputation. According to Landrum, Turrisi and Harless (1998), they found a correlation between university reputations with possibility of student admission to the particular university. Next, Black & Smith (2004) advocated that university reputation will affect the employability of the students.

METHODOLOGY

The researchers use questionnaires to carry out the survey. Firstly, researchers identify five common explanatory variables that are mainly used by other researchers in their

researches. Furthermore, researchers construct 31 questions that are related to the explanatory variables and 4 questions for dependent variable. Primary data is original data collected with specific purpose to get an outcome. Example of primary data could be from newspapers, interview forums and speeches. According to Kelley (2003), conducting a survey is considered as an easier approach to obtain data from population. It requires same standard of collecting data since people use the same method to justify the validity of the survey. Thus, a total of 550 self-administrated survey forms were distributed to students with at least a year of study experience in Universiti Tunku Abdul Rahman Kampar campus and Sungai Long campus, however, only 500 valid to be analyzed. According to Sekaran and Bougie (2016), the margin error is 5% tolerable rate and 95% confidence interval, the required number of samples from a population of 20,000 is 377. The data collected is then analyzed by using SPSS (Version 23). The reason for using SPSS is because it is able to handle large amount of data and capable to perform all of the analysis cover in the text. In meeting the objectives of the study, a research model is developed and it shows the relationship between the dependent variable and independent variables. The research model is shown in **Figure 1**.

Figure 1: Research Model



Logistic Regression

The presence of Logistic Regression (Logit Model) able to solve the shortcomings of the LPM by applying the logit transformation to the dependent variable (Peng, Lee & Ingersoll, 2002). Besides that, logistic regression is very similar to linear regression, but with a binomial response variable. Logistic regression is a method used by researchers to obtain results from data sets when there are more than one independent variables (Sperandei, 2014). This probability depends on the values of the predictor variables by the way of the following regression:

$$\Pr(Y=1) = \frac{\exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k)}{1 + \exp(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k)}$$

Thus, the Logit model will be expressed as,

$$\Pr(\text{Students' satisfaction}) = \frac{1}{1 + \exp^{-(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_k x_k)}}$$

Where,

Students' Satisfaction = β_0 + β_1 service quality + β_2 facility quality
 + β_3 cost + β_4 environment + β_5 reputation + β_6 Control
 Variables

Control Variables \approx Gender, age, campus location, faculty, education, parent's income, monthly allowance, student enrollment, how student know about UTAR.

DATA ANALYSIS

Demographic Analysis

From the demographic profile of 500 respondents, 50.4% are female whereas 49.6% are male. Most of the respondents, 62.8% are within the age of 21 to 23, 31.2% are within the range of 18 to 20, with the remainder 6% being 24 and over. Besides that, 70% of the respondents are from Kampar campus and 30% from Sungai Long campus. The respondents are from 10 different faculties in UTAR, the result shows most of the respondents are from FBF, which is 39.80%. Almost all of our respondents are undergraduates while only 1.8% are postgraduates. To understand the financial background of the parents, researchers have highlighted information about respondents' family monthly income and the result shows 38% of the respondents' parents' income range within RM3,000 to RM4,000, which is the highest percentage as compared to others. Other than this, 72.2% of the respondents reveal that their allowances from their parents range in between RM500 to RM1,200 per month. Most of the respondents, which is 82%, stated that they get to know the existence of UTAR through recommendation from their friends and families. Lastly, two-third of the respondents successfully enroll into UTAR degree programmes whereby they qualify through Foundation in Arts/Science offered by UTAR.

Reliability Test

Table 1: Reliability Test Result for Each Variable

Constructs	No. of questions	Cronbach's Alpha
Service quality	7	0.759
Facility quality	7	0.767
Cost	6	0.794
Environment.	6	0.753
Reputation.	5	0.772

Notes: Results from reliability analysis through SPSS and sample with 500 respondents' observation.

Based on the table above, shows Cronbach's alpha of 5 variables more than 0.6. The living cost of student receive the highest Cronbach's alpha value, 0.794 whereas the learning environment receive the lowest Cronbach's alpha, which recorded at 0.753. Overall, the 31 questions are generally reliable to be analyzed and evaluated for the student feedback on their satisfaction regarding UTAR.

Multicollinearity Test

Table 2: Correlation Analysis

Pearson Correlation	Service quality	Facility quality	Cost	Environment	Reputation
Service quality	1.00	0.371	0.361	0.444	0.467
Facility quality	0.371	1.00	0.287	0.320	0.338
Cost	0.361	0.287	1.00	0.374	0.342
Environment	0.444	0.320	0.374	1.00	0.512
Reputation	0.467	0.338	0.342	0.512	1.00

According to the table above, the Pearson correlation values of all the variables are between 0 and 1. Therefore, this indicates that the variables do not suffer from multicollinearity problem.

Regression Results

Based on this research, researcher have used 500 cases in the analysis and this study does not have any missing data. The classification table showed an overall percentage correctly predicted of 82.6% which mean that the model correctly predicted about 82.6% of the outcomes in the sample. Hence, the estimated model is fit. Omnibus Tests of Model Coefficients illustrates the new model which includes the explanatory variables is an improvement over the baseline model. Therefore, the chi-square is proven to be significant where the chi-square value is 232.947 with 27 degrees of freedom and 0.000 of significant value, which is less than 0.005. Model Summary shows the -2LL value for this model (381.269) is significantly fitter than the null model, which is only 232.947. The two values are 0.372 and 0.527 suggesting that between 37.2 percent and 52.7 percent of the variation is explained by this set of variables. Hosmer and Lemeshow Test indicates that the result of p value is 0.0284, which fulfills goodness of fit to the model.

Table 3: Variables in the Equation (Block 1, Method= Enter)

	B	S.E.	Wald	df	Sig.	Exp(B)
Service						
Environment	.860	.230	14.041	1	.001	2.363
Reputation	.986	.203	23.563	1	.001	2.679
Gender	-.648	.283	5.240	1	.022	.523

Notes: Results from logistic regression through SPSS and sample with 500 respondents' observation.

In the Variables in the Equation table, three out of five explanatory variables are significant where the p values are below 0.05 through Enter Method. Hence, increasing the service quality by 1 time may increase the satisfaction of student toward UTAR by 1.136 times, holding other variable constant. Next, increasing learning environment by 1 time will increase the satisfaction of student toward UTAR by 1.037 times, holding other variables constant. Moreover, the reputation is 1.035 times more likely to influence the satisfaction of student toward UTAR, holding other variables constant. Furthermore, gender is the control variable that significantly affects the dependent variable.

DISCUSSION

Based on the result, service quality, environment and reputation are significant in determining the students' satisfaction towards UTAR. The happiness, which is the feeling of satisfaction of consumers has always been the main target by companies (Agbor, 2011), where consumers will judge their satisfaction from the quality of service they received (Adil, 2011). Through the study of service quality, this will give a clearer picture to organizations as to whether services provided are up to the customers' satisfaction, which translates to whether the services provided by UTAR are up to the expectations of students that fulfill their satisfaction (Agbor, 2011). The environment of the university is important as most of the students active hours happen when they are in the campus. The expectations of the students which lead to students' satisfactions will be fulfilled when the environment of the university is good, especially a harmonious classroom environment (Persad, 1980). Besides that, reputation represents the soul of an organization, with the brand acting, as one of the most influential aspects because it reflects the brand image in the mind of the consumers, and the consumers will relate it to the features that consumers could find satisfaction from the brand (Lahap, Ramli, Said, Radzi, & Zain, 2015). A strong brand implies the good quality that could be provided by the organization (Fischer & Suwunphong, 2015). Moreover, Brown and Mazzarol (2009) shows that reputation of an education institution is as important as other commercial businesses.

There were 2 insignificant variables in this study which are facility quality and cost. These variables fail to determine students' satisfaction towards UTAR. A research conducted by Ibrahim, et al., (2012) mentioned that physical quality is not an important aspect in fulfilling students' satisfaction as students rate service quality from educators and academic staff higher in fulfilling their satisfaction towards the institution. Furthermore, Gruber et al., (2010) could not identify any significance between facility quality and students' satisfaction, possibly due to the

inclusion of part-time students who were involved in the research. In terms of cost, Adom (2015) conducted his research and found out that it is significantly related between cost and students' satisfaction. Based on El-Hilali, et, al, (2015), students' conception stated that cost will have an influence in their satisfaction, as the higher the tuition fee, the more they are expected to be satisfied with universities.

CONCLUSION

In this research, three out of five explanatory variables show significant influences towards UTAR students' satisfaction, which are service quality, environment and reputation. The result will contribute to authorities to enhance the students' satisfaction. Firstly, higher image of university will contribute to higher satisfaction of students. One of the ways to improve international standing as a reputable university is to develop university brand. For example, a university is able to attract more international students by making sure university is living and up to date with relevant and correct information. Secondly, environment will influence students' satisfaction in a positive way. This finding suggests that a well-developed learning environment will enhance students' university experience. Besides that, a university can allocate fund to build up sports centre such as hockey pitch, gym and swimming pool, along with associated changing and shower facilities to improve the quality of the university environment. Thirdly, service quality has positive impact on student satisfaction. Academic staff can organize a conference such as Learning and Teaching Centre for discussions and experience sharing on teaching and learning practices to enhance the quality of teaching. Besides that, allowing students to take part in the design, implementation and evaluation of innovative teaching and learning experiments could encourage both teachers and students to become active innovators. In conclusion, future researchers could carry out further studies on this topic with the inclusion of additional variables or factors that may or may not contribute to the investigation.

REFERENCES

- Adil M. (2013). *The Relationship Between Service Quality and Customer Satisfaction in India's Rural Banking Sector: An Item Analysis and Factor-Specific Approach*, 1-23. Retrieved from <http://www.lahoreschoolofeconomics.edu.pk/businessjournals/V1issue2/03%20Adil.pdf>
- Adom, A. Y. (2015). Students' factor preference of choosing private university in Sarawak, Malaysia. *Journal of Developing Areas*. Retrieved from <https://www.aabss.org.au/research-papers/students%E2%80%99-factors-preference-choosing-private-university-sarawak-malaysia>
- Agbor, J. M. (2011). *The Relationship between Customer Satisfaction and Service Quality: a study of three Service sectors in Umeå.*, 1-92. Retrieved from <http://www.diva-portal.org/smash/get/diva2:448657/FULLTEXT02.co>
- Ahmed, S., & Mehedi Masud, M. (2014). Measure Service Quality of a Higher Educational Institute towards Student Satisfaction. *American Journal of Educational Research*, 2(7), 447-455. doi:10.12691/education-2-7-3
- Alves, H., & Raposo, M. (2010). The influence of university image on student behaviour. *International Journal of Educational Management*, 24(1), 73-85. doi:10.1108/09513541011013060
- Athiyaman, A. (1997). Linking student satisfaction and service quality perceptions: the case of university education. *European Journal of Marketing*, 31(7), 528-540. doi:10.1108/03090569710176655
- Avram, E. M. (2012). *Higher education student choice influencing factors*, 1-64. Retrieved from <http://holisticmarketingmanagement.ro/RePEc/hmm/v1i1/6/7.pdf>

- Belash, O., Popov, M., Ryzhov, N., Ryaskov, Y., Shaposhnikov, S., & Shestopalov, M. (2015). Research on University Education Quality Assurance: Methodology and Results of Stakeholders' Satisfaction Monitoring. *Procedia - Social and Behavioral Sciences*, 214, 344-358. doi:10.1016/j.sbspro.2015.11.658
- Black, D. A., & Smith, J. A. (2004). How robust is the evidence on the effects of college quality? Evidence from matching. *Journal of Econometrics*, 121(1-2), 99-124. doi:10.1016/j.jeconom.2003.10.006
- Brown, R. M., & Mazzarol, T. W. (2008). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, 58(1), 81-95. doi:10.1007/s10734-008-9183-8
- Butt, B. Z., & Rehman, K. U. (2010). A study examining the students satisfaction in higher education. *Procedia - Social and Behavioral Sciences*, 2(2), 5446-5450. doi:10.1016/j.sbspro.2010.03.888
- El-Hilali, N., Al-Jaber, S., & Hussein, L. (2015). Students' Satisfaction and Achievement and Absorption Capacity in Higher Education. *Procedia - Social and Behavioral Sciences*, 177, 420-427. doi:10.1016/j.sbspro.2015.02.384
- Farahmandian, S. (2013). Perceived service quality and student satisfaction in higher education. *IOSR Journal of Business and Management*, 12(4), 65-74. doi:10.9790/487x-1246574
- Fischer, A. C., & Suwunphong P. (2015). *Customer Satisfaction in the Higher Education Industry*, 1-96. Retrieved from <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=7392103&fileId=7392108>
- Gruber, T., Fuß, S., Voss, R., & Gläser-Zikuda, M. (2010). Examining student satisfaction with higher education services. *International Journal of Public Sector Management*, 23(2), 105-123. doi:10.1108/09513551011022474
- Helgesen, Ø., & Nettet, E. (2007). Images, Satisfaction and Antecedents: Drivers of Student Loyalty? A Case Study of a Norwegian University College. *Corporate Reputation Review*, 10(1), 38-59. doi:10.1057/palgrave.crr.1550037
- Ibrahim, M. Z., Rahman, M. N., & Yasin, R. M. (2012). Assessing Students Perceptions of Service Quality in Technical Educational and Vocational Training (TEVT) Institution in Malaysia. *Procedia - Social and Behavioral Sciences*, 56, 272-283. doi:10.1016/j.sbspro.2012.09.655
- Ilias, A. I., Hasan, H. F., & Rahman, R. A. (2009). Student Satisfaction and Service Quality: Any Differences in Demographic Factors? *International Business Research*, 1(4). doi:10.5539/ibr.v1n4p131
- Kaur H., & Bhalla, G. S. (2015). *Satisfaction of Students towards Quality in Higher Education- A Study of Higher Education Sector Punjab (India)*, 1-91. Retrieved from <http://www.pbr.co.in/December2015/12.pdf>
- Kelley, K. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, 15(3), 261-266. doi:10.1093/intqhc/mzg031
- Khoo, K., Teoh, K. B., Chow, Y. N., Beh, K. H., & Chong, Y. J. (2015). Student choices of choosing colleges and course of study in Penang. *ABC Research Alert*, 1-7. Retrieved from <http://journals.abc.us.org/index.php/abcra/article/view/587/420>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Kotler, P., & Clarke, R. N. (1988). Marketing for health care organizations. *Journal of Business Research*, 16(1), 89-90. Retrieved from <http://www.sciencedirect.com/science/article/pii/0148296388900835>
- Lahap, J., Ramli, N. S., Said, N. M., Radzi, S. M., & Zain, R. A. (2016). A Study of Brand Image towards Customer's Satisfaction in the Malaysian Hotel Industry. *Procedia - Social and Behavioral Sciences*, 224, 149-157. doi:10.1016/j.sbspro.2016.05.430
- Landrum, R. E., Turrisi, R., & Harless, C. (1999). University Image: The Benefits of Assessment and Modeling. *Journal of Marketing for Higher Education*, 9(1), 53-68. doi:10.1300/j050v09n01_05
- Malik, M. E., Danish, R. Q., & Usman, A. (2010). The Impact of Service Quality on Students' Satisfaction in Higher Education Institutes of Punjab. *Journal of Management Research*, 2(2). doi:10.5296/jmr.v2i2.418
- Mansor, A. A., Hasanordin R., Rashid, M. H., & Rashid, W. E. (2012). *Hierarchical Service Quality Model towards Student Satisfaction*, 1-5. Retrieved from <http://www.ijimt.org/papers/342-CM335.pdf>
- Mariani, P., Rancati, E., & Gordini, N. (2015). Student Satisfaction In Higher Education: Empirical Evidence from University of Milano-Bicocca. Retrieved from <http://www.toulonveronaconf.eu/papers/index.php/tvc/article/view/193>
- McNamara, C. (2008). *Field guide to developing, operating and restoring your nonprofit board* (3rd ed.). Retrieved from http://www.authenticityconsulting.com/pubs/BD_gdes/NP-Brd-toc.pdf
- Ministry of higher education (2017). Retrieved from <https://www.mohe.gov.my/en/institution/industrial-linkage>
- Muthamia, S. M. (2016). *An assessment of University service quality and its effects on student satisfaction: A case of united states international University.*, 1-69. Retrieved from <http://erepo.usiu.ac.ke/bitstream/handle/11732/2596/An%20Assessment%20of%20University%20Service%20Quality%20and%20its%20Effects%20on%20Student%20Satisfaction%20A%20Case%20of%20United%20States%20International%20University.pdf?sequence=1&isAllowed=y>
- Naidu, P., & Derani, N. E. (2016). A Comparative Study on Quality of Education Received by Students of Private Universities versus Public Universities. *Procedia Economics and Finance*, 35, 659-666. doi:10.1016/s2212-5671(16)00081-2
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. *Journal of Marketing*, 58(1), 111. doi:10.2307/1252255
- Peng, C. J., Lee, K. L., & Ingersoll, G. M. (2002). *An introduction to logistic regression analysis and reporting*, 1-13. Retrieved from <http://bit.csc.lsu.edu/~jianhua/emrah.pdf>
- Persad, S. (1980). *Relationship of Classroom Environment, Teacher and Student Satisfaction and Student Self-Concept* (Unpublished doctoral dissertation). Wilfrid Laurier University, Waterloo, Ontario, Canada.
- Poturak, M. (2014). *Private universities service quality and students satisfaction*, 1-49. Retrieved from file:///C:/Users/USER/Downloads/100-393-1-PB.pdf
- Universiti Tunku Abdul Rahman. (n.d.). Retrieved from http://www.utar.edu.my/econtent_sub.jsp?fcid=1&fcontentid=8323

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Usman, A., Danish R.Q., Malik M.E. (2010). The Impact of Service Quality on Students' Satisfaction in Higher Education Institutes of Punjab. *Journal of Management Research*, 2(2). doi:10.5296/jmr.v2i2.418
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). Retrieved from https://books.google.com.my/books?id=Ko6bCgAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
- Semuel, H., & Devie. (2015). The Analysis of Students Satisfaction, Student Loyalty, Competitive Advantage and Financial Sustainability on Private Universities in Surabaya. Retrieved from http://repository.petra.ac.id/17247/1/Publikasi1_94033_2462.pdf
- Sperandei, S. (2014). Understanding logistic regression analysis. *Biochemia Medica*, 12-18. doi:10.11613/bm.2014.003
- Sumaedi S., Bakti, G. M., & Metasari N. (2011). *The Effect of Students' Perceived Service Quality and Perceived Price on Student Satisfaction*, 1-97. Retrieved from <http://www.cscanada.net/index.php/mse/article/view/j.mse.1913035X20110501.010/1392>
- Varghese, N. V. (2001). impact of the economic crisis on higher education in East Asia :Country Experiences. Retrieved from <http://unesdoc.unesco.org/images/0012/001261/126192e.pdf>

What Drives the Intention to Patronize Green-Themed Hotels in Malaysia?

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Abstract

In line with the thriving growth in the tourism industry and with the emergence of a vigorous group of patrons seeking for green consumption, going green is a vital move to hoteliers to ensure sustainability in the industry. Hoteliers are actively re-positioning themselves from the conventional service providers that emphasize on quality and ratings, to becoming green partakers that emphasize not only on quality, but on their obligations towards greener environment by instigating green-efforts and -activities. In addition, the enforcement from regulated and non-regulated stakeholders to comply with environment-friendly requirements have also contributed to the growing numbers of green-themed hotels. The objective of this study is to investigate into the drivers of the intention of guests to patronize green-themed hotels in Malaysia by applying the theoretical framework of the theory of planned behaviour (TPB). As an extension to TPB, this study examines the influence of environmental knowledge and past behaviour on green consumption on the intention of generations X and Y to patronize green-themed hotels in Malaysia. A total of 243 questionnaires are processed and analysed with the statistical program *Statistical Analysis System 5.1*, using reliability, correlation and inferential analysis. Findings indicate that environmental knowledge, past behaviour on green consumption, environmental attitude, subjective norms and perceived behavioural control are positively and significantly influencing patron's intention to choose a green-themed hotel in Malaysia. This study delivers great contribution to policy makers and hoteliers from both theoretical and practical viewpoint.

Keywords: Choosing Intention, Green Hotels, Malaysia

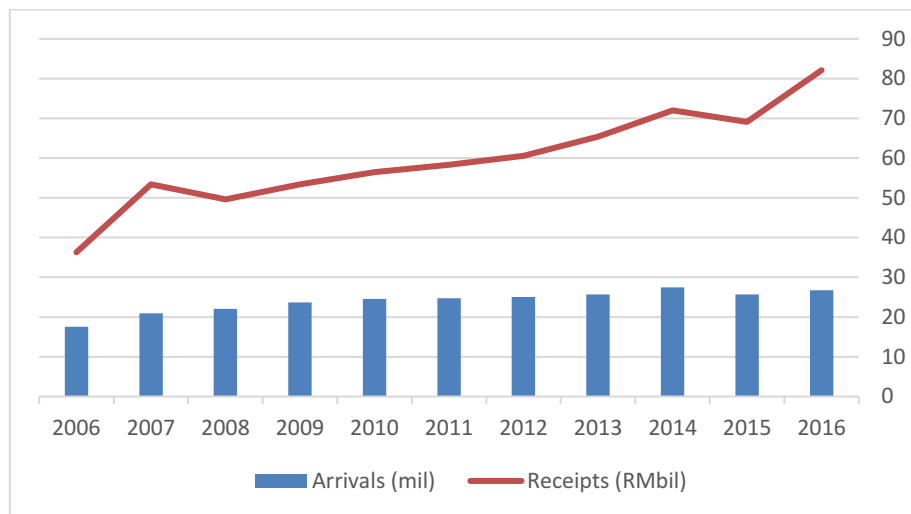
INTRODUCTION

Tourists, disregards of their international or domestic status, are enjoying immense attention paid to them for their contribution to the growth of a nation (Turner, 2015). According to World Tourism Organisation UNWTO (2017a), the rising trend of tourist travelling abroad or locally is apparent. The source reported that the number of international tourist arrivals worldwide has reached 1.2 billion in 2016 and for the first quarter of 2017, the arrivals have registered a growth of 6% y-o-y. The prospect to register healthy growth remains high. In comparison to 2015, additional 46 million international visitors are overnight travellers in 2016 (World Tourism Organisation UNWTO, 2017b). This increasing number of overnight travellers translates to higher opportunities to hotel industry and their services.

Countries around the globe acknowledge the high potential tourism industry provides to their national development (Manaktola & Jauhari, 2007; Dief & Font, 2010; Teng, 2011). In Malaysia, this is evidenced by tourism sector being registered as one of the twelve key national development areas and ranked the sixth highest contributor to the Malaysian economy ("Economic Transformation Programme," 2014). As shown in Table 1, tourist receipts in Malaysia have proved to show a robust surge to record at RM82.1 billion in 2016 from RM53.4 billion over a decade, a growth of 53.7%. This is accompanied by growing number of tourist arriving to Malaysia to register at 26.8 million in 2016, an increase by 27.6% over the same decade, with the highest number of tourists recorded at 27.4 million in 2014 ("Malaysia Tourism Statistics", 2017). Domestic tourists in Malaysia grew by 7% over a year with a total of 189.3 million in 2016. Out of the total expenditures recorded by these domestic tourists at RM74.7 million, 8.8% is accounted for accommodation within the country (Department of Statistics Malaysia, 2017). These figures are still increasing and hence, promising (Turner, 2015; Linda,

2015). Considering these facts, needs for accommodations and lodgings are expected to increase in tandem with the number of tourists travelling abroad or local.

Table 1: Tourists Arrivals and Receipts to Malaysia by Year



Source: "Malaysia Tourism Statistics", 2017. Retrieved from <http://www.tourism.gov.my/statistics>

The emergence of green consumerism has brought upon a new dimension of hotels management and its sustainability. Increasing number of tourists are seeking and opting for environment friendly goods and services. The dynamic of their preferences upon purchase have also turned to firms associated with green activities (Kinneer, Taylor & Ahmed, 1974; Claver, Molina, Pereara & Lopez, 2007; Han, Hsu, Lee & Sheu, 2011; Paul, Modi & Patel, 2016). This emerging green consumers are fully aware of the capacity of their purchasing power and the impact of their purchasing behaviours to the society and community development and sustainability (Perugini & Bagozzi, 2001; Farris, Chong & Danning, 2002; Fryxell & Lo, 2003; Han & Yoon, 2015; Paul et al., 2016). Of late, the voice of this emerging green-patrons to the hotel industry is getting stronger and hoteliers are compelled to adopt green activities and marketing strategies (Dief & Font, 2010; Han & Kim, 2010; Juvan & Donicar, 2014). As public's environmental awareness increases, patrons are increasingly seeking for green-themed hotels over conventional hotels.

The thriving growth in tourism sector has demonstrated a severe impact on environment preservation (Fryxell & Lo, 2003; Claver et al., 2007; Husted, Russo, Meza & Tilleman, 2014). According to Han et al. (2011), the heavy traffic arising from tourism efforts globally has led to environmental degradation through the emission of carbon dioxide and greenhouse effect. The heavy traffic has also brought upon rapid land possession and buildings constructions, improper waste disposal and severe water contamination. The study also stated that hotel industry is responsible for 21% of all carbon dioxide emissions. Deraman, Kassim, Ismail, Arifin and Zaini (2015) also stressed that hotel industry is harmful and poses negative impacts on environment because it produces vast amount of non-durable goods, waste, water, energy, and carbon emission. This is supported by Dief and Font (2010) that even though hotel industry may not be the primary source of environment degradation, concerns arise from the substantial consumption and wastage of energy, water and non-recyclable goods. Hoteliers, as an initial move to reduce costs, with reciprocal effect to improve profit, have taken green efforts to reduce wastages by lowering utility consumption and practicing recycling (Han & Kim, 2010). However, the need to elevate their green efforts is so intense that a minimal set of environmental compliance was established as a benchmark standard to stay competitive in the industry (Han et al., 2011). To add to the burdens of hoteliers, the intense pressures from local authorities and non-profit organizations to conserve environment on national level, have resulted in progressive enforcements to take extra efforts or activities to heighten the green initiatives (Ng & Law, 2015). As a consequence, green-themed hotels have proliferated.

In a nutshell, conventional hotels are required to re-position themselves to becoming green, or else, they will be in fear of phasing out. The term “green-themed” in this study refers to marketing or promotion of assets that associated with environmental conservation. In a similar context, “green-themed” hotels refer to the providers of lodging and services that market and perform environmental preservation practices. A green-themed hotel has environmentally friendly properties that will help to save up to 20% operation costs which include energy, water, recycle and produced foods on site (Graci & Kuehnel, 2010). According to Green Tourism’s Carbon Footprint, green-themed hotels are able to achieve 11% to 21% reduction on the carbon dioxide emissions for heating lighting and appliances. Hence, green-themed hotels yield a niche market for tourism industry and green-tourists (Han, Hsu & Sheu, 2010; Manaktola & Jauhari, 2007). In line with the growing numbers of green-themed hotels in the market, hotel patrons recognise the power of their purchase behaviour. Hence, the objective of this study is to investigate into the drivers of hotel patrons’ intentions to choose green-themed hotels in Malaysia by applying the theoretical framework of the theory of planned behaviour (TPB). This study extended TPB model by including additional constructs, namely the environmental knowledge and past behaviour on green consumption to improve the ability to predict the intention of choosing green-themed hotels in Malaysia. To the best knowledge of the study, no research has yet to integrate these variables into the TPB model to predict hotel patrons’ intentions to choose green-themed hotels in Malaysia context.

LITERATURE REVIEW

This study adopts the Theory of Planned Behaviour (TPB) which was developed by Icek Ajzen (1991). The core of TPB looks into individual’s intention, which indicates the willingness to perform in a particular behaviour (Ajzen & Fishbein, 1975). Hence, intention is viewed to be the best predictor to a particular behaviour. In this study, intention refers to the willingness of a guest to choose a green-themed hotel. TPB also hypothesizes that intention is highly influenced by three conceptual determinants, namely an individual’s attitude toward behaviour, the subjective norm encasing the execution of the behaviour, and the individual’s perception of their control over the behaviour. Attitude toward behaviour refers to the degree of a person’s favourable or unfavourable evaluation on the behaviour in question. Social norms are forms of social pressure that exert influences onto the person to perform the behaviour or motivation to comply. The final antecedent of intention is the perceived behavioural control which refers to the perceived ease or difficulty in performing the behaviour. A person’s perceived behavioural control associated positively with the availability of resources and opportunities. In addition, it is assumed to reflect past experience as well as anticipated impediments and obstacles.

Environmental knowledge and past behaviour on green consumption are encompassed into analytical model of this study which are disregarded by past researchers in Malaysia. Teng (2011) indicated that past behaviour is an accurate and consistent predictor of consumers’ behavioural intention in tourism sectors. Consumers who possess positive behaviour towards green products will have a tendency to choose to stay in green-themed hotels. This is supported by Zuriyati, Rahimah, Arifin, Farhana, Samsuri, and Munir (2014) that environmental knowledge influences the intention to purchase a green product as high level of environmental knowledge will create positive attitude towards the environment (Harun, Lim & Othman, 2011).

Intention towards choosing green-themed hotels

Intention towards choosing green-themed hotels is a measure of relative strength of purpose to enforce certain behaviour (Ng & Paladino, 2009). According to Lee, Hsu, Han & Kim (2010), green intention in the context of hotel industry is the likelihood of the hotel patrons to choose and visit green-themed hotels, willingness to pay more for the services green-themed hotels provide and to offer positive word of mouth behaviour. When hotel patrons have developed awareness on the environmental issues and green sustainable, there will be a significant impact on patron’s intention towards choosing green-themed hotels (Dief & Font, 2010). Hotel management has no reservation on implementing the green activities for the reason that management comprehends that consumers have the intention towards choosing green-themed hotels. Hoteliers have to take initiatives to implement green activities in order to increase the occupancy and to cater to the patron’s green needs. This helps to minimize the

environmental issues to a lower level (Claver et al., 2007). Besides, this is an opportunity for hotel industry to gain competitive advantages to be green with their competitors.

Environmental knowledge towards the intention on choosing green-themed hotels

Environmental knowledge refers to information concerning environmental issues and the ability to understand and evaluate its impact on society and environment (Kinneer et al., 1974). According to Fryxell and Lo (2003), environmental knowledge is the “people knowledge about environment, key relationship leading to environmental impact and collective responsibilities of individual necessary for sustainable development”. The purpose of Teng, Wu, and Huang (2014) study was to validate the relationships among consumers’ knowledge towards behavioural intention in Taiwan. Questionnaire method was conducted and the result shown that environmental knowledge significantly influences the intention to patronize a green restaurant. This outcome is supported by Chang, Lee, and Su (2013) that investigated the correlation between the same variables via questionnaire. In addition, Yadav and Pathak (2016) have examined into young consumers’ intention towards purchasing green products in India and their findings revealed that environmental knowledge among the youths significantly influences their purchase intention towards green products. Similar findings are found in Wulandari, Rahyuda, and Yasa (2015) study in Denpasar, Indonesia.

H1: There is a positive relationship between environmental knowledge and the intention on choosing green-themed hotels.

Environmental attitude towards the intention on choosing green-themed hotels

Environmental attitude refers to individual’s attitude towards the environment and related elements. In other words, environmental attitude is a psychological reaction to the environment shown by individuals, and how it influences the behaviour of an individual (Chen, 2014). Husted et al. (2014) examined how environmental attitude influenced the willingness to pay for environmentally-certified products at a premium price in Mexico. The findings of the study showed that consumer’s willingness to pay at a higher cost for products with environmentally friendly attributes increases when environmental attitude of consumers increases. It can be explained that when environmental issues are concerned, intention to purchase eco-friendly products is higher. This finding is consistent with Ng and Law (2015) which conducted a study in Hong Kong. Noor, Shaari, and Kumar (2014) explored the influence of environmental attitude and hotel attributes on tourists’ intention towards choosing green-themed hotels as their preferred accommodation in Malaysia. Their result showed that environmental attitude is positively and statistically significant towards intention to choose green-themed hotels. This outcome is supported by Han et al. (2011), in their study on the correlation between the variables in U.S.

H₂: There is a positive relationship between environmental attitude and the intention on choosing green-themed hotels.

Subjective norms towards the intention on choosing green-themed hotels

Subjective norm is a representation of social factors, where social pressure will inspire a person to think about whether they should perform a specific behaviour. The person will comply with the expectations from other people, family, friends, supervisor or society at large. It affects a person’s decision-making process and intention towards a specific behaviour (Ajzen, 1991; Chen & Tung, 2014). Liang and Chaipooirutana (2014) investigated the consumers’ intention to purchase green electronic products in China via questionnaires and Pearson correlation coefficient analysis was applied. It showed that subjective norm has positive relationship with green electronic products purchase intention. The findings is supported by Yadav and Pathak (2016) via questionnaires. In addition, Mishra, Akman, and Mishra (2014) explored the behaviour for the adoption of Green Information Technology (GIT) using Structural Equation Modeling. It exhibited that subjective norm has a strong positive influence on the intention.

H₃: There is a positive relationship between subjective norms and the intention on choosing green-themed hotels.

Perceived behavioural control towards the intention on choosing green-themed hotels

Perceived behavioural control defined as the perceived ease or difficulty of performing the behaviour (Ajzen, 1991). It discusses an individual's perception on presence or absence of resources or opportunities needed to perform a specific behaviour (Han et al., 2010). The resources or opportunities can be time, money, cost and self-confident to perform behaviour. Chen and Tung (2014) developed an extended theory of planned behaviour model in order to estimate consumers' intention to visit a green-themed hotel in Taiwan. Online survey method was conducted and results evidenced that perceived behavioural control positively influences behavioural intention to stay in green hotel. This is supported by Han (2015) study which was carried out in United States. Besides, Paul et al. (2016) studied Indian consumers' green product purchase intention by using theory of planned behaviour and theory of reasoned action. The finding revealed that perceived behavioural control is significant and positively related towards the intention to purchase eco-friendly product. This finding is consistent with the study conducted by Rezai, Mohamed, Shamsudin, and Teng (2011) that explored the relationship between same variables via 1355 valid samples questionnaires.

H₄: There is a positive relationship between perceived behavioural control and the intention on choosing green-themed hotels.

Past behaviour towards the intention on choosing green-themed hotels

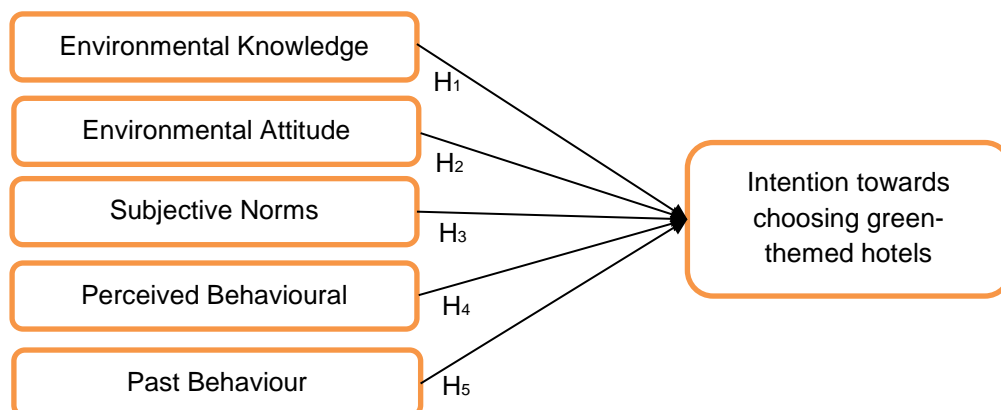
Past behaviour refers to the actions or reactions of a person in response to external or internal stimuli in the past (Sommer, 2011). Past studies have identified the importance of the existence of past experiences in the formation of intention (Lam & Hsu, 2006; Oh & Hsu, 2001; Perugini & Bagozzi, 2001). Similarly, Buhalis (1999) found that tourists' behaviour is strongly associated with a various factors, among others is their past experience. Han and Yoon (2015) study was to determine guests' intention formation when selecting an environmentally responsible hotel in Republic of Korea and concluded that past behaviour has positive influence towards purchase behavioural intention. The finding is consistent with Teng (2011).

H₅: There is a positive relationship between past behaviour and the intention on choosing green-themed hotels.

CONCEPTUAL FRAMEWORK

Based on the preceding discussion, a conceptual framework is constructed and outlined in Figure 1. The framework shows that this study extended the TPB model with the inclusion of environmental knowledge and past behaviour on green consumption as additional constructs to predict hotel patrons' intention towards choosing green-themed hotels in Malaysia.

Figure 1: Conceptual Framework of the Study



RESEARCH METHODOLOGY

Quantitative research approach was applied to this study to investigate the relationships between the drivers that affect hotel patron's intention towards choosing green-themed hotels in Malaysia. Hotel consumers who are from generation X, whom are born in the 1960s to 1980s and generation Y, whom are born in the 1980s to 2000s, were the target respondents in this study as they have better understanding on the service and quality of hotel industry when travelling. Besides, both generations X and Y have high purchasing power (Farris et al., 2002) and generation Y consumers are likely the fore coming leaders of the modern-day green evolution (Ottman, 2011). Pilot test was carried out to identify any issues with the test instructions, in order to reduce unclear items and other typographical errors. 32 sets of questionnaires were collected from academicians, generation X and generation Y in Cameron Highland, Perak, Malaysia under the pilot test. A total of 214 sets of questionnaires were disseminated to generation X and Y in five states with highest percentage of hotels in Peninsular Malaysia covering Selangor, Melaka, Johor, Pahang and Kuala Lumpur (WP) (Table 2) in order to signify Peninsular Malaysia in this study.

Table 2: Total Number of Hotels in Peninsular Malaysia

States	No. of hotels	Percentage (%)
Kuala Lumpur (WP)	218	15.92
Pahang	160	11.69
Johor	151	11.03
Selangor	145	10.60
Melaka	141	10.30
Perak	124	9.06
Terengganu	103	7.52
Kelantan	84	6.14
Pulau Pinang	82	5.99
Negeri Sembilan	73	5.33
Kedah	71	5.19
Perlis	17	1.23
Total	1,369	100

Sources: Malaysia associations of hotels as at 2014. <http://www.hotels.org.my/hotel-statistics.html>

DATA ANALYSIS

SAS Enterprise Guide 5.1 and Microsoft Excel were used to interpret the data collected. Reliability test was applied in this study to examine the internal consistency reliability and measure homogeneity of items (Wells & Wollack, 2003).

Table 2: Reliability Statistics

Constructs	Cronbach's Alpha (α)
Intention Towards choosing Green-themed Hotel (INT)	0.7761
Environmental Knowledge (EK)	0.7390
Environmental Attitude (EA)	0.8780
Subjective Norm (SN)	0.8292
Perceived Behavioural Control (PBC)	0.7533
Past Behaviour (PB)	0.6297

Table 2 shows that the constructed Cronbach's alpha values in this study ranged between 0.6297 and 0.8780. Bagozzi and Yi (1988) and Fornell and Larcker (1981) recommended that the composite reliability of each construct should be at least of 0.6, while Nunnally and Bernstein (1994) recommended that Cronbach's alpha value of each item should be at least of 0.7. Hence, the constructs of this study are confirmed to be reliable and consistent.

Table 3 provides the results of correlation analysis. The Pearson correlation coefficient analysis was performed to obtain the association and its strength between two variables. The Pearson correlation matrix showed that all the independent variables of this study (environmental knowledge, environmental attitude, subjective norm, perceived behavioural control and past behaviour on green consumption) are significant and associated positively towards hotel patrons' intention on choosing green-themed hotels. The p-values for all variables are less than 0.05 indicate weak associations between variables.

Table 3: Pearson Correlation Matrix

	INT	EK	EA	SN	PBC	PB
INT Correlation	1	0.5222*	0.5219*	0.4699*	0.3757*	0.5660*
Sig. (2-Tailed)		<.0001	<.0001	<.0001	<.0001	<.0001
N	214	214	214	214	214	214

*Significant at 0.05 level (2-tailed)

Table 4 provides evidence of an inferential analysis. Multiple Linear Regression is a regression model that involves multiple independent predictor variables and a single dependent outcome variable (Marill, 2004). This inferential analysis is to predict the effect of relationship between independent variables (environmental knowledge, environmental attitude, subjective norm, perceived behavioural control and past behaviour on green consumption) and dependent variables (consumers' intention towards choosing green-themed hotel). This finding conveyed that environmental knowledge has a significant positive relationship towards hotel patron's intention on choosing a green-themed hotel. According to Mohamad, Rahimah, Arifin, Samsuri, Farhana and Munir (2014), environmental knowledge associates closely to the intention to engage a green product. Environmental knowledge provides adoption of information on environmental friendly by hotel patrons when they plan to choose green-themed hotels. Hence, when environmental knowledge of hotel patron increases, the intention towards choosing green-themed hotels will increase significantly. In a nutshell, it is important for the related parties to disseminate the knowledge and the importance of environmental friendly information via organizing seminars or talks to the citizen of the country.

Table 4: Coefficient for Multiple Regression Model

Model	R	R ²	(VIF)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
				Beta	Std. Error	Beta		
Intercept	0.4717	0.5077	0	-0.4947	0.2861	0	-1.73	0.0853
EK			1.6059	0.1871	0.0668	0.1726	2.80	0.0056
EA			1.4498	0.2244	0.0629	0.2091	3.57	0.0004
SN			1.3546	0.1703	0.0492	0.1961	3.46	0.0006
PBC			1.2321	0.1289	0.0518	0.1345	2.49	0.0136
PB			1.4063	0.3886	0.0765	0.2930	5.08	<.0001

This study emphasizes that environmental attitude has significant and positive relationship towards hotel patron's intention towards choosing a green-themed hotel. Environmental attitude is an enduring organization of motivational, emotional, perceptual and cognitive processes with respect to environmental issues, where individual who has strong environmental attitude will take responsibility in protecting the environment (Noor et al., 2014). Hoteliers should convince and encourage patrons to take higher responsibility towards environment protection and preservation. The authors also stated that each individual is responsible to carry out his/her duty, however, it is not depending on sole responsibility of business entities. This concluded that when patrons' environmental attitude improves, the higher the intention towards choosing a green-themed hotel.

Subjective norm interpreted that there is a significant positive relationship with patron's intention to choose a green-themed hotel. Thus, it is essential for current society to influence a person subjectivity in order to increase the patron's intention to choose a green-themed hotel. Hoteliers can strengthen their marketing and advertising strategy to spread the hotel's green efforts. Hoteliers can offer gift card to patrons as it allows people to share the company's brand and products with their friends and family. In addition, hoteliers can use e-marketplace to boost their sales and create awareness. Facebook, Agoda, and Instagram are a few pathways explored by hoteliers in order to attract potential patrons, thus creating familiarity and larger social network around the world. This helps to increase the awareness about the hotel and to strengthen the subjective norm factor.

According to the findings, it signified that perceived behavioural control has the least significant and positive relationship with patron's intention to choose a green-themed hotel. Perceived behavioural control has significance impact on intentions as it deals with an individual's perception of comfort or hardship of performing the behaviour. Thus, the individual is able to have control over the opportunities and resources to perform a specific behaviour. If green-themed hotel is considered to be easily accessible to consumers, it tends to increase the probability of patron's intention to choose a green-themed hotel. Therefore, hoteliers should shift their status from merely a conventional service provider to eco-green hotel. Furthermore, hoteliers can offer incentive strategies such as giveaways and contests offering time based discount, special gifts and attractive accommodation package in order to increase the patron's intention towards choosing a green-themed hotel. When the price of green-themed hotel is affordable, it will increase the patrons' belief that they can enjoy the green-services and -products over the conventional hotels with the price they are paying.

Based on the analysis, the outcomes indicated that past behaviour or experience on green consumption has the most significant positive relationship with patron's intention on choosing a green-themed hotel. Positive past experience on purchasing green product or

engage in any green activities tends to have greater chances in the intention on choosing a green-themed hotel. When a person has a preference of purchasing a green product, the possibility for the person to choose a green-themed hotel is high. Occasionally, people can learn the effects of their actions and behaviour through experiences. In this case, government plays a vital role in supporting green product and services in order to promote the importance of green concept. Hence, public will be more concerned on engaging in green-themed activities when making the choices. In order to improve consumers' environmental attitude, government should strongly encourage public to involve themselves in green activities such as earth day on 22nd of April, energy saving event and recycle activities in Malaysia. Besides that, government can conduct seminars on the importance and benefits of green concept to draw the public's attentions. The more positive the consumers' attitude towards environmental issues, the higher the chance they will change their purchasing behaviour and perception.

In a nutshell, all the factors have significant linkages towards patron's intention to choose a green-themed hotel. Therefore, all the hypotheses are supported in this study and multiple linear regression equation is formulated as follows:

$$Y = -0.4947 + 0.1871 EK + 0.2244 EA + 0.1703 SN + 0.1289 PBC + 0.3886 PB + \epsilon$$

Where:

Y	= Intention towards choosing green-themed hotel
EK	= Environmental knowledge
EA	= Environmental attitude
SN	= Social norm
PBC	= Perceived behavioural control
PB	= Past behaviour
ϵ	= Error term

CONCLUSION AND DISCUSSION

With this study, the significance of the relationships between the constructs suggested under TPB model and its extension (Environmental Knowledge, Environmental Attitude, Subjective norm, Perceived Behavioural Control and Past Behaviour on Green Consumption) and patrons' intention towards choosing green-themed hotels in Malaysia are examined.

In practical perspective, this study contributes to hotel industry as the management will have better understanding on patrons' intention towards choosing green-themed hotels in Malaysia. This will assist hoteliers to attract a higher crowd of patrons and also to ensure sustainability in such competitive market. This study provides a platform for those conventional hoteliers to re-position themselves in the market. In addition, it helps to enhance the management to understand the factors influencing the patron's intention towards choosing a green-themed hotel. Therefore, hoteliers can look into areas that require improvements to accustom to patrons' opinions and suggestions. By taking green-activities, hoteliers can minimize resources consumption, hence reducing operational costs while contributing to environmental preservation. It also poses opportunities for hoteliers to engage in innovative development to gain competitive advantage in the market.

This study delivers great contribution to government as the green-themed hotels are expected to contribute healthily to a country's income, after taking into account of the increasing number of green-patrons in the hotel and service industries. In order to increase the income of hotel industry, government has to enhance consumers' awareness on green concepts which involves green technology, green business and environmentally friendly events. The increase in environmental awareness will lead to the intention to choose green-themed hotels instead of conventional hotel. In summary, increasing demand to patronage green-themed hotels will directly and positively contribute to a country growth.

In theoretical perspective, this study extends prior research on the determinants of personal traits on green consumption towards consumers' intention on patronising green-themed hotels in Malaysia. At current and moving forward, individuals are more concerned with greener environment, thus, environmental knowledge and past behaviour had been

incorporated into this study which most of the past researchers had not adopted. The results specified that environmental knowledge and past behaviour had positive influence towards green consumption. Thus, it can be concluded that both variables are good predictors for consumers' intention in patronising green practices hotel.

REFERENCES

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I. & Fishbein, M. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.
- Buhalis, D. (1999). Information technology for small and medium-sized tourism enterprises: Adaptation and benefits. *Information Technology & Tourism*, 2(2), 79-95.
- Chang, P. L., Lee, K. C. & Su, W. H. (2013). The impacts of environmental education and product cognition on consumers' purchase intention on lithium battery-powered electrical motorcycles. *International Journal of Engineering and Innovative Technology*, 3(4), 81-89.
- Chen, M. F. & Tung, P. J. (2014). Developing an extended Theory of Planned Behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221-230.
- Chen, W. J. (2014). A Comparative Analysis of Consumers' Attitude and Behavior towards Green Practices. *Journal of Tourism & Recreation*, 1(2), 15-26.
- Claver-Cortés, E., Molina-Azorín, J. F., Pereira-Moliner, J. & López-Gamero, M. D. (2007). Environmental strategies and their impact on hotel performance. *Journal of Sustainable Tourism*, 15(6), 663-679.
- Department of Statistics Malaysia. (2017, July 30). *Domestic Tourism Survey 2016* [Press release]. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=320&bul_id=dFQ0cGtTMWdqZlpnQytkMGY2TXhqQT09&menu_id=b0pIV1E3RW40VWRTUkZocEhyZ1pLUT09
- Deraman, F., Kassim, A. R. A., Ismail, N., Arifin, A. I. M. & Zaini, Z. M. M. (2015). The intention of hotel guests' to engage in green activities. *Journal of Applied Environmental and Biological Sciences*, 5(6S), 120-125.
- Dief, M. E. & Font, X. (2010). The determinants of hotels' marketing managers' green marketing behaviour. *Journal of sustainable tourism*, 18(2), 157-174.
- Economic Transformation Programme (2014). *ETP annual report 2014*. Retrieved from http://etp.pemandu.gov.my/annualreport2014/upload/ENG_NKEA_Tourism.pdf
- Farris, R., Chong, F. & Danning, D. (2002). Generation Y: Purchasing power and implications for marketing. *Academy of Marketing Studies Journal*, 6(1), 4-16.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 39-50.

- Fryxell, G. E. & Lo, C. W. (2003). The influence of environmental knowledge and values on managerial behaviours on behalf of the environment: An empirical examination of managers in China. *Journal of Business Ethics*, 46(1), 45-69.
- Graci, S. & Kuehnel, J. (2010). *Why go green? The business case for sustainability*. Retrieved from <http://green.hotelscombined.com/Gyh-TheBusiness-Case-For-Sustainability.php>
- Han, H. S. (2015). Travellers' pro-environmental behavior in a green lodging context: Converging value-belief-norm theory and the theory of planned behavior. *Tourism Management*, 47, 164-177.
- Han, H. & Yoon, H. J. (2015). Hotel customers' environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism. *International Journal of Hospitality Management*, 45, 22- 33.
- Han, H., Hsu, L. T. J., Lee, J. S. & Sheu, C. (2011). Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions. *International Journal of Hospitality Management*, 30(2), 345- 355.
- Han, H., Hsu, L. T. & Sheu, C. (2010). Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334.
- Han, H. & Kim, Y. (2010). An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behavior. *International Journal of Hospitality Management*, 29(4), 659-668.
- Harun, R., Lim, K. H. & Othman, F. (2011). Environmental knowledge and attitude among students in Sabah. *World Applied Sciences Journal*, 14, 83- 87.
- Husted, B. W., Russo, M. V., Meza, C. E. B. & Tilleman, S. G. (2014). An exploratory study of environmental attitudes and the willingness to pay for environmental certification in Mexico. *Journal of Business Research*, 67(5), 891-899.
- Juvan, E. & Dolnicar, S. (2014). Can tourists easily choose a low carbon footprint vacation? *Journal of Sustainable Tourism*, 22(2), 175-194.
- Kinncar, T. C., Taylor, J. R. & Ahmed, S. A. (1974). Ecologically concerned consumers: Who are they? *The Journal of Marketing*, 20-24.
- Lam, T. & Hsu, C. H. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism management*, 27(4), 589-599.
- Lee, J. S., Hsu, L.T., Han, H. & Kim, Y. (2010). Understanding how consumers view green hotels: How a hotel's green image can influence behavioural intentions. *Journal of Sustainable Tourism*, 18(7), 901-914.
- Liang, Q. & Chaipoo Pirutana, S. (2014). A study of factors affecting customer's attitude towards intention to purchase green electronic products at an IT Mall in Beijing, China. *International Conference on Business, Law and Corporate Social Responsibility*. (pg. 45-49). Thailand.
- Linda. (2015). *Essay: The tourism industry- Malaysia*. Retrieved from <http://www.essay.uk.com/essays/hospitality-tourism/essay-the-tourismindustry-malaysia/>
- Malaysia Tourism Statistics in Brief. (2017). Retrieved from <http://www.tourism.gov.my/statistics>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Manaktola, K. & Jauhari, V. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.
- Marill, K. A. (2004). Advanced statistics: Linear regression, part II: Multiple linear regression. *Official Journal of the Society for Academic Emergency Medicine*, 11(1), 94-102.
- Mishra, D., Akman, I. & Mishra, A. (2014). Theory of reasoned action application for green information technology acceptance. *Computers in human behavior*, 36, 29-40.
- Mohamad, Z. Z., Rahimah, T., Arifin, T., Samsuri, A. S., Farhana, M. & Munir, M. B. (2014). Intention to Visit Green Hotel in Malaysia: The Impact of Personal Traits and Marketing Strategy. *International Journal of Business and Social Science*, 5(7), 167-173.
- Ng, M. & Law, M. (2015). Encouraging Green Purchase Behaviours of Hong Kong Consumers. *Asian Journal of Business Research ISSN*, 5(2), 1-17.
- Ng, S., & Paladino, A. (2009). Examining the influences of intentions to purchase green mobile phones among young consumers: an empirical analysis. In *Conference proceedings, ANZMAC* (pp. 1-8).
- Nunnally, J. C., & Bernstein, I. H. (1994). Validity. *Psychometric theory*, 99-132.
- Noor, N. A. M., Shaari, H. & Kumar, D. (2014). Exploring tourists intention to stay at green hotel: The influences of environmental attitudes and hotel attributes. *The Macrotheme Review*, 3(7), 22-33.
- Oh, H. & Hsu, C. H. (2001). Volitional degrees of gambling behaviors. *Annals of Tourism Research*, 28(3), 618-637.
- Ottman, J.A. (2011, February 17). *We are all green consumers, now and for the future*. Retrieved from <http://www.greenmarketing.com/articles/complete/we-are-all-greenconsumers-now-and-for-the-future-environmental-leader-febu/>
- Paul, J., Modi, A. & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123-134.
- Perugini, M. & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, 40(1), 79-98.
- Rezai, G., Mohamed, Z., Shamsudin, M. N. & Teng, P. K. (2011). Demographic and attitudinal variables associated with consumers' intention to purchase green produced foods in Malaysia. *International Journal of Innovation, Management and Technology*, 2(5), 401.
- Sommer, L. (2011). The theory of planned behaviour and the impact of past behaviour. *International Business & Economics Research Journal*, 10(1), 91-110.
- Teng, Y. M. (2011). Applying the extended theory of planned behavior to predict the intention of visiting a green hotel. *African Journal of Business Management*, 5(17), 7579.
- Teng, Y. M., Wu, K. S. & Huang, D. M. (2014). The influence of green restaurant decision formation using the VAB model: The effect of environmental concerns upon intent to visit. *Sustainability*, 6(12), 8736- 8755.
- Turner, R. (2015). *Travel& tourism economic impact 2015 Malaysia*. Retrieved from <http://www.wttc.org/-/media/files/reports/economic%20impact%20research/countries%202015/malaysia2015.pdf>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Wells, C. S. & Wollack, J. A. (2003). *An Instructor's Guide to Understanding Test Reliability*. Retrieved from <https://testing.wisc.edu/Reliability.pdf>
- World Tourism Organisation UNWTO. (2017a, July 14). *Strong tourism results in the first part of 2017* [Press release]. Retrieved from <http://media.unwto.org/press-release/2017-07-14/strong-tourism-results-first-part-2017>.
- World Tourism Organisation UNWTO. (2017b, January 17). *Sustained growth in international tourism despite challenges* [Press release]. <http://www2.unwto.org/press-release/2017-01-17/sustained-growth-international-tourism-despite-challenges>
- Wulandari, A. S. A., Rahyuda, I. K. & Yasa, N. N. K. (2015). The role of customer attitude in mediating knowledge influence towards the purchase intention of green product. *Jurnal Dinamika Manajemen*, 6(2), 133-144.
- Yadav, R. & Pathak, G. S. (2016). Young customers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732-739.
- Zuriyati, Z., Rahimah, M. T., Arifin, T., Farhana, M., Samsuri, A. S. & Munir, M. B. (2014). Intention to visit green hotel in Malaysia: The impact of personal traits and marketing strategy. *International Journal of Business and Social Science*, 5(7), 167-173.

Exploring Professional Perspectives on Patient Safety and Healthcare Compliance based on Focus Group Discussions

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Abstract

Background: The study focused on the perception of health care professionals on compliance of organization of healthcare systems. The aim of the study was to examine the effects of healthcare compliance with regard to patient safety. The study uses a qualitative design based on focus group discussions (FGD) to explore perceptions regarding the health care system and health service. This study presents the aggregated opinions, expectations and priorities of professionals along some main dimensions of quality in health care.

Methods: As a part of the research project, a FGD has been conducted with hospital staff on the research topic of compliance with safety practices among hospital professionals. Through FGD, we attempted to explore the degree of compliance with safety practices and its determinants. The FGD questions were open-ended questions in order to get reliable answers from the participants. The data sets collected during the focus group discussions were evaluated using the method of thematic analysis.

Results: The participants to the FGD were from different departments of a Malaysian private hospital. Together with three-member research team, seven hospital workers attended the discussion. The focus group panels included the following: representatives from Quality, Pharmacy, Nursing, Rehabilitation, Imaging, Nursing Education and Security departments. This study shows that incompliance in healthcare procedures that can often have an effect on patient safety. Findings of the thematic analysis were summarized along organizational safety climate.

Conclusion: This study shows opinion of professionals working in the healthcare. It serves as source of criteria with relevance to everyday practice. Hence, healthcare compliance has to start with awareness programs focusing on duty of care.

Keywords: Focus Group Discussion, Healthcare, Patient Satisfaction, Quality, Safety Climate.

INTRODUCTION

Healthcare related infections (HAIs) remain as the most frequent opposing event in any healthcare delivery system and touch millions of people each year, leading to serious illness and even death (Zingg, Holmes, Dettenkofer, Goetting, Secci, Clack & Pittet, 2015). Indications throughout the research showed that a large amount of healthcare providers and patients had attained infections within a healthcare facility (Magill, 2014). Data from American hospitals established that HAIs alone account for an estimated 1.7 million infections within a year. According to World Health Organization (WHO), 3 million health workers are exposed to variety blood infections each year. Surprisingly, most of those infections can be prevented by properly practicing the safety standards (WHO, 2014). It is undeniable fact that infections are one of the major issues at hospital environment as they could spread serious diseases among patients and medical personnel. However it is not a single issue which is to be addressed. There are other incidents that may occur and endanger lives and safety of patients and as well as healthcare workers if safety standards are not practiced properly. Fire is one of the many occupational hazards to hospital's workers and its occupants. Hospital as an institution that is carrying image of providing safe heaven to those coming to it, could become hazardous environment if there is lack of focus on safety measures.

LITERATURE REVIEW

Perceived motivation

Employees in healthcare industry are lured by the positive environment compared to the negative environment and the environment will influence their performance (Natan & Berker, 2010). Such motivated environment may be the factor for increasing interest in working for the hospitals and the employees will be more dedicated and responsible. It was supported that employees depend on extrinsic motivation such as resources, pay and benefits also working environment (Shader, Broome, Broome, West, & Nash, 2001). Extrinsic motivation will reduce self-determinations of employees as it destroys the instinct of initiatives and blurred the objective of achieving performance standard (Deci & Ryan, 1985). Thus, Barling and Hutchinson (2000) explained employers controlled employees in managing safety and this approach have been motivating employees to comply with safety measurement as well as task completion on time. Tjosvold (1990) added by giving an example on how the cabin crews in flight are motivated to take safety precautions during the case of emergency and every safety measurement taken are positive when they work as a team. This similar method can be used in hospital environment to motivate medical practitioner to work as a team so that safety standards can be upheld.

Organizational process improvement

De Mast, Kemper, Does, Mandjes and Bijil (2011), mentioned that process improvement in healthcare referring to improvising protocol treatment and medical equipment by medical professionals in hospital. The vitality was highlighted in improving process from healthcare perspectives were patient's safety during their visit at hospital such as technical efficiencies (De Mast et al., 2011). De Mast et al., (2011) agreed that it is crucial to implement process improvement in healthcare system. Improvement on processes involved during treatment is important on ensuring that measures on safety are practiced at utmost level. In order to decrease hospital infections and protect the health of patients and medical staff, the pertinent authorities and hospital infection control departments should pay more attention to nurse obedience with the standard safeguards, reinforce standard precautions training. Through learning, the accomplishment of knowledge and skills, and the creation of health beliefs and attitudes, health activity habits can be shaped. Only when individuals are familiar with the gratified and meanings of the standard precautions, with strengthening of the individual's health concepts, can individual practice change so as to improve obedience with safety measures (Yang, Guo-Ping, Jijan-Wei, & Ying, 2010)

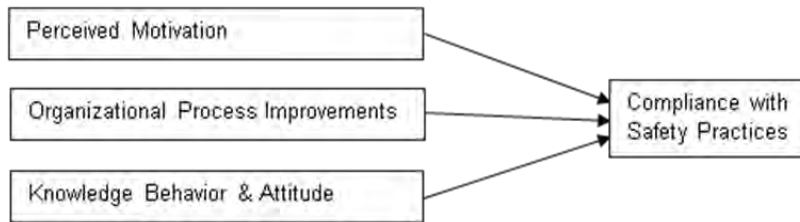
Knowledge, attitude or behavior

Knowledge is the basis of the attitude, and attitude provides the power for a behavior amendment. Obtaining more knowledge does not directly develop behavior. However, with knowledge and a right attitude and strong aspiration, people can conquer difficulties by interpreting knowledge into engagements. Optimistic attitudes can promote vigorous behaviors, while negative attitudes have a negative effect on behaviors. Nurses' behaviors related to Safety Practices (SP) are affected by their attitudes towards occupational coverages to blood and bodily juices. The results discovered that the drill of occupational SPs is mainly swayed knowledge of SPs, attitudes towards SPs and behavior (Mingtao, Xuyao, Hualian, Xiaoli, & Dan, 2015). WHO (2009) articulates that doctors and nurses are to be conscious of the inferences of waterborne pathogens in water goods. Doctors in all areas of hospital settings must highlight on washing hands with antiseptic soaps because water supplies can also be diseased with pathogens, which regular soap and water could not terminate (Streiner & Norman, 2003; Ransdell, 1996).

CONCEPTUAL FRAMEWORK

As it can be seen in the Figure 1, the conceptual framework has been developed as such that it has three independent variables and one dependent variable. This study explores the current situation of occupational safety and health in healthcare sector in Malaysia based on self-determinants theory. Based on this theory, it urges individual to participate without any force or imposed by any party. Thus, this theory encourages patient, medical practitioner and safety officers to voluntarily involve in up keeping the safety standards for safe working environment.

Figure 1: Proposed Conceptual Framework



The emerging of hospital accidents in Malaysia has raised the attention of the patient, hospital administrators and policy makers. This study is important as it focuses on the main factors that affect occupational safety and health in the healthcare sector. The government agencies have to treat occupational safety and health in the hospitals seriously as it will affect the safety level of the hospital, as well as the health level of the patient.

RESEARCH METHODOLOGY

This paper has adapted a qualitative research method in which Focus Group Discussion (FGD) has been conducted with hospital staff on the research topic of compliance with safety practices among hospital professionals. Through FGD, we attempted to explore the degree of compliance with safety practices and its determinants. The FGD questions were open-ended questions in order to get appropriate answers from the participants. The data sets collected during the focus group discussions were evaluated using the method of thematic analysis.

Description of Focus Groups

The data is collected via focus group discussion with seven experts from a selected hospital in the northern region of Malaysia. Focus group questions were developed by the team of researchers. A focus group panel discussion was held in July 2017 with representative staff from each of the following departments:

- Quality Department
- Pharmacy Department
- Nursing Department
- Rehabilitation Department
- Imaging Department
- Nursing Education Department
- Security Department

Data Analysis

Transcriptions of recorded focus-group discussion, lists of facts and views drawn from each group are incorporated into the analysis process. This method is applied to create hypotheses that can be tested later by a quantitative survey to be completed by a larger number of participants. For each question, a summary statement will be written to illustrate participants' ideas and viewpoints. A summary report of the key findings will be prepared and reviewed by the researchers as a validity check.

RESULTS AND ANALYSIS

The study analyses the important factors that influence safety compliance via information obtained from the participants of the FGD which focus on the following topics.

Perceived Motivation

(a) Does your supervisor/manager consider staff suggestions for improving patient safety?

One participant shared that staff were encouraged to provide improvement suggestion which were to be discussed at the committees. Proposal approved would be provided with resources for implementation at respective unit.

(b) Does the hospital management provide a work climate that promotes patient safety?

All participants agreed that the hospital leadership has provided a safe work climate, one reason being the close monitoring of the Ministry of Health (MOH), and the wide-use of social media lately.

Safety Management – Process Improvement & Support

(a) Does your unit manager emphasise the implementation of patient safety policies and procedures?

All participants agreed that the unit managers emphasized the safety policies and procedures. When the unit managers are informed about new implementations, they will share with their respective staff.

**(b) Are you provided with training and education before using the new equipment
Staff training and mentoring?**

The participant from the MRI explained that new equipment would be first trained by the supplier's experts, and initial usage would be monitored closely, before a staff is allowed to perform work independently...

**(c) Are you provided with adequate in-service training in the aspects of patient safety
Staff training and mentoring?**

One participant told that new hires had to go through six-months training, and only would be released to work if assessed satisfactorily. Otherwise, three-month further training would be imposed. Another participant elaborated that for instance, new pharmacy staff would be tested to recognize type of medicine and calculated dosage of the patient.

(d) Do designated senior staff assigned to mentor new hires in their first six months of work in your unit?

One participant explained that, there would be senior members that lead junior members during shift work.

Safety Practices

(a) To what extent do you think that monitoring, inspection and evaluation of safety practices are pre-requisite for effective occupational safety and health?

One participant explained that monitoring was conducted by respective units, while the safety inspection was conducted regularly by cross-team members. The inspection report would be sent to those units required improvement, and once correction or preventive actions taken place, the team would evaluate the effectiveness of the improvement actions.

(b) Does anyone who intentionally violate standard procedures or safety rules is swiftly corrected in your unit?

One participant from the frontline nursing department said that safety rules violation was corrected immediately.

(c) Does the hospital leadership/management? Regularly conduct safety walk rounds in different areas of the hospital?

One participant shared that the regular once a quarter safety walk rounds by the Risk Management Committee. Another participant told about town hall meeting held by the CEO, when each round 200-300 staff was able to attend the meeting at the auditorium.

(d) Do you discuss ways to prevent errors from happening again in your unit?

One participant explained about medical issues would be handled by the Ethical Committee, while other matters were handled by the Environment Committee. Another participant explained that incidents occurred in other units were also shared as lessons learnt as well as retraining conducted to relevant staff.

(e) Indicate some of the things you think management do to improve upon occupational safety and health of the hospital?

One participant told that the electrical wiring was checked and monitored to ensure its safety and suitability of use. Another participant mentioned that the hospital wards/beds were offered to the patient only with availability of sufficient nursing staff. The other participant explained that the policy of Ministry of Health (MoH) was self-regulation by

the hospital. For accidents submitted online by the hospital, once the corrective and preventive action implemented satisfactorily, the MoH might not come for a site visit.

Safety Performance

(a) Do staff required to put on protective clothing in the performance of their duties

The responses were positive from the participants. They gave examples of protective clothing, for instance face mask, surgical gloves, etc.

(b) Does the hospital have a clear process through which you can report any adverse events?

Participants highlighted the effectiveness of the online incident reporting system by each employee.

(c) Do you think effective occupational health and safety policies have any impact on job performance in the hospital?

The responses were positive. The participants opined that the safety policies were effective due to they are updated regularly.

DISCUSSION

Based on the information collected from focus group discussion, healthcare practitioners and professionals indicated that secured working environment has been practiced since the hospital established as not only to safe environment but to motivate staff to perform, improvise as well as smoothen the hospital processes and to have attitude that need to acquire while performing the tasks. Findings also show that every department has formed solid networking to communicate any issues in terms of safety to iron out negligence or precaution before any accidents occur in hospital. Technology plays a major role in hospital to avoid any miscommunication in order to give assurance for the people who give as well as receive treatment while in the hospital. According to the healthcare group, to improvise safety compliance, they willing to consider the feedbacks from patients and suggest to the safety committee to integrate with their regulations in the hospital. Such open to acceptance policy will enhance the safety processes and practices in handling patients since they are the receiver of the treatment. Besides, medical practitioners work closely with Ministry of Health for better service and also gain knowledge and advice on managing the safety system in the hospital. Monitoring from Ministry will ensure that any matters concerning safety compliance in hospital can be upheld as an excellent medical service provider in Malaysia. Guidance from the ministry helped in managing safety compliance and this has educated them to manage if any critical incidences occur in hospital. The findings of the FGD indicate that all antecedents are positively linked with the safety compliance. The participants highlighted that the current problems laid at enhancing the safety policies as it is never ending issue. It was emphasized that when things are proposed for improvement of safety practices, new things will pop up which may result in incompleteness of proposed action. The healthcare professionals also thought that there was no issue as the Government could control policies.

CONCLUSION

In this study, data were collected from focus group discussions involving seven hospital professionals. The discussion shows that safe work environment led by safety policy is influencing safety performance. As a result, efforts to improve safety should be led by the Ministry of Health policies.

ACKNOWLEDGMENT

This study is based upon work supported by the Universiti Tunku Abdul Rahman Research Fund (UTARRF) under Grant No. 6200/A33.

REFERENCES

- Barling , J., & Hutchinson, I. (2000). Commitment vs. Control-Based safety practices, safety reputation and perceived safety climate. *Canadian Journal of Administrative Science* , 76-84.
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic Motivation and self-determination in human behavior.
- Mingtao, Q., Xuyao, W., Hualian, W., Xiaoli, Y., & Dan, L. (2015). Influencing factors on use of standard precautions against occupational exposures to blood and body fluids among nurses in China. *International Journal Of Clinical and Experimental Medecine* , 22450–22459.
- Natan, N. B., & Berker, F. (2010). Israelis' perceived motivation for choosing a nursing career. *Nurse Education Today*, 308-313.
- S. S. Magill, e. a. (2014). Multistate point-prevalence survey of health care-associated infections. *US National Library of Medicine National Institutes of Health*, 1198-208.
- Shader, K., Broome, M. E., Broome, C. D., West, M. E., & Nash, M. (2001). Factors influencing satisfaction and anticipated turnover for nurses in an academic medical center. *Journal for Nursing Administration*, 210-216.
- WHO. (2014, March). *Health Care Worker Safety*. Retrieved from http://www.who.int/injection_safety/toolbox/en/AM_HCW_Safety_EN.pdf
- Yang , L., Guo-Ping, H., Jijan-Wei, Z., & Ying , L. (2010). Factors impacting compliance with standard precautions in nursing, China. *International Journal of Infectious Diseases*, 1106-1114.
- Zingg , W., Holmes , A., Dettenkofer, M., Goetting, T., Secci , F., Clack , L., Pittet, D. (2015). Hospital organisation, management, and structure for prevention of health-care-associated infection: a systematic review and expert consensus. *US National Library of Medicine National Institutes of Health*, 212-24.

Motivators, Brand Hate and Revenge Behaviour: Case Study of the Fast Fashion Industry in UK

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Abstract

Background: The rapid development of fast fashion is making retailers to refresh product ranges, to lower the cost, and to respond faster to the market need. Those developments and changes also have influences on consumer's perception, emotion and behaviour toward brands.

Aims: Brand hate in the fast fashion industry is regarded as an extreme negative emotional affect towards a brand. This research aims to identify motivators that could contribute to fast fashion brand hate and the revenge behaviours resulting from it.

Method: Online surveys were carried out through social media platforms with a total of 201 respondents between the ages of 18 to 34 in the UK. Structural equation model (SEM) was applied to explore the direct and indirect relationships between motivators, perception of brand hate and customer revenge behaviour.

Result: Experiential avoidance, identity avoidance, moral avoidance, irritating advertisement, as well as received negative word-of-mouth are motivators that have positive influences on fast fashion brand hate. Both direct and indirect revenge behaviours were found to be associated with fast fashion brand hate, whereas consumers who hate a fast fashion brand due to identity avoidance and moral avoidance do not lead to any revenge behaviours.

Conclusion: This research suggested that anthropomorphism can lead to stronger consumer-brand relationships and can make consumer-brand relationships resembling interpersonal relationships.

Keywords: Motivator, Brand Hate, Revenge Behaviour, Fast Fashion

INTRODUCTION

The fashion industry has grown at 5.5 percent annually, according to the McKinsey Global Fashion Index, to now be worth an estimated \$2.4 trillion (Amed, Berg, Brantberg & Hedrich, 2016). Fast fashion may seem to be a relatively new concept to the consumers, although it has been around for years. Some observers distinguish between the fashion industry (which makes "high fashion") and the apparel industry (which makes ordinary clothes or "mass fashion"), but the boundaries between them still remain unclear (Major & Steele, 2017). In short, fast fashion can be referred to as a phenomenon in the fashion industry whereby production processes are expedited in order to get new trends to the market as quickly and cheaply as possible.

Over the last 20 years, the fashion apparel industry has greatly evolved with the expansion of the boundaries of the industry (Djelic & Ainamo, 1999). Since then, there are various changes in the fashion industry include fading of mass production, an increase in the number of fashion seasons, and changes in structural characteristics (Bhardwaj & Fairhurst, 2010). These changes have forced retailers to refresh product ranges, to lower the cost, and to respond faster to the market by reducing lead times and cutting inventories (Doyle, Moore & Morgan, 2006). According to Kim, Choo & Yoon (2013), it is importance to understand not only the activating factors of fast fashion but also the negative beliefs that could hinder fast fashion consumption. The topic of extreme emotion such as hate towards fast fashion brands is indeed in need of further investigation.

Most of the past studies focused more on the bright side of consumer-brand relationship such as brand love and brand commitment (Batra, Ahuvia & Bagozzi, 2012; Bergkvist & Bech-Larsen, 2010; Lastovicka & Sirianni, 2011). Study on negative perspective of consumer-brand relationship is relatively rare (Kavaliauske & Simanavičiute, 2015; Bryson, Atwal, & Hultén, 2013). However, it is true that consumers could generate negative feelings towards brands such as anger, fear, as well as hatred (Romani, Grappi & Dolli, 2008). Negative brand relationships could be very damaging as those dysfunctional customer behaviours can in turn become financial losses for the companies (Fournier & Alvarez, 2013).

Recently, the negative side of consumer-brand relationships is gradually gaining attention (Kavaliauskė & Simanavičiūtė, 2015). It is equally importance to know what consumers do not want to purchase (Banister & Hogg, 2004), and to understand why do consumers turn hostile and are determined to cause damage to a brand (Kähr, Nyffenegger, Krohmer & Hoyer, 2016). Brand hate is not an extreme phenomenon as it is quite common for a consumer to hate certain brands (Bryson, Atwal & Dreissig, 2010). It was reported that negative emotions towards brands are also predictive in consumers' potential negative behaviours towards brands (Romani, Grappi & Dalli, 2012). The negative consumer-brand relationships can be damaging to consumers as well as to the companies (Fournier & Alvarez, 2013), and positive relationships can be easily turned into hateful associations (Johnson, Matear & Thomson, 2011). Therefore, further investigation of the topic of brand hate is just as important as that of the positive attitudes and evaluation towards brands. The purpose of this study is to identify the motivators that could trigger brand hate and the consequences of brand hate among fast fashion brands. The results of this study could contribute to the knowledge of this subject and render a basis for future research.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

According to the Fetscherin and Heinrich's (2014) classification of consumer-brand relationship in the affective/feeling dimension highlights the fact of the relative lack of research in consumers' negative affect toward brands, including brand avoidance and brand hate. Hate is an understudied concept even though it is regarded as an important emotion that could potentially induce extreme negative behaviours (Fitness, 2000). Literature concerning brand hate is extremely rare even though hatred towards brands can have negative impact on company and the success of services and goods (Bernhard, 2015; Delzen, 2014). Over the past 30 years, the European textile industry has undergone disruption from fast fashion. Brands such as Zara and H&M have revolutionised the whole industry and fast fashion brands in Europe have grown faster than the whole fashion industry (Mihm, 2010). There are many reasons that a consumer could hate a certain brand and the result from it could be destructive to the company. Nevertheless, scant literature has discussed fast fashion brands from the customers' point of view (Cachon & Swinney, 2011; Miller, 2013).

According to Hogg (1998), consumption constellations represent sets of negative choices across products and brands. There are two types of negative choices, which are, non-choice and anti-choice. Non-choice refers to situations that consumers do not have control over such as the products' or services' affordability, accessibility, and availability (Hogg, 1998). Anti-choice refers to consumers positively do not choose a product or service due to the incompatibility and/or inconsistency with consumers' other choices or preferences (Hogg, 1998). Anti-choice involves abandonment, aversion, and avoidance (Hogg, 1998). In this research, the authors adapted the concept of anti-choice from Hogg (1998) and Lee et al. (2009), which consists of three types of brand avoidance: experiential avoidance, identity avoidance, and moral avoidance. These three types of brand avoidance are used as motivational construct instead of actual behaviours.

Experiential avoidance happens when consumers have negative first hand experiences with a brand and these experiences usually involve unmet expectations. Unmet expectation could lead to customer dissatisfaction since expectancy-confirmation framework suggests that "satisfaction is a function of the degree to which expectations match, exceed, or fall short of product or service performance" (Oliva, Oliver & MacMillan, 1992, p.84). Delzen (2014) indicated that experiential avoidance, as a motivational construct, is one of the motives for

consumers to hate a brand. In line with the literature discussed, this study proposes the following hypothesis:

Hypothesis 1 (H1): Experiential avoidance will have influence on the perception of fast fashion brand hate.

Identity avoidance occurs when the brand is symbolically incongruent with one's identity, and consumers avoid purchasing products that do not fit their desired or actual self-concept (Lee et al., 2009). Therefore, people are normally comfortable with the products or brands that are congruent with their selves. Bryson et al. (2013) found that negative stereotypes and associations with the brand could lead to brand hate. In line with the discussion, this study proposes the following hypothesis:

Hypothesis 2 (H2): Identity avoidance will have influence on perception of fast fashion brand hate.

Lee et al. (2009) found that moral issues are one of the reasons for a consumer to avoid a brand. Moral avoidance is caused by the ideological incompatibility an individual has with a brand. This kind of avoidance could be caused by the resentments of a customer towards multinational company, monopolists, or capitalistic system in general. Moreover, Koenderink (2014) found that moral avoidance is the strongest motivator of brand hate in terms of smart phone brands. This line of reasoning leads to the following hypothesis:

Hypothesis 3 (H3): Moral avoidance will have influence on perception of fast fashion brand hate.

Lutz (1985) defined attitude towards advertisement as a "predisposition to respond in a favorable or unfavorable manner, to a particular exposure occasion" (p.46). Most scholars agree that attitude toward the advertised brand is the result of attitude towards ads (Sallam & Algamash, 2016; Wilson, Giebelhausen & Brady, 2017). That is to say, the more consumers like the ad, the higher possibility they will like the advertised brand. Advertisement has the ability to attract consumers. Dalli, Romani and Gistri (2006) reported that majority of the respondents believe that media strongly influences their purchase behaviour and those brands that have irritating advertisements discourage them from buying products from the advertised brands. And the same time, negative word-of-mouth has a negative impact on a brand (Wilson et al., 2017). This line of reasoning leads to the following hypothesis:

Hypothesis 4 (H4): Irritating Advertisement will have influence on perception of fast fashion brand hate.

Due to the fact that previous literature of customer revenge such as exit-voice-loyalty (Huefner & Hunt, 2000) as well as choice models (Bechwati & Morrin, 2003) is fragmented, Grégoire, Laufer and Tripp (2010) integrated fragmented research on this topic and proposed a two-category conceptualisation of acts of revenge: indirect revenge and direct revenge. Delzen (2014) found that consumers' hate towards a brand in general can cause both direct and indirect behaviours. In line with the extant literature, this study postulates that vengeful behaviours are the behavioural outcomes of hating a fast fashion brand. This line of reasoning leads to the following hypothesis:

Hypothesis 5 (H5): Perception of brand hate will have influence on customer revenge.

H5a: Perception of brand hate will have influence on indirect revenge.

H5b: Perception of brand hate will have influence on direct revenge.

The energisation and direction of behaviour is defined as motivation (Feltman & Elliot, 2012). It is suggested that positively valence stimuli lead to approach, while negatively valence stimuli will bring about avoidance (Feltman & Elliot, 2012). Nevertheless, anger, which is an extreme negative emotion, could lead to approach behaviour instead of avoidance (Carver & Harmon-Jones, 2009). In line with the reasoning, the following hypothesis is formed:

Hypothesis 6 (H6): Perception of brand hate will mediate the relationship between motivators and revenge behaviour.

RESEARCH METHODOLOGY

Measures

The study measured the motivators, perception of brand hate and customer revenge among young generation toward fast fashion in the UK. All items in the measurements were represented on a 5-point Likert scale as 1 being strongly disagree and 5 being strongly agree. The measurement for experiential avoidance (EA), identity avoidance (IA), and moral avoidance (MA) was derived from Kim et al. (2013). The original measurement consists of 13 items for EA, i.e., poor performance, overly trendy style, big store discomfort, and lack of personal help; 7 items for IA, i.e., inauthenticity and deindividuation; and 6 items for MA, i.e., irresponsibility and foreignness. After the pilot test and focus group meeting, only 6 items for EA, 4 items for IA, and 5 items for MA were used.

The irritating advertising (IAD) measurement contained 5 items which were based on Chakrabarty and Yelkur's (2005) definition on advertisement irritation and the research of negative word-of mouth. The measurement of perception of brand hate (BH) was adapted from Dalli et al. (2006) and Kuckuk (2016), including 8 items such as Brand X is awful, I do not like brand X, etc. The measurements of indirect revenge behaviour (IR) and direct revenge behaviours (DR) were derived from Grégoire et al. (2010). The IR measure consisted of 6 items, measuring two types of behaviours: sending negative word-of mouth and online complaining. The DR measure also consisted of 6 items, measuring behaviours such as marketplace aggression and vindictive complaining. Lastly, respondent demographic profile including gender, age and resident area were recorded.

For the data in this study, the reliability expressed as Cronbach's α , ranged from 0.718 to 0.934 (BH: 0.903, EA:0.886, IA:0.718, MA: 0.826, IAD: 0.804, IR:0.905 and DR:0.934). Confirmatory factor analysis (CFA) was used to justify the fitness of applying the data in this study, and the results were: $\chi^2/df = 2.160$ ($p < 0.001$), goodness of fit index (GFI) = 0.885, comparative fit index (CFI) = 0.907, root mean residual (RMR) = 0.042 and root mean square error of approximation (RMSEA) = 0.060. The CFA statistics meet their respective goodness of fit criteria (Rigdon, 1995).

Procedure and Participants

In the UK, consumers between 18 to 34 years old are the main target consumers of fast fashion brands (Sender, 2015). Thus, this study targeted respondents aged between 18 and 34 who live in the UK. Convenience sampling method was adopted in this study. Although the entire target population may not be generalised through non-probability method, convenience sampling is generally less time-consuming and inexpensive (Fricker, 2008). Online survey was chosen as the data collection method as young consumers are the most avid ones of fast fashion (Morgan & Birtwistle, 2009) and it is suggested that online survey may gain higher response rate among youngsters than paper-and-pencil one (Van Selm & Jankowski, 2006).

A pilot test was carried out in order to reduce dimensions and test the inter-reliability. The pilot questionnaire was launched online in June, 2016. The questionnaire was distributed via social media to acquaintances with 204 convenience samples. Two filter questions, "Do you hate a fast fashion brand?" and "Please specify the brand that you hate", were used to filter the participants. Of the 204 samples, 171 participants who were non-haters, do not live in the UK, below 18 or over 34 years old, or did not complete the questionnaires were excluded, resulting in a total of 33 respondents for the pilot test. The final survey was distributed online via anonymous link and the street-intercept survey method was utilised. It started at the end of June, 2016 and closed on 14, July. The same filter questions were used to ensure the qualification of the data. There were a total of 500 participants took part in the survey. Excluding cases such as being over the age of 34, made-up brands, incomplete questionnaire, non-fast fashion brand haters, and non-UK consumers, the valid respondents were 201. The response rate was 40.2%.

Data Analysis

This study used SPSS 18.0 for Windows (SPSS Inc., Chicago, IL, USA) and AMOS 18 (SPSS Inc., Chicago, IL, USA) to perform the statistical analysis. First, descriptive statistics of the demographic characteristics of respondents, inter-correlations and statistics of motivators,

brand hate and customer revenge were computed. Second, path analysis was applied to explore the direct and indirect relationship between motivators, perception of brand hate and customer revenge behaviour in UK.

RESULT

Demographic profile of respondents

The respondents were at the age between 18 and 34 with an average of 25 (SD = 2.92). Over 50% of the participants were between 23 and 25 years old. Among the 201 respondents, male and female accounted for 26.4% and 73.6% respectively. Several well-known fast fashion brands in the UK were mentioned in the survey. Four brands mentioned by more than 15 participants were Primark (N = 46), H&M (N = 33), ZARA (N = 29), and UNIQLO (N = 18). Other fast fashion brands that were mentioned were Topshop, United Colors of Benetton, New Look, Miss Selfridge, Mango, River Island, Forever 21, and Topman.

Assessment of measurement model

Table 1 shows that the composite reliability values for different constructs ranged from 0.800 to 0.934, which exceeded the threshold of 0.7, thus indicating good reliability (Gefen, Straub, & Boudream, 2000). Important criteria in assessing convergent validity include the indicator's factor loading and average variance extracted (AVE) (Hair, Gabriel & Patel, 2014). Indicators with factor loadings that were lower than a threshold value of 0.50 were discarded and the remaining items were listed in Table 1. As presented in Table 1, AVE for most model constructs range from 0.450 to 0.703, thus meeting the minimum criteria of 0.5 (Hair et al. 2014) and confirming that the convergent validity was established.

Table 1 Result of Measurement Model

Model construct	Indicator	Loading	Composite Reliability (CR)	Average variance extracted (AVE)
Experiential avoidance (EA)	EA_1	0.755	0.842	0.517
	EA_3	0.571		
	EA_4	0.751		
	EA_5	0.647		
	EA_6	0.721		
	Identity avoidance (IA)	IA_1		
	IA_2	0.510		
	IA_3	0.777		
	IA_4	0.644		
Moral avoidance (MA)	MA_1	0.796	0.836	0.508
	MA_2	0.693		
	MA_3	0.571		
	MA_4	0.767		
	MA_5	0.707		
irritating advertising (IAD)	IA_1	0.707	0.800	0.450

	IA_2	0.676		
	IA_3	0.816		
	IA_4	0.538		
	IA_5	0.579		
Brand hate (BH)	BH_1	0.788	0.890	0.537
	BH_2	0.783		
	BH_3	0.747		
	BH_4	0.699		
	BH_5	0.768		
	BH_6	0.636		
	BH_7	0.695		
	BH_8	0.802		
Indirect revenge (IR)	IR_1	0.889	0.904	0.616
	IR_2	0.889		
	IR_3	0.897		
	IR_4	0.595		
	IR_5	0.644		
	IR_6	0.736		
Direct revenge (DR)	DR_1	0.868	0.934	0.703
	DR_2	0.912		
	DR_3	0.913		
	DR_4	0.817		
	DR_5	0.817		
	DR_6	0.680		

Note. (1) EA_2,7~13; IA_5~7 and MA_6 were deleted as outer loadings are < 0.5.

Assessment of structural model

After conducting the CFA test to validate the measurement model, structural equation model (SEM) was applied to analyse the inter-relationship between the studied variables and thereby to test the hypotheses of this study. Various indices were examined to determine how well the hypothesized model fits to the sample data and the results are shown in Table 2. Overall, the structural model evaluation presented in Table 2 confirmed that model have achieved the acceptable level for model fitness.

Table 2: Fitness indices for the structural model

Name of Index category	Index	Index value	Comment
Absolute fit	GFI	0.859	Not achieved required level
	RMSEA	0.078	Achieved required level
	RMR	0.070	Achieved required level
	ECVI	7.301	Achieved required level
Incremental fit	CFI	0.902	Achieved required level
	TLI	0.860	Not achieved required level
parsimonious fit	Chi-square/df	2.702	Achieved required level

The direct relationships between the variables are tested based on first five hypotheses represented by causal paths (H1, H2, H3, H4 and H5) (see Table 3). Moral avoidance and irritating advertisement can explain 77.3 % of the variance in brand hate perception ($R^2=0.773$). At the same time, the brand hate perception explained 57.6% of the variance in indirect revenge ($R^2=0.576$) and 50.5% ($R^2=0.505$) in direct revenge. H1 that predicts the relationship between experiential avoidance and brand hate is not supported ($\beta=0.273$). Similar finding is found for H2, predicting the relationship between identity avoidance and brand hate ($\beta=-0.337$), as shown in Table 3. On the other hand, moral avoidance (H3, $\beta=0.898$, $P<0.05$) and irritating advertisements (H4, $\beta=0.527$, $P<0.001$) are shown to have significant positive influence on brand hate. H5 which predicts the relationship between brand hate and revenge behaviour is also supported in this study. As shown in Table 3, brand hate had significant influence on the indirect revenge behaviour ($\beta=1.043$, $P<0.001$), and also on the direct revenge behaviour ($\beta=1.055$, $P<0.001$).

Table 3 Results of hypothesis testing

H	IV	Path	DV	Estimate (β)	S.E.	C.R	P-value	Remarks
H1	EA	---->	BH	.273	.160	1.706	0.088	Not supported
H2	IA	---->	BH	-.337	.174	-1.935	0.053	No supported
H3	MA	---->	BH	.898	.337	2.667	0.008*	Supported
H4	IAD	---->	BH	.527	.098	5.366	***	Supported
H5 _a	BH	---->	IR	1.043	.102	10.237	***	Supported
H5 _b	BH	---->	DR	1.055	.111	9.542	***	Supported

Note: Level of Significance: *** $p<0.001$, ** $p<0.01$, * $p<0.05$ C.R: Critical ratio
H: Hypothesis; S.E: standard error; std: standardized; IV: independent variable; DV: dependent variable; EA: experiential avoidance; IA: identity avoidance; MA: moral avoidance; IAD: irritating advertisement; BH: brand hate; IR: indirect revenge; DR: direct revenge.

Bias corrected bootstrap method (Fritz, Taylor, & Mackinnon, 2012) was used to determine the significance of mediation effect of the perception of brand hate on the relationship between motivators and revenge behaviour. A bootstrap samples of 1,000 were constructed and resampling was done with replacement (Preacher & Hayes, 2008). The bootstrapped samples in the data set were analysed using analysis of moments structure (AMOS) and estimation of the confidence intervals of the variables.

Table 4 shows that the indirect relationships between motivators and indirect revenges via brand hate are significant at the confidence interval (CI) of 95% except for identity

avoidance. On the other hand, only two motivators, experiential avoidance and irritating advertisement, show significant indirect relationships with direct revenges via brand hate at 95% CI. Such indirect effects are not insignificant for identity avoidance and moral avoidance.

Table 0 Results of mediation analysis

Path	Effects	Estimate	BC-LB	BC-UB	Remark
<u>Path 1:</u>					
EA→BH→IR	Indirect	0.201	0.064	0.347	Partial Mediating
EA→IR	Direct	0.856	0.338	0.718	Supported
<u>Path 2:</u>					
IA → BH→IR	Indirect	0.565	0.313	1.066	No supported
IA→IR	Direct	0.386	-0.020	0.765	Not supported
<u>Path 3:</u>					
MA→BH→IR	Indirect	0.357	0.226	0.528	Partial Mediating
MA→IR	Direct	0.231	0.003	0.406	Supported
<u>Path 4:</u>					
IAD→BH→IR	Indirect	0.241	0.101	0.376	Partial Mediating
IAD→IR	Direct	0.458	0.241	0.683	Support
<u>Path 5:</u>					
EA→BH→DR	Indirect	0.220	0.089	0.383	Partial Mediating
EA→DR	Direct	0.425	0.189	0.602	Support
<u>Path 6:</u>					
IA → BH→DR	Indirect	0.218	0.299	1.047	No supported
IA→DR	Direct	0.159	-0.020	0.321	No supported
<u>Path 7:</u>					
MA→BH→DR	Indirect	0.037	0.697	2.705	No supported
MA→DR	Direct	0.195	-0.045	0.417	No supported
<u>Path 8:</u>					
IAD→BH→DR	Indirect	0.176	0.031	0.303	Partial Mediating
IAD→DR	Direct	0.508	0.302	0.721	Supported

Note: BC: bias correction; LB: lower boundary; EA: experiential avoidance; IA: identity avoidance; MA: moral avoidance; IAD: irritating advertisement; BH: brand hate; IR: indirect revenge; DR: direct revenge.

In summary, the SEM result shows that three hypotheses (H3, H4 and H5) are supported and two hypotheses (H1 and H2) are not supported. Among the exogenous variables, moral avoidance and irritating advertisement have more influences on perception of brand hate toward fast fashion. As for the relationships between experiential avoidance, brand hate and revenge behaviour, the results shown that perception of brand hate mediates the relationship between experiential avoidance and revenges (indirect and direct). Similar results for the relationship between irritating advertisement, brand hate, and revenges. Lastly, perception of brand hate shows significant mediation effect on the relationship between moral avoidance and indirect revenge.

DISCUSSION

The results of the current study show that the influences of experiential and identity avoidance on brand hate perception of fast fashion are not significant. Consumers' negative experience with a fast fashion brand could result in dissatisfaction. According to Delzen's (2014) study, experiential avoidance could result in hating a brand without specific product category,

suggesting that negative experiences might not have direct influence on the general perception of brand hate, thus support the finding of this study. Besides, in traditional thought of identity avoidance, consumers tend to form their own idea of what consumers of a brand are (Bryson et al., 2010). According to Wilson et al. (2017), when self-brand connection is high, negative word-of-mouth actually increases their behavioural intentions toward to a brand. Therefore, the fashion brand may not direct deliver symbolic meaning and communicating the identity of the self could lead to brand hate.

The statistical analysis of this study renders evidence for moral avoidance being a motivator of fast fashion brand hate. Moral avoidance is related to consumers' social and ethical considerations. Fast fashion brands that act irresponsibly, e.g. exploiting child labours and polluting the environment could lead to brand hate. The findings are in line with Delzen's (2014) research indicating that brand hate could be triggered by a brand's irresponsible and unethical acts that do not match consumers' value. Moreover, the result shows that one of the ad-induced feelings, irritation, could lead to fast fashion brand hate. Statistical analysis of this study provides evidence for the hypothesis that advertisements that are perceived as irritating can positively influence fast fashion brand hate. Brand hate could result from the way of communicating and advertisement of the company that creates negative feelings towards the brand.

Perception of brand hate on fast fashion shows significant influence on consumer's revenges, including indirect and direct revenges. Indirect revenge refers to actions taken place outside a firm or store including sending negative word-of-mouth (WOM) and complaining online result in negative publicity. The results show that strong brand hate perception leads to more aggressive indirect revenges. Consumers privately share their negative experiences with acquaintances and even suggest them not to purchase from the brand. Modern consumers not only interact with the company but also with other consumers easily through the Internet and various new social media (Verhoef, Reinartz, & Krafft, 2010). Conversely, direct revenge, the most extreme behaviour, takes two forms: marketplace aggression and vindictive complain. Our results show that fast fashion brand hate has positive influence on one of the direct revenge behaviours, marketplace aggression. Consumers could harm a firm by violating the policies, damaging the property or directly harm the employees.

Furthermore, the results indicate that the relationship between experiential avoidance and revenge behaviours was mediated by the perception of brand hate. The analysis suggests that fast fashion brand hate results from negative experience with the brand would ultimately lead to sending negative WOM, online complain, marketplace aggression, and vindictive complain. For instance, poor brand image and performance could trigger brand hate, causing consumers to impede their friends, family and acquaintances from purchasing. They might also share their negative experience with the general public through various social media platforms which companies now have little control over. Meanwhile, the mediation effect of brand hate on the relationship between moral avoidance and revenge behavior is only significant for indirect revenge. Consumers normally find themselves lack of resources required to confront the moral issues with a company. The other explanation is that high environmental and social awareness is not necessarily consistent with one's action in terms of fashion consumption among young consumers (Gwozd, Netter & Bjartmarz, 2013). Consumers that are aware of the sustainability issues in fashion consumption may not stay committed to that choice when encountering actual purchase, they tend to choose sustainable options only when they are more easily accessible and affordable (Gwozd et al., 2013). Lastly, consumers who hate a fast fashion brand due to its irritating advertisement also engage in both direct and indirect revenge. Advertisement of a fast fashion brand that is perceived as irritating or annoying by consumers is indeed a threat for the company since intense negative emotion such as brand hate could cause approach behaviour.

CONCLUSION

Fast fashion brand hate is a serious issue that managers and marketers need to cope with as it could lead to several extreme behaviours that could affect a company's brand image. Therefore, consumers that hate the brand should not be ignored but treated carefully and

seriously. The objectives of this study were to identify motivators of hating a fast fashion brand and the behaviour results from it, among consumers between 18 and 34 years old in the UK. There are several motivators that could trigger brand hate in the fast fashion sector and will ultimately lead to vengeful behaviours. This study finds that experiential avoidance and irritating advertisement could lead to both indirect and direct revenge behaviours. Consumers' negative experience with a fast fashion brand could possibly result from poor performance of products, overly trendy styles, big store discomfort, and lack of personal help. Generally speaking, negative experiences are caused by unmet expectation and dissatisfaction. Therefore, managers and marketers should constantly monitor the quality of their products and the service provided by the frontline employees. Moreover, companies need to deal with dissatisfaction carefully by providing customers with more ways to contact the companies and cope with the problems in order to prevent brand hate. As for irritating advertisement, marketers and managers should be more cautious when choosing ads and prevent those that will cause high level of irritation such as portrayal of physical discomfort, tension and suggestive scene and focus more on positive messages instead of the irritation content.

Even though fast fashion brand hate due to identity avoidance may not lead to revenge behaviours, it does not mean they do not need to be dealt with. This study does not investigate the avoidance behaviours such as brand exit and brand rejection. Marketers and managers are suggested to select their target groups more carefully. In addition, moral avoidance should not to be ignored either as it is still possible that moral avoidance can ultimately result in brand hate behaviours. Companies should always pay attention to their moral conducts, social responsibility, and making their operations more transparent to consumers.

Overall, managers and marketers should actively prevent these motivators in order to avoid brand hate and the possible vengeful behaviours. In addition, companies also need to provide clear instructions on how to address vengeful behaviours. Online complaints may be difficult to control, whereas companies should actively monitor and interact with unsatisfied consumers online to solve their problems in order to improve from them. Vindictive complaints and angry customers need to be cope with by providing more training to employees and establishing standard procedures on dealing with different kinds of situation.

In summary, this study investigates the motivators and behavioural outcomes of fast fashion brand hate in the UK among young consumers. This study could be extended to older consumers who do not belong to the target group of fast fashion brands. Furthermore, as most fast fashion brands operate in multiple countries around the world, further study could be conducted in different countries to examine the differences among behavioural outcomes. Moreover, it is suggested that anthropomorphism can lead to stronger consumer-brand relationships and can make consumer-brand relationships resembling interpersonal relationships. Future research could also focus on fast fashion brands and identify whether anthropomorphism is negatively related to fast fashion brand hate.

REFERENCES

- Amed, I, Berg, A., Brantberg, L., & Hedrich, S. (2016). The State of Fashion. Available at <http://www.mckinsey.com/industries/retail/our-insights/the-state-of-fashion> (accessed 13 July 2017).
- Banister, E. N., & Hogg, M. K. (2004). Negative symbolic consumption and consumers' drive for self-esteem: the case of the fashion industry. *European Journal of Marketing*, 38(7), 850-868.
- Batra, R., Ahuvia, A., & Bagozzi, R. P. (2012). Brand love. *Journal of Marketing*, 76(2), 1-16.
- Bechwati, N. N., & Morrin, M. (2003). Outraged consumers: Getting even at the expense of getting a good deal. *Journal of Consumer Psychology*, 13(4).
- Bergkvist, L., & Bech-Larsen, T. (2010). Two studies of consequences and actionable antecedents of brand love. *Journal of Brand Management*, 17(7), 504-518.

- Bernhard, I. (2015). *Haters Gonna Hate: the Influence of avoidance Type, Company Characteristics and Anthropomorphism on Brand Hate*. Master Thesis, University of Twente, Netherlands.
- Bhardwaj, V., & Fairhurst, A. (2010). Fast fashion: response to changes in the fashion industry. *The International Review of Retail, Distribution and Consumer Research*, 20(1), 165-173.
- Bryson, D., Atwal, G., & Dreissig, M. (2010). Brand Hate is More Than a Feeling. *Admap*, October, 32-33.
- Bryson, D., Atwal, G., & Hultén, P. (2013) Towards the conceptualisation of the antecedents of extreme negative affect towards luxury brands. *Qualitative Market Research: An International Journal*, 16(4), 393-405.
- Cachon, G. P., & Swinney, R. (2011). The value of fast fashion: Quick response, enhanced design, and strategic consumer behavior. *Management Science*, 57(4), 778-795.
- Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: evidence and implications. *Psychological bulletin*, 135(2), 183-204.
- Chakrabarty, S., & Yelkur, R. (2005). The effects of ad irritation on brand attitudes. *Journal of Promotion Management*, 11(2-3), 37-48.
- Dalli, D., Romani, S., & Gistri, G. (2006). Brand dislike: the dark side of consumer preferences. *Advances in Consumer Research*, 33, 87-95.
- Delzen, M. V. (2014). *Identifying the Motives and Behaviors of Brand Hate*. Master Thesis, University of Twente, Netherlands.
- Djelic, M. L., & Ainamo, A. (1999). The coevolution of new organizational forms in the fashion industry: a historical and comparative study of France, Italy, and the United States. *Organization Science*, 10(5), 622-637.
- Doyle, S.A., Moore, C.M., & Morgan, L. (2006). Supplier management in fast moving fashion retailing. *Journal of Fashion Marketing and Management*, 10(3), 272-281.
- Feltman, R., & Elliot, A. J. (2012). Approach and avoidance motivation. In N.M. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 286-288). US: Springer.
- Fetscherin, M., & Heinrich, D. (2014). Consumer brand relationships: A research landscape. *Journal of Brand Management*, 21(5), 366-371.
- Fitness, J. (2000). Anger in the workplace: An emotion script approach to anger episodes between workers and their superiors, co-workers and subordinates. *Journal of organizational behavior*, 21(2), 147-162.
- Fournier, S., & Alvarez, C. (2015). Relating badly to brands. *Journal of Consumer Psychology*, 23(2), 253-264.
- Fricker, R. D. (2008). Sampling methods for web and e-mail surveys. In N. Fielding, R.M. Raymond & G. Blank (Eds), *The SAGE Handbook of Online Research Methods* (pp. 195-216). UK, London: SAGE Publications Ltd.
- Fritz, M. S., Taylor, A. B., & Mackinnon, D. P. (2012). Explanation of Two Anomalous Results in Statistical Mediation Analysis. *Multivariate Behavioral Research*, 47(1), 61–87.
- Gefen, D, Straub, D., & Boudream, M.C. (2000). Structural equation modeling and regression: guidelines for research practice. *Communications of the Association for Information Systems*, 7(7), 1-78.

- Grégoire, Y. Lafer, D., & Tripp, T.M. (2010). A comprehensive model of customer direct and indirect revenge: understanding the effects of perceived greed and customer power. *Journal of the Academy of Marketing Science*, 38(6), 738-758.
- Gwozdz, W., Netter, S., Bjartmarz, T., & Reisch, L. A. (2013). Survey results on fashion consumption and sustainability among young Swedes. Borås: Mistra Future Fashion.
- Hair, J.F., Gabriel, M., & Patel, V. (2014). AMOS covariance-based structural equation modeling (CB-SEM): guidelines on its application as a marketing research tool. *Brazilian Journal of Marketing*, 13(2), 44-45.
- Hogg, M. K. (1998) Anti-constellations: exploring the impact of negation on consumption. *Journal of Marketing Management*, 14(1-3), 133-158.
- Huefner, J., & Hunt, H. K. (2000). Consumer retaliation as a response to dissatisfaction. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 13, 61-82.
- Johnson, A. R., Matear, M., & Thomson, M. (2011). A coal in the heart: Self-relevance as a post-exit predictor of consumer anti-brand actions. *Journal of Consumer Research*, 38(1), 108-125.
- Kähr, A., Nyffenegger, B., Krohmer, H., & Hoyer, D. (2016). When hostile consumers wreak havoc on your brand: the phenomenon of consumer brand sabotage. *Journal of Marketing*, 80(3), 25-41.
- Kavaliauskė, M., & Simanavičiūtė, E. (2015). Brand avoidance: relations between brand-related stimuli and negative emotions. *Organization & Markets in Emerging Economies*, 6(1), 44-77.
- Kim, H., Jung Choo, H., & Yoon, N. (2013). The motivational drivers of fast fashion avoidance. *Journal of Fashion Marketing and Management: An International Journal*, 17(2), 243-260.
- Koenderink, P. M. (2014). Your Most Unhappy Consumers Are Your Greatest Source of Learning: the Effects of Avoidance Type, Company Characteristics, and Consumer Characteristics on Brand Hate. Master Thesis, University of Twente, Netherlands.
- Kucuk, S.U. (2016). Brand Hate: Navigating Consumer Negativity in the Digital World. AG Switzerland: Springer international Publisher.
- Lastovicka, J. L., & Sirianni, N. J. (2011). Truly, madly, deeply: Consumers in the throes of material possession love. *Journal of Consumer Research*, 38(2), 323-342.
- Lee, M. S., Motion, J., & Conroy, D. (2009). Anti-consumption and brand avoidance. *Journal of Business Research*, 62(2), 169-180.
- Lutz, R. J. (1985) Affective and cognitive antecedents of attitude toward the ad: A conceptual framework. In L.F. Alwitt & A.A. Mitchell (Eds), *Psychological processes and advertising effects* (pp. 45-63). Hillsdale, NJ: Erlbaum.
- Major, J.S., & Steele, V. (2017). Fashion industry. Available at <https://www.britannica.com/topic/fashion-industry> (accessed 13 July, 2017).
- Mihm, B. (2010). Fast fashion in a flat world: Global sourcing strategies. *The International Business & Economics Research Journal*, 9(6), 55-64.
- Miller, K. (2013). Hedonic customer responses to fast fashion and replicas. *Journal of Fashion Marketing and Management: An International Journal*, 17(2), 160-174.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Morgan, L. R., & Birtwistle, G. (2009). An investigation of young fashion consumers' disposal habits. *International journal of consumer studies*, 33(2), 190-198.
- Oliva, T. A., Oliver, R. L. & MacMillan, I. C. (1992). A catastrophe model for developing service satisfaction strategies. *Journal of Marketing*, 56(3), 83-95.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891.
- Rigdon, E.E. (1995). A necessary and sufficient identification rule for structural models estimated in practice. *Multivariate Behavioral Research*, 30(3), 359-383.
- Romani, S., Grappi, S., & Dalli, D. (2012). Emotions that drive consumers away from brands: Measuring negative emotions toward brands and their behavioral effects. *International Journal of Research in Marketing*, 29(1), 55-67.
- Romani, S., Grappi, S., & Dalli, D. (2008). I feel uneasy with this brand! Consumers' negative emotions to brands and behavioral responses: Proceedings of the 1st International Consumption and Consumer Resistance Conference, IRG, Universite Paris EST, 28 November. 2008. Paris.
- Sallam, M.A., & Algammash, F.A. (2016). The effect of attitude toward advertisement on attitude toward brand purchase intention. *International Journal of Economics, Commerce and Management*, 4(2), 509-520.
- Sender, T. (2015). Clothing Retailing - UK - October 2015. Available at: <http://academic.mintel.com/display/716211/> (Accessed: 5 April 2016).
- Van Selm, M., & Jankowski, N.W.(2006). Conducting Online Surveys. *Quality and Quantity*, 40(3), 435-456.
- Verhoef, P. C., Reinartz, W. J., & Krafft, M. (2010). Customer engagement as a new perspective in customer management. *Journal of Service Research*, 13(3), 247-252.
- Wilson, A.E., Glebelhausen, M.D., & Brady, M.K. (2017). Negative word of mouth can be a positive for consumers connected to the brand. *Journal of the Academy of Marketing Science*, 45(4), 534-547.

Implementation of Cultural Change Towards an Organisation: Evidence from Malaysian Service Oriented Organisation

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Abstract

Organisations which began from scratch will begin to face challenges in developing their organisational culture as it begins to grow. Top management will begin to seek for suitable culture to be introduced and practised in their organisation with the ability to blend ethical values with corporate competitiveness. Implementing western organisational culture is deemed to be inappropriate by Malaysian values. This research is to seek an understanding on the appropriate method in implementing organisational culture change which will assist top-management in their decision making. Three elements such as managerial leadership, intrinsic rewards and job environment were observed to be important in implementing a cultural change in the context of Social Exchange Theory and Resource Based View. A quantitative research has been conducted at two organisations with similar employee demography in Malaysia. Comparing these two organisations shows that element of intrinsic rewards has become the sole important factors towards a successful culture change. This paper is among the early attempts in analysing relationship of cultural changes in an organisation with relationship between leadership of management, intrinsic rewards and job environment through perspective of human capital in the organisation in Asian region especially in Malaysia.

Keywords: Organisational cultural change, human capital, Social Exchange Theory, Resource Based View Theory.

INTRODUCTION

Growth of an organisation requires changes in employee participation towards cultural change. A business entity usually begins with a small number of employees at the early phase. Most of management team will have problems in developing their business/organisation's culture once their organisation start to grow. Management may look for such alternative from western based organisations like Google Inc., by eliminating partitions or providing gyms at the office which now has become a common practise. Services and manufacturing industries are the two major economic pillars contributed 90% to overall Malaysia GDP and employed about 70 percent of Malaysia working population as reported by SME Corp, Malaysia in year 2015. This had drawn the researchers' interest into studying Malaysia's service organisations' employees' readiness to accept their organisation transformation for growth that may include cultural changes. The researchers seek to understand the elements which may assist top management in developing their organisational culture. Being an Asian based organisation, their culture is unique and western influences may not be applied entirely in their organisational culture. Therefore, we look on how Asian organisation top management team should influence their employees to engage in developing as well as participating in their organisational cultural change. Authors seek for an appropriate mechanism which should be applied by organisational management for implementing successful cultural change.

Attaining employees to be voluntarily engaged in organisational cultural change has become a challenges for human resources practitioners and the top management team need to manage their organisational human capital. High engagement from employees in the new organisational culture is believed to result in high productivity leading to a lucrative bottom line. Employees who are committed to the new organisational values will perform to best of their ability to meet customers' demands effectively, able to deliver superior customer service and increase sales returns (Kumar & Pansari, 2016; Lightle, et. al., 2015; Eldor & Gadot, 2016).

Recent researches have shown a positive link of organisational culture with relation to boost employee's confidence, self-esteem and work performance. Culture is believed to instil and stimulates shared beliefs, values and assumptions that guide and provide meaning to employees. There were insufficient researches related to human capital engagement in organisation throughout various sources and linked for organisational culture in Malaysia context (Reis et. al., 2016).

Research objective

The objective of this research is to study the impact of managerial leadership, intrinsic rewards and job environment towards creating an organisational cultural change in the perspective of Asian organisations particularly in Malaysia. The researchers are keen to understand which of these elements helps in developing organisational cultural change by comparing between two organisations. This research shall contribute towards enhancement of the Social Exchange Theory and Resource Based View in implementing organisational cultural change. It will assist organisations which are at the verge of developing their position to a higher level which requires a paradigm shift in organisational culture. Questions have been raised such as will management leadership have the ability to form a new culture in their organisation, perhaps elements of intrinsic rewards to employees could entice development of change in organisational culture and organisational job environment will have the capacity in developing cultural change.

LITERATURE REVIEW

In this research, authors believed such changes in organisational culture could be developed through managerial leadership in the organisation, providing intrinsic rewards to employees and developing organisational job environment for employees to participate in the change. Various studies related to employee's acceptance towards cultural change and employee engagement have been discussed on few theories. The most common theory being deliberated are Social Exchange Theory (Saks, 2006; Downey et al., 2015; Eldor & Gadot, 2016) and Resource Based View (Hayton, 2003; Syed Akhtar et al., 2008; Ling & Jaw, 2011). Some other theories also being debated are Social Identification Theory, Role Theory, Motivational Theory, Goal-Regulation Theory, Contingency Theory, Maslow's Hierarchy of Needs Theory, Two Factors Theory, Expectancy Theory, Self-determination Theory and Equity Theory (Hayton, 2003; Chung & Jing, 2009; Gilbert et al., 2011; Chee et al., 2011; Odoardi, 2014, Ugheoke et al., 2015; Azim, 2016; Bhatti et al., 2016). Towards this research program, the researcher's intention are focusing on organisational cultural change by applying these two main theories which are Social Exchange Theory and Resources Based View have been assimilated in evaluating their employees' acceptance to organisational cultural change

Social Exchange Theory.

Previous research conducted shown that cultural change arise from engage employees which lead to betterment of organisation financial performance (Leghtle, et. el., 2015; Kumar & Pansari, 2016; Eldor & Gadot, 2016) as these employees participate to greater consumer satisfaction leading to greater consumer participation to organisation services. Cultural change deems to be critical driver for today's organisational competitive advantage. Employee who are engaged in their organisational cultural change will be devote greater amount of cognitive, emotional and physical resources as reaction towards organisation direction. Rewards and recognitions from organisational leadership make the employees feel obligated to respond with cultural change. Both parties – employee and management – abide these exchanges of rules, such resulted lead to better trust and loyalty and mutual commitments (Saks, 2006). The fundamentals of Social Exchange Theory comprise three main elements which are relationship – when employee and organisational leadership where one party bestowing a benefit to others; reciprocity – leadership reciprocity with benefit; and exchange of benefit in creating mutual obligations (Elder & Gadot, 2016). Leaders have to understand important of social exchange by providing employees with resources and benefits and reciprocity will obligate employee to such higher engagement to cultural change (Saks, 2006; Eldor & Gadot, 2016).

Organisational leadership assurance and employee supporting new culture implemented to organisation able creating innovative in work and healthy working environment

among fellow colleague resulting to positive work culture (Prieto & Santana, 2012; Anitha, 2013). High positive work culture will resulted to high employee engagement as result of trust and inclusion leading to customer satisfaction with more favourable financial returns compared to organisation with low engagement to cultural change (Downey et. al., 2015; Kumar & Pansari, 2016).

Resource Based View

The Resource Based View Theory is devoted towards certain circumstances where organisation must maintain competitive advantage through human capital resources. Organisational management should acknowledges that their employees whom vulnerable, rare, and unique, mostly shall be difficult to imitate by competing organisation. Though these competencies, organisations has ability for competitive advantage as these employees are the main source of competitive advantage (Ling & Jaw, 2011; Akhtar et. al., 2008). It is argued when organisation with higher level human capital tended to be more efficient in utilising knowledge, which acquire and through such knowledge will able them to compete in global environment. Organisation ability in controlling strategic resources – as resources are scarce, valuable, and inimitable and non tradable – position the organisation towards competitive advantage. Superior human capital serves as enduring resources associated with better organisational performance (Hayton, 2003; Ling & Jaw, 2011).

Some researcher propose that organisation's human capital must promote entrepreneurial performance through investing in employees to such programs stimulate their employee entrepreneurial and innovation behaviours. It could be implemented through developing and implementing policy that have indirect or conditional effects on discrete, innovative and spontaneous act by employees (Raineri & Paille, 2016). Learning process must be cultivated as part of organisational culture and could be in such ways those regional offices employees to visit their headquarters in certain periods to learn about firm values, culture and its competitive advantages (Hayton, 2003; Ling & Jaw, 2011; Lightle et. al., 2015). In other words, Social Exchange and Resource Based View Theory provide spectrum reflect cultural change. Harnessing positivity as organisational internal culture with recognitions from leadership shall make their employee to be much engaged, mutual obligations arise and it will position organisation at better position compared to its competitors.

Managerial leadership

Organisations in the service industry become more challenging and competitive compared to previous era. Managerial leadership from top management has to enhance their managerial skills and entrepreneurial ideology to get advantages and benefits for business growth. It has shown that managerial leadership is the factors that entice organisational growth. Most of successful organisational shown employees are related to managerial leadership which include align their efforts with strategy, empower, promote and encourage teamwork and collaboration, and help employee grow and develop (Markos, 2010). Support from top line-supervisors able to develop cultural change in sense of employee engagement. These support resulted from trust from managerial leadership to their downline employees. Trust becomes crucial forces of cultural exchange relationship, and necessary prerequisite for interaction in facing uncertainty and vulnerability. High trust to leadership with integrative approach to human capital practices will increase employee performance (Amin, et. al., 2014; Downey, et. al., 2015). Leadership is important in developing an organisation. Social power is a force of social relationship in achieving organisational ideas, needs, or goals in organisation. A leader is required as leaders provide effective leadership so that organisational goal is achieved and business is continue to grow (Torelli & Shavitt, 2010). Therefore the hypothesis proposed as below:

Hypothesis 1: Leadership from organisation management able to develop organisational cultural change.

Intrinsic rewards

Accomplishment of work is one rewards make employees feel satisfied. Such rewards could either be tangible or intangible in nature and employee whom being been transferred to less interesting, less autonomous and less challenging task would show negative behaviour compared to those whom expect no change. Employee well-being depends greatly on their

ability to satisfied intrinsic requirement such as need for autonomy and self-determination (Oreg, 2006). Intrinsic value creates employee engagement as well as better performance lead to significant impact on business customers and organisational positioning. It is basically resulted from outcome accomplished from scope of work – keeping-up with the plan while aiming for the bottom line result. It became crucial to deliver customer satisfactions as it is more financially profitable to retain existing one compared to attract new customer (Kumar & Pansari, 2016; Anitha, 2013). Employee whom has higher sense of believing intrinsic rewards will engage more towards organisation cultural change. Positivity in employee's attitude and perception directly related to high intrinsic rewards which been treasure from their organisations. Positive pressure in stirring on employees to thrive for performance betterment required knowledge sharing among employees and compensated much related to achieving organisational goal. Positive organisational culture is in fact an engagement process due to positive workplace whereby each employee are helping each other's and such culture calls for implementation of positivity in organisation (Fong et. al., 2011; Lightie, et. al., 2015; Parent & Loveless, 2015). In the context of intrinsic rewards, the hypotheses propose as below:

Hypothesis 2: Providing intrinsic rewards able to develop organisational cultural change.

Job environment

Employees spend many hours at workplace. These has influence their working behaviour. When employees begin to consider their stay at organisation for worthwhile, those whom decided to stay put despite everything bad surrounding them but they see the rewards shall outnumbered the risk for quitting the job. However, those whom choose to quit even believe in benefit of higher value (Yulk, 1981; Rafaeli & Sutton, 1987). Job environment composition comprise of three sub-environments which include technical environment, human environment and organisational environment. Technical environment refers to tools, equipment, technological infrastructure and other physical or technical elements in the workplace. The human environment which includes peers, others with whom employees relate such as team or work groups, interactional issues, managerial leadership, it is also comprise a formal or informal networking among colleagues, teams and employees-management relationship in the organisations. Organisational environment refers to immediate task and national environment where an organisation draws its inputs, processes it and returns such outputs in form of products or services for consumer's consumption (Oludeyi, 2015). The three types of job environment could be re-categories into two basic types; namely conducive and toxic environment. Conducive workplace environments provides good experience to the employees and able to help employees actualise personality profiles dimension and fulfilling their needs. Whereas, toxic work environment is just providing stressful experience and discourage employee's behaviour. Therefore, it conclude that:

Hypothesis 3: Organisational job environment able to develop organisational cultural change.

Organisational cultural change

Cultural change may create positive impact to organisational development and growth. A few companies like Zappos, Twitter, Squarespace and Google are well known for their organisational culture that shape the employees' behaviours and achieve great success. New culture has positive impact on the organisational operation, reduces the employees' turnover and other traditional non-value benefits. Organisational culture plays a critical role in shaping an organisation's success or failure and an important factor influencing the growth of the organisation (Hartnell et al. 2011; Johnson, et. al., 2014). Unique tools need to be applied by employers to understand characteristics of their organisation to match with their employee's capabilities in handling daily job routine and aligning with overall organisation strategic direction. In any organisation, perception towards new cultural will trigger the overall mood of employees, culture itself shall affects key employee outcomes such as job satisfaction, morale, engagement and higher levels of discretionary work effort and cooperation. These include the processes that are used to speed up the timings and frequency of change. In terms of an organisational culture this process will play an important part to generate emotions in the process of change (Jones, 1991; Schein, 2010).

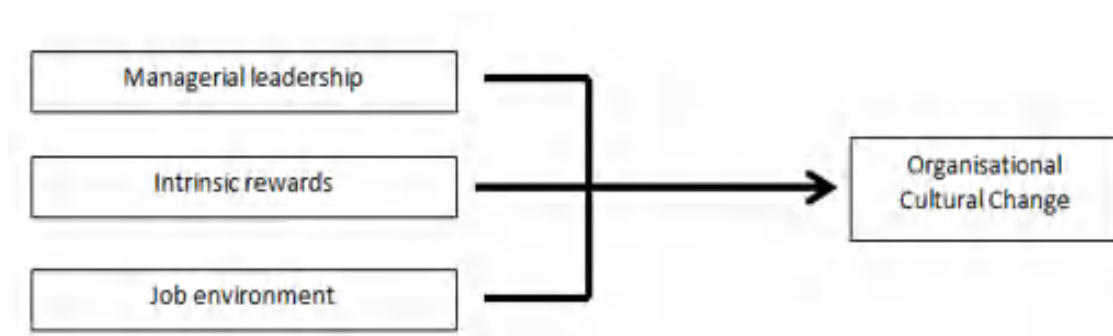
Organisation culture terminology is being replaced by referring as organisational climate which is used much frequently. Culture is defined more precisely as how different things move around and shape the overall behaviour of its members in different ways. For example, in an

organisation there are subcultures that are existed which are eventually based on different categories such as hilarity, professional identity along with different ethnicity. Different employee's response to different change that might be from sub cultures such as sometimes subcultures might become counter culture. Values shape an organisational culture and values to determine company mission and vision and shape the employee behaviours. Different researchers have explored different culture and emotion nexus (Rafaeli & Sutton, 1987; Yukl, 1981; Dodgson, 1993). Focusing on the affective process it has been contented that development of culture is done by means of emotional intensity that is based on certain historical experiences. In a company when there is an attempt to manage emotions there will an attempt to manage culture. It has also been claimed by researchers that one of the most difficult function in terms of corporate culture is towards generating commitment between different followers by making them known that they are a part of family (Adler & Gundersen, 2007).

Research framework

Throughout this research, researcher's intention is to focus on cultural change of employees in organisations. Focused more on service oriented institutions with Social Exchange and Resource Based View Theory have been assimilate in evaluate organisational culture change, against relevancy for factors such as managerial leadership, intrinsic rewards and jobs environment for their possibilities in escalating employees' acceptance of organisational change. Therefore, the research framework is shown in Figure 1 below:-

Figure 1: Research framework on organisational cultural change for service oriented organisation.



Researcher interested to understand in-depth on influence of management leadership towards inducing employee to adapt for cultural change. Element of managerial leadership is believe to enhance employee participation towards adapting new cultural for their organisation. Leadership from top-management or business owner perhaps able to elevate cultural change process. Observing elements of intrinsic rewards would increase understanding on relationship of intrinsic rewards to create organisational cultural change. This elements may have direct impact on employee to participate voluntarily to change their organisational culture. The elements of job environment may contribute to organisational cultural change as positive work environment among employees contribute to harmony as well as increase such process. Does the work environment of a workplace could contribute to organisational cultural change is still in doubt.

RESEARCH METHODOLOGY

Conducting this research require the researcher to find similar service oriented organisation which have similarity in their employee demographic. These two organisational may have involve managing, developing and maintaining human resources. Researcher only begin to collect data through quantitative survey only once suitable organisation has been identified. Questionnaire has been developed for data collection process. It have been designed with 5 points Likert-scale measurement for each question. Likert scale has value of one is referred as strongly disagree while the value of five is referred as strongly agreed. Researchers provide dual language for each question consists of English and Bahasa Malaysia. Each question has been checked in ensuring complete translation and conveys same meanings in both languages.

Data collection started from November 2016 to January 2017 in two organisations. Organisational Alpha is involved in providing human resource support service located in Penang, Malaysia. Respondents from this organisation consist of 69 respondents from various ranks and departments. While Organisation Bravo is a privately funded educational institution located at Kampar, Perak. About 33 respondents from Organisation Bravo participate in survey comprise of academic and managerial staffs. Majority of ethnic in both organisations were Chinese comprising of more than 52% and the balance consist of other ethnic like Malays and Indians. Participant from Organisation Alpha were 53% male and 47% female, with age range of employee consist of 29% in between 18 to 25 years old, 21% in age between 26 to 35 years old, 33% in age between 36 to 45 years old and only 8% with age above 45 years old. Majority of respondents' academic background of *Sijil Pelajaran Malaysia* (SPM) or equivalent to British O Level, 23% have diploma and 20% have bachelor degree. Respondent from Organisation Bravo consist of 58% male and 42% female. Being an academic organisation, 61% of respondents were holding post-graduate qualification and 27% holds bachelor degree.

DATA ANALYSIS

Researchers conducted Cronbach alpha test on reliability of each elements for both organisation. Element from of variable in Organisation Alpha shown result for managerial leadership was 0.664, intrinsic rewards was 0.721, job environment was 0.703 and cultural change was 0.614. In Organisation Bravo, Cronbach alpha for managerial leadership 0.547, intrinsic rewards was 0.850, job environment was 0.511 and cultural change as 0.968. The rule of thumb employed when the result is 0.80, however many scholar accept slightly lower figure above 0.5 (Bryman & Bell, 2011). Result from the Cronbach Alpha test is acceptable which shown questions in questionnaire are valid.

Measuring means with standard deviation shown central tendency offering general pictures of data without necessary inundating one with each of observation in a data set and the standard deviation on the other hand shown measurement of dispersion of interval and ratio scaled data, offer an indication of the spread of a distribution or variability of data (Cavana, et. al., 2001). Conducting analysis on variable from Organisation Alpha shown element of managerial leadership has mean 4.20 with standard deviation 0.86, intrinsic reward with means 4.39 with standard deviation 0.73, job environment has mean of 4.06 with standard deviation of 0.86 and organisational cultural change with means of 3.93 with standard deviation 0.92. Researcher found that Organisation Bravo have similarity in measurement of means and standard deviation as managerial leadership means was 4.21 with standard deviation 0.83, intrinsic reward with means 4.40 with standard deviation 0.58, job environment has means 4.12 with standard deviation of 0.91 and organisational cultural change 3.62 with standard deviation of 0.77. Therefore, result shown similarity in respondent perception from both organisations towards the issue of cultural change which could be generalise in service based organisation in Malaysia. It gives researcher confidence on data collected and eliminates perception of biasness form these data collected.

The correlation coefficient shown relationship of elements between every determinants and indication of cultural change with value varies from number 0, indicate no existence of internal consistency and number 1, indicating high degree of internal consistency. In most cases where existence of determinant A, there will be existence of determinant B and there are cases where existence of determinant A when there is no element of B or vice versa (Bryman & Bell, 2011). Correlation analysis for Organisational Alpha is shown as table 1 and for Organisational Bravo is shown in Table 2. Therefore, it is concluded that hypothesis 1 and hypothesis 3 shall be rejected as both organisation does not shown similar relationship between management leadership towards change of organisational culture and organisational job environment with organisational cultural change. Observing the relationship between intrinsic rewards with organisational cultural change shown interesting indication whereby both organisations have positive moderate relationship. In such cases, hypothesis 2 shall be accepted.

Table 1: Correlation analysis from Organisation Alpha

		Managerial leadership	Intrinsic rewards	Job environment	Organisation cultural change
Managerial leadership	Pearson correlation Sig. (2-tails)	1			
Intrinsic rewards	Pearson correlation Sig. (2-tails)	.499** .000	1		
Job environment	Pearson correlation Sig. (2-tails)	.549** .000	.650** .000	1	
Organisation cultural change	Pearson correlation Sig. (2-tails)	.468** .000	.512** .000	.570** .000	1

** Correlation is significant at the 0.01 level (2-tailed)

Table 2: Correlation analysis from Organisation Bravo

		Managerial leadership	Intrinsic rewards	Job environment	Organisation cultural change
Managerial leadership	Pearson correlation Sig. (2-tails)	1			
Intrinsic rewards	Pearson correlation Sig. (2-tails)	.506** .003	1		
Job environment	Pearson correlation Sig. (2-tails)	.174 .333	.619** .000	1	
Organisation cultural change	Pearson correlation Sig. (2-tails)	.041 .822	.426* .013	.246 .167	1

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

CONCLUSION AND DISCUSSION

In this study, researcher believes that factors of intrinsic rewards do have an impact for developing organisational cultural change. Becoming accepted as part of an organisation family member is an intrinsic recognition felt by an individual to their organisation. Employee identification to their organisation is seen as a psychological state wherein and individual perceived themselves with their organisations are intertwined with success and failure of the organization brand. Employees are committed to the organization, once employees feel that they are part of a team in influencing over decision making process, it create sense of inclusion. Employee perception of inclusions found to strongly predict commitment and performance (Kumar & Pansari, 2016; Downey et al., 2015). Once, an employee will engage their energy, time and commitment to their work as they received high recognitions from management. Employees' intrinsic reward as part of valuable asset should become the main element for top management to consider implementing the organisational culture changes. In accordance to Lewin's model institutions should undergo three stages consist of unfreezing, changing and freezing when change of culture needs to take place. The unfreezing stage required status quo not to be accepted and destabilization of old behaviour and mind-set. In changing stage, it captures efforts of organisation to assist in developing new behaviour and pattern of thing. This action could be implemented by utilising intrinsic rewards as motivational factors to employees.

Finally, freezing stage whereby organisational anchor the new culture and develops method to sustain it (Johnson, et al., 2016).

In relation to Social Exchange Theory, and Resources Based View Theory, that believe on obligations generated through series of interaction between parties who are in state of reciprocal interdependence with basic form of relationship evolve over time into trusting, mutual commitments if employees and management abide certain rules of exchange. Therefore; when top management try to provide their employees with relevant resources, the employees likely more engage in their work roles and accept cultural change (Saks, 2006; Downey et al., 2015). Such arrangement helps top management team gain trusts from their employees for able to drive their business towards greater level. Vision and mission by top management shall be materialised by the employee are highly motivated by relevant resources allocated. Indirectly, top management will be able to concentrate in developing market capitalisation with competitive advantage for the firm in term of full support by their employee that access to right resources. The research prove that employees willing to contribute their fullest energy and commitment for achieving organisational direction as outlay by management team. It contribute to strengthen Social Exchange Theory values indicating relationship, reciprocity and exchange between employer and employee.

Some examples of business organisation that implemented such changes in their culture are L.L. Bean Inc., and Adobe System Inc. Both organisation provide intrinsic rewards to their employees as L.L. Bean an outdoor goods retailer initiate sponsoring for outdoor activities such as kayaking and camping for the employees. their employees could even borrow outdoor gear and take advantage of camping around Rangeley Lake, Maine with their families. Perks and benefit provided to the employees including free on-site health screenings, fitness classes, and on-site massages. Depending on years of service, each salaried employee at L. L. Bean Inc., receives three to five days per year—on top of 10 to 15 days of vacation—that are designated for outdoor activities with their colleagues at Fogg Farm, a 700-acre plot of wooded land with a nine-hole golf course that the company has owned for decades The organisation recorded rise in employment by 22% since year 1999 with many of their employees working at 26 stores and 10 outlets across United States of America. the Adobe System Inc. offers perks like discounted gym memberships and tuition reimbursement, plus paid sabbatical and subsidies for their organisational employees. The organisation rewarded those employees whom able to receive patents for their ideas and are awarded bonuses for those creations at an annual banquet. Product releases are celebrated with events and recognition for the teammates responsible with rewards like bonuses and swag. This software firm offers its U.S. employees up to US\$360 per year for eligible wellness activities, such as gym memberships, activity trackers and running shoes. “Adobe wants employees to feel well so they can perform at their best, both professionally and personally,” said Mason Stubblefield, the San Jose, California-based company’s vice president of total rewards.

These methodology applied could be mimicked by Malaysian based business organisation in developing their culture which might entice employees participation as well as improved financial performance and bottom line result. Human capital will grow the organisation which requires top management to look at their employees’ well-being and provide recognition when employees have made the organisation a success. Through the result, it give direction for business owners or managers of an organisation on mechanism to develop changes in their organisational culture. It is proven from this research that implementing good relationship between employer with employees, providing recognition to employees whom champion management directions and values their employees contribution to the organisation have positive impact for organisational business owners to change their business culture. These mechanism could be implemented for new management in organisation wanted to turn around their business to more competitive and gaining competitive positioning while changes old culture towards new culture.

In conclusion, focusing on the affective process it has been contented that development of culture is done by means of emotional intensity that is based on certain historical experiences. So in a company when there is an attempt to manage emotions there will an attempt to manage culture. It has also been claimed by researchers that one of the most difficult

function in terms of corporate culture is towards generating commitment between different followers by making them known that they are a part of family (Adler & Gundersen, 2007). Future research in this area could be explore much further in both social exchange and resource based view theory in production based organisation. Production based such as in manufacturing oriented organisation might have different perspective compare with service based organisation. In this research, researcher only focuses on three variables that contribute to cultural change. There are few others elements which may incurred as well such as development of organisational learning and engagement of employees to cultural change should be an interesting to study. It will assist in decreasing gap between academic and practising in implementing cultural change for an organisation.

ACKNOWLEDGEMENTS

The research was part of the consultancy works which researchers conducted from September 2016 until June 2017 as part of the requirement for Doctor of Business Administration (DBA) candidature at Universiti Sains Malaysia. Name of both organisations have been changed in respecting organisation confidentiality. We would like to thanks the entire team members of KAAW Consultancy team for supporting during the project duration. Also, we would like to thanks Dr Teoh Ai Ping from Graduate School of Business (GSB), Universiti Sains Malaysia for her encouragement and advice in this project.

REFERENCES

- Adler, N. J., & Gundersen, A., (2007), *International Dimension of Organizational Behavior: 5th Edition*, Thomson South-Western, Ohio.
- Akhtar, S., Ding, D. Z., & Ge, G. L.,(2008), "Strategic HRM practices and their impact on company performance in Chinese enterprise", *Human Resource Management*, 47(1), 15-32.
- Amin, M., Ismail, W. K. W., Rasid, S. Z. A., and Selemani, R. D. A., (2013), "The impact of human resource management practises on performance", *The TQM Journal*, 26(2), 125-142.
- Anitha J., (2013), "Determinants of employee engagement and their impact on employee performance", *International Journal of Productivity and Performance Management*, 63(3), 308 – 323.
- Azim, M. T., (2016), "Corporate Social Responsibility and Employee Behavior: Mediating Role of Organizational Commitment", *Review of Business Management*, 18(60), 207-225.
- Bhatti, O. K., Aslam, U. S., Hassan, A., & Sulaiman, M., (2016), "Employee motivation an Islamic perspective", *Humanomics*, 32(1), 33-47.
- Bryman, B., and Bell, E., (2011), *Business Research Methods: 3^d Edition*, Oxford University Press, Oxford.
- Cabralles, A. L., Luño, A. P., & Cabrera, R. V., (2009), "Knowledge as a mediator between HRM practices and innovative activity", *Human Resource Management*, July-August 2009, 48(4), 485-503.
- Cabrera, A. M. G., & Hernández, F. G. B., (2014), "Differentiating the three components of resistance to change: The moderating effect of organization-based self-esteem on the employee involvement-resistance relation", *Human Resource Development Quarterly*, 25(4), 441 – 469.
- Cavana, R. Y., Delahaye, B. L., and Sekaran, U., (2001), *Applied Business Research: Qualitative and Quantitative Methods*, John Wiley & Sons, Sydney.

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Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Chen, C. J., & Huang, J. W., (2009), "Strategic human resources practices and innovation performance – The mediating role of knowledge management capacity", *Journal of Business Research*, 62, 104-114.
- Clayton, M., (2016), "Resistance to change", *Training Journal*, June, 16-19.
- Dodgson, M., (1993), "Organizational learning: a review of some literatures", *Organization studies*, 14(3), 375-394
- Downey, S. N., Werff, L. V. D., Thomas, K. M., & Plaut, V. C., (2015), "The Role of Diversity Practices and Inclusion in Promoting Trust and Employee Engagement", *Journal of Applied Social Psychology*, 45, 35-44.
- Eldor, L., & Vigoda-Gadot, E., (2016), "The Nature of Employee Engagement: Rethinking the Employee-Organisation Relationship", *The International Journal of Human Resource Management*, 1-27.
- Fong, C. Y., Ooi, K. B., Tan, B. I., Lee, V. H., & Chong, Y. L., (2011), "HRM Practices and Knowledge Sharing: An Empirical Study", *International Journal of Manpower*, 32(5/6), 704-723.
- Gilbert, C., De Winne, S., & Sels, L., (2011), "Antecedents of front-line managers' perceptions of HR role stressors", *Personnel Review*, 40(5), 549-569.
- Hartnell, C. A., Ou, A. Y., & Kinicki, A., (2011), "Organizational culture and organizational effectiveness: A meta-analytic investigation of the competing values framework's theoretical suppositions", *Journal of Applied Psychology*, 96, 677–694.
- Hayton, J. C., (2003), "Strategic Human Capital Management in SMEs: An Empirical Study of Entrepreneurial Performance", *Human Resources Management*, 42(4), 375-391.
- Jangle, A., (2016), "5C strategy to manage workforce diversity", *Human Capital*, February 2016, Oswal Printers & Publisher Pvt. Ltd., 60-61.
- Jian, M. L., Shipan, T., & Chi, F., L., (2015), "An analysis of the factors affecting the new generation employee engagement in the manufacturing industry in China", *International Journal of Business and Management*, 15(10), 19-35.
- Johnson, A., Nguyen, H., Groth, M., Wang, K., & Ng, J. L., (2016), "Time to change: A review of organisational culture change in health care organisations", *Journal of Organizational Effectiveness: People and Performance*, 3(3), 265-288.
- Jones, T. M., (1991), "Ethical decision making by individuals in organizations: An issue-contingent model", *Academy Of Management Review*, 16, 366–395.
- Kumar, V., & Pansari, A., (2016), "Competitive Advantage Through Engagement", *Journal of Marketing Research*, Vol. LIII (August 2016), 497-514.
- Lightle, S. S., Castellano, J., Baker, B., & Sweeney, R. J., (2015), "The role of corporate boards in employee engagement", *IUP Journal of Corporate Governance*, XIV(4), 7-13.
- Markos, S., & Sridevi, M.S., (2010), "Employee Engagement: The Key to Improving Performance", *International Journal of Business Management*, 5, 89-96.
- McCrimdle Research, (2006), *New Generations at Work: Attracting, Recruiting, Retaining & Training Generation Y*, McCrimdle Research, New South Wales, Australia.
- Nelson, D. W., (2016), "Enhancing interpersonal communication: Positive mood effects", *Social Behavior and Personality*, 44 (9), 1535 - 1540.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Odoardi, C., (2014), "The relationship between proactive goal generation and innovative behaviour at work", *Journal of Management Development*, 34(5), 553-565.
- Oludeyi, S. O., (2015), "A review of literature on work environment and work commitment: Implication for future research in citadels of learning", *Journal of Human Resources Management*, Vol. 18, Iss. 2, pp. 32-45.
- Oreg, S., (2006), "Personality, context, and resistance to organizational change", *European Journal of Work and Organizational Psychology*, 15(1), 73-101.
- Parent, J. D., & Lovelace, K. J., (2015), "The Impact of Employee Engagement and a Positive Organizational Culture on an Individual's Ability to Adapt to Organizational Change", *2015 Eastern Academy of Management Proceedings: Organization Behavior and Theory Track*, Merrimack College, 1-20.
- Prieto, I. M., & Perez-Santana, M. P., (2014), "Managing Innovative Work Behaviour: The Role of Human Resource Practices", *Personnel Review*, 43(2), 184-208.
- Rafaeli, A & Sutton, R.I., (1987), "Expression of emotion as part of work role", *Academy of Management Review*, 12(1), 23-37.
- Raineri, N., & Paille, P., (2015), "Linking Corporate Policy and Supervisory Support with Environmental Citizenship Behaviours: The Role of Employee Environmental Beliefs and Commitment," *Journal of Business Ethics*, 137, 129 – 148.
- Reichers, A. E., Wanous, J. P., & Austin, J. T., (1997), "Understanding and managing cynicism about organizational change", *Academy of Management Executive*, 11(1), 48-59.
- Reis, G., Trullen, J., & Story, J., (2016), "Perceived organisational culture and engagement: The mediating role of authenticity", *Journal of Managerial Psychology*, Vol. 31, Iss. 6. Pp. 1091-1105.
- Rich, B. L., Lepine, J. A., & Crawford, E. R., (2010), "Job engagement: Antecedents and effects on job performance," *Academy of Management Journal*, 53(3), 617-635.
- Reio, T. G., & Callahan, J. L., (2000), "Affect, curiosity, and socialization-related learning: A path analysis of antecedents to job performance", *Creating Knowledge in the 21st Century: Insights from multiple perspective*, Annual Meetings of the American Educational Research Association, April 24th, 1-16.
- Saks, A. M., (2006), "Antecedents and Consequences of Employee Engagement", *Journal of Managerial Psychology*, 21(7), 600-619.
- Sánchez, R. T., Vences, J. C. P., and Apellániz, M. S., (2013), "Hierarchical distances as a moderator of HRM practices on organizational performance", *International Journal of Manpower*, 34(7), 794-812.
- Schein, E. H., (2010), *Organizational culture and leadership: 3rd Edition*, John Wiley & Sons, San Francisco.
- Shukla, S. R., & Kumar, G., (2016), "Employee-friendly policies: A way out to attrition (With special reference to study of software firms in Pune)", *Journal of Commerce & Management Thought*, 7(2), 269-277.
- Snape, E. & Redman, T., (2010), "HRM practices, organizational citizenship behaviour, and performance: A multi-level analysis", *Journal of Management Studies*, 47, 1219 – 1247.
- Stanley, D. J., Meyer, J. P., & Topolnytsky, L., (2005), "Employee Cynicism and Resistance to Organizational Change", *Journal of Business and Psychology*, 19(4), 429 – 600.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Tan, M. K., & Kareem, O. A., (2016), "Teacher attitudes towards change: A comparison between high – and mediocre – performing secondary schools in Malaysia," *International Studies in Educational Administration*, 44(1), 105 – 127.
- Thompson, K. R., Lemmon, G., & Walter, T. J., (2015), "Employee Engagement and Positive Psychological Capital", *Organizational Dynamics*, 44, 185-195.
- Tomsic, N., Bojnec, S., & Simcic, B., (2015), "Corporate Sustainability and Economic Performance in Small and Medium Sized Enterprise", *Journal of Cleaner Production*, 603-612.
- Torelli, C.J., & Shavitt, S., (2010), "Culture and power concepts", *Journal of Personality and Social Psychology*, 99(4), 703–723.
- Ugheoke, S. O., Mohd Isa, M. F., and Wan Mohd Noor, W. S., (2015), "Antecedents of strategic human resource management practices on intangible firm performance: Analytical Investigation of SMEs", *Asian Social Science*, 11(13), 33-44.
- Vanhala, M., & Ahteela, R., (2011), "The effect of HRM practices on impersonal organizational trust", *Management Research Review*, 34(8), 869 – 888.
- Wickramasinghe, V., (2011), "Influence of total quality management on human resource management practices: An exploratory study", *International Journal of Quality & Reliability Management*, 29(8), 836-850.
- Wright, P. M., & McMahan, G. C., (2011), "Exploring human capital: putting human back into strategic human resource management", *Human Resource Management Journal*, 21(2), 93-104.
- Ya, Hui Ling & Bih, Shiaw Jaw, (2011), "Entrepreneurial leadership, human capital management, and global competitiveness", *Journal of Chinese Human Resources Management*, 2(2), 117 – 135.
- Yulk, G., (1981), *Leadership in organizations*, Prentice Hall, Englewood Cliff, New Jersey.
- Zhu, W., Chew, K. H. I., and Spangler, W. D., (2005), "CEO transformational leadership and organisational outcome: The mediating role of human-capital-enhancing human resource management," *The Leadership Quarterly*, 39-52.

Predicting Malaysian Engineers Intention to Migrate Abroad Using an Extended Theory of Planned Behaviour Model

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Abstract

The issue of brain drain among the highly skilled workers in Malaysia has reached a critical stage. One out of ten professionals in the country have migrated in the past. In contrast to past studies that mostly investigated the issue from Economics, Politics and Social perspectives, this study analysed the issue from the behavioural perspectives. Theory of Planned Behaviour (TPB) model was utilised to explain the engineers' behavioural intention to migrate abroad. In addition, the feeling of psychological ownership over Malaysia is also expected to explain the variance in the intention. Using non-probability convenience sampling technique, data from 402 engineers were collected. Based on the structural equation modelling analysis, the findings revealed that the engineers' attitude and their subjective norms regarding the behaviour of migration explain their intention to migrate abroad significantly. However, the engineers' perceived behaviour control is not expected to influence their intention. Moreover, the engineers' low feeling of psychological ownership is found to be significant in increasing the intention. Therefore, the country's local authorities should focus their effort in identifying the factors that influence the engineers' positive attitudes toward migration. They should also determine the engineers' important referents who influenced their positive subjective norms. Strategies should also emphasize in increasing the engineers' feeling of psychological ownership over Malaysia. This study believes that in tackling the issue of brain drain in Malaysia, local authorities should develop intervention policies from behavioural perspective. The policies should target to change the professionals' beliefs regarding the behaviour of migration.

Key words – Brain Drain, Intention to Migrate Abroad, Theory of Planned Behaviour, Psychological Ownership

INTRODUCTION

Docquier (2014) refers to 'brain drain' as "international transfer of human capital resources, and it applied to the migration of highly educated individuals from developing to developed countries" (p. 2). Compared to low skilled workers, the international movement of highly-skilled workers – people with at least one year of tertiary education – continue to rise significantly in the last few decades. Kerr, Kerr, Ozden and Parsons (2016) reported that between 1990 and 2010, the rate of migration among the graduates and professionals have gone up by nearly 130 percent. In contrary, the rate was only about 40 percent among the lowly-skilled workers. Arslan et al. (2014) reported that most of the movement took place from the developing nations to the Organization for Economic Cooperation and Development (OECD) nations. The working paper also revealed that about 17.6 million of the skilled workers from the non-OECD countries have moved to the OECD countries in the last 20 years. Among them, the English-speaking countries like United States of America (US), the United Kingdom (UK), Australia and Canada have attracted nearly 70 percent of the total inflow of highly-skilled workers into OECD countries.

Although the phenomenon of brain drain are high in the non-OECD countries, the report by OECD-UNDESA (2013) shows that OECD countries too are experiencing high brain drain. Countries like UK, Germany, South Korea and Canada as well as Italy, Mexico and Poland (in Dunnewijk, 2008) have experienced high rate of emigrants among their professionals. Some of the countries have recorded more than 10 percent of highly-skilled workforce migration. Nevertheless, it is not a major issue in those countries and the impact to their economy is

minimal. Their ability to attract talents from other countries were enough to replace the outflow of their own talents (Docquier & Rappoport, 2012).

In an article on brain drain, the World Bank (2011) reported that countries with large population, such as Brazil, China and India were not affected by large outflow of their local talents to other developed countries. The countries ability to produce large number of highly-skilled workers were able to offset the outflow, thus ensuring continuous supply of talent workers. Therefore, the proportion of the talent workers who left these countries were below five percent. However, the scenario is different in countries with smaller population. Countries like Haiti, Jamaica, Tonga and Papua New Guinea have recorded more than 50 percent outflow of their professionals with tertiary educations (Docquier, 2014). The countries inability to produce enough skill jobs plus the attraction of high wages from the host countries were identified as the main reasons for the large outflows of the talents. Nevertheless, Docquier explained that brain drain do not necessarily bring harms to the sending countries. For example, the international migration of professionals from Tonga, Papua New Guinea and Fiji have brought net gain to the countries. However, Docquier noted that to many other countries, brain drain resulted in net loss. One such country is Malaysia.

Problem statement

The World Bank (2011) report stated that the issue of talent outflows has reached a critical stage in the country. The statistics in OECD-UNDESA (2013) revealed that more than 10 percent of the country's highly-skilled workers have migrated abroad. Based on 30-year time series data (1980 – 2010), Harnoss (2011) highlighted that the negative effect of brain drain on Malaysian economy was estimated between 0.7 percent and 1.6 percent decline in the annual gross domestic product (GDP). Due to this phenomenon, the country continues to experience talent shortages. Malaysian Investment Development Agency reported that some of the foreign investors have declined to invest in the country due to the talent shortages (New Straits Times [NST], 2014). The country was unable to meet the demand for highly-skilled people such as engineers and scientists. The statement is further supported by the findings of a World Bank (2016) study on the challenges faced by Malaysia in strengthening its productivity growth. The study explained that majority of the firms surveyed complained that it is difficult to hire skilled workers with technical and managerial skills due to the shortages of talents in the fields. It has brought negative consequences to these firms in the form of declining productivity. Hence, the call to address the issue of talent shortages in the country is growing. Datuk Azman Mahmud, MIDA's chief executive officer, has urged the country's policymakers to find solutions for the talent shortages in some critical areas, such as engineering, accounting, finance and research and development (NST, 2014).

Unlike the developed countries which are able to attract millions of talent workers globally, Malaysia is finding difficult to attract them. Due to the country's strict immigration rules, the foreign skilled workers are reluctant to enter and work in the country (Bris & Caballero, 2015). Moreover, due to the relatively low wage level in the country, Malaysian firms could not compete with firms from other high-income countries in attracting highly-skilled workers. The huge influx of foreign workers into Malaysia are mostly low skilled workers.

In handling the issue of brain drain, the country has set up TalentCorp in 2011. The purpose of the agency is to attract back Malaysian professionals who have previously migrated abroad and also to retain the existing talents in the country (TalentCorp, 2012). In between 2011 and 2016, the agency has successfully attracted some 4000 professionals to return home (Yuen, 2017). A program called Retuning Expert Program (REP) was launched to attract the professionals by offering them a lower income tax rate for five years upon their return. Though TalentCorp managed to bring some positive results, the situation of high brain drain in the country still persists. OECD-UNDESA (2013) estimated that more than 15,000 highly qualified professionals from Malaysia had migrated abroad from 2010 to 2013. In another article, Nadaraj (2016) reported that about 4,000 Malaysian professionals have withdrawn their money from their provident funds in order to move abroad permanently. This reveals that the phenomenon of brain drain in Malaysia is still exist and rising. The issue of moving abroad among Malaysian professionals is also alarming among the Ultra High Net Worth Individual (UHNWI). Chew (2016) reported that about 26% of the country's UHNWI have intention to migrate abroad due to

lack of job and business opportunity in the country. In contrast, only about 15 percent of UNHWI in the ASEAN region have such intention.

As mentioned earlier, firms in Malaysia is finding difficult to hire engineers due to the shortages of such highly-skilled workers in the country. In an interviews with executives of top multinational companies (MNCs) located in Malaysia, Sharmila (2016) stated that many of them found difficult in recruiting engineers in Malaysia. In comparison, the executives argued that it was relatively easier to recruit such workers in China, India, and the US. Sharmila explained that one of the reasons for the shortages of engineers in Malaysia was due to high wages and better opportunities abroad. TalentCorp (2012) acknowledged that for Malaysia to achieve high income status by 2020, the country needs about 250,000 engineers. However, by January 2017, the number of registered graduates and professional engineers in Malaysia was 110,000 (Board of Engineers Malaysia [BEM], 2017). Even if the figure demonstrates 50 percent of the actual number of engineers, the total engineers in the country is estimated around 200,000 only. It is still way below the target by TalentCorp. If more engineers from Malaysia decided to migrate abroad, it is difficult for the country to achieve a sustainable economic growth in the coming years. In view of this issue, particularly of the shortages of engineers in Malaysia, the present study aimed at determining the intention of Malaysian engineers to migrate abroad.

A review of literature on the issue of migration among Malaysian undergraduates, graduates and professionals revealed that the analyses were mostly from the field of economic, social and politic (for examples, see Chandar, Jauhar & Abdul, 2015; Choong, Keh, Tan, Lim, & Tho, 2013; Foo, 2011; Harnoss, 2011; Ho & Tyson, 2011; Hugo, 2011; Jauhar, Yusoff & Khoo, 2009; Liew, 2013; Quah, Zainal & Guok, 2014; Tyson, Jeram & Azlan, 2011; Yeow, Ng, Chin & Boo, 2013). The studies have identified various factors from the three fields that were expected to predict the intention to migrate abroad. Nevertheless, the issue of brain drain in the country continues to affect the talent environment in Malaysia. Current policies seem to be not very effective in curbing the migration behaviour among the Malaysian professionals. Researchers in the field of migration like Castles (2000) and Arango (2004) have proposed studies on the determinants of migration from behavioural perspective. A review of literature on the behavioural analysis indicates that Theory of Planned Behaviour (TPB) provides a good platform to analyse the factors that influence the intention to migrate abroad (IMA) by the Malaysian engineers. The three antecedents of behavioural intention – attitude, subjective norms (SN) and perceived behavioural control (PBC) – may provide alternative explanations for the high intensity of brain drain among engineers in Malaysia, despite the various measures undertaken by the government.

The second question that the present study attempt to seek answer is the role of psychological ownership (PO) in reducing brain drain. PO has been identified as a salient factor in retaining employees in organizations. According to Dyne and Pierce (2004), PO did not only contribute significantly in developing positive attitudes among employees toward their jobs, but also toward the organizations. Hence if the workers possess high feeling of PO towards their organizations, the chances of them remain in the organization is high. Using similar argument, this study posits that if people have high feeling of PO over their countries (POC), they are expected to remain in the country. According to Cox (2013), POC is a better measurement of national identity compared to other measures such as nationalism and patriotism. Since the concept of POC is relatively new, studies related to the role of POC in retaining talents at home is unknown. As to fill up this gap, the present study will extend the TPB framework by adding POC as one of the predictors of IMA among the engineers in Malaysia.

In view of the issues discussed above, the purpose of this study is evaluate the behavioural factors that determine the Malaysian engineers' intention to migrate abroad. In the process, the following two specific objectives are developed:

- Using TPB, to determine the effect of attitude, subjective norms and perceived behavioural control on the engineers' intention to migrate abroad
- To analyse the effect of psychological ownership feeling over Malaysia on the engineer's intention to migrate abroad

Contribution of the Research

This study is expected to contribute significantly to the literature of brain drain. Past studies focused their analyses mostly from the economic and social perspectives. However, the view from a psychological perspective – particularly on the behavioural perspective – is limited. Among the behavioural theories, the present study will use the extended TPB model – by adding the POC construct in explaining the engineers' IMA. Using the extended model, this study would contribute significantly in the development of a new conceptual framework to evaluate the intention of highly-skilled workers to migrate abroad from the behavioural perspective. The present study hopes to provide a new insight into the role of POC in reducing the phenomenon of brain drain in a country. This study is also expected to provide the Malaysian authorities a new approach in dealing with the phenomenon of brain drain in the country. TalentCorp of Malaysia has been implementing various strategies to retain talents in the country as well as policies to attract Malaysians from abroad. However, the number of highly-skilled workers leaving the country far exceeding the numbers who are returning to Malaysia. Since the present study will analyse the brain drain phenomenon from the behavioural perspectives, this may provide opportunities for policymakers in Malaysia to understand the engineers' attitude, norms and control over the behaviour of migrating abroad. The policymakers could develop relevant behavioural intervention policy to reduce the phenomenon of brain drain in Malaysia.

LITERATURE REVIEW

Overview of Literatures of Brain Drain's Past Empirical Studies in Malaysia

Although the migration issue has been widely discussed at government level, in higher institutions, and media, relevant past studies conducted in Malaysia were scarce. Moreover, nearly all the studies analysed the issue from macro perspectives using theories and models in the field of economic, social and politic. Studies by Chandar et al. (2015), Choong, et al. (2013), Foo (2011) and Wahab (2014) have identified economic factors such as lack of career opportunities and low salary as the main contributors to the high brain drain phenomenon in Malaysia. The highly-skilled workers felt that the local economy could not provide them with sufficient high-skilled jobs. The studies also indicated that the workers perceived that the salary offered abroad were much higher relative to what they can earn locally.

In the aspect of social factors, exposure at international level, distance between countries and spoken language were significant in explaining the causes of Malaysians to migrate abroad (Foo, 2011; Jauhar et al, 2009; World Bank, 2011). For example, Jauhar et al. found that accounting students and professional accountants in Malaysia intended to migrate abroad to gain valuable exposure at international level. Tyson et al. (2011) revealed that the country's minority ethnics such as Chinese and Indian felt that the opportunities for them to get placements in public higher education institutions, jobs in the public sector and social incentives were limited. These factors have driven many of them to seek better education and career prospects abroad. The feeling of social injustice among the minority ethnics in Malaysia was also found to be significant in explaining the IMA in Choong et al. (2013) and Quah et al. (2014).

Quah et al. (2014) also found that political environment in Malaysia does significantly influence the intention of undergraduates in Malaysia to migrate abroad. The study concluded that the weakening of the political environment in the country could further worsen the issue of brain drain in Malaysia. The finding was consistent with the qualitative analysis result discussed in Tyson et al. (2011). However, in the study by Foo (2011), there was no significant relationship between political risk and the actual migration of Malaysian professionals. It is evident that past studies on the phenomenon of brain drain in Malaysia focused on the economic, politic and social factors. To fill up the literature gap, the present study will evaluate the influence of behavioural factors on the Malaysian engineers' IMA.

Modelling a Theoretical Framework of Intention to Migrate Abroad

Among the behavioural models that are available, TPB has certain advantages over the others. Unlike context-specific model like HBM, TPB is developed to be content-free. The model is able to predict the factors that explain behavioural intention or the actual behaviour in various fields of study. For instance, Presley, Damron-Martinez and Zhang (2010) have shown that the

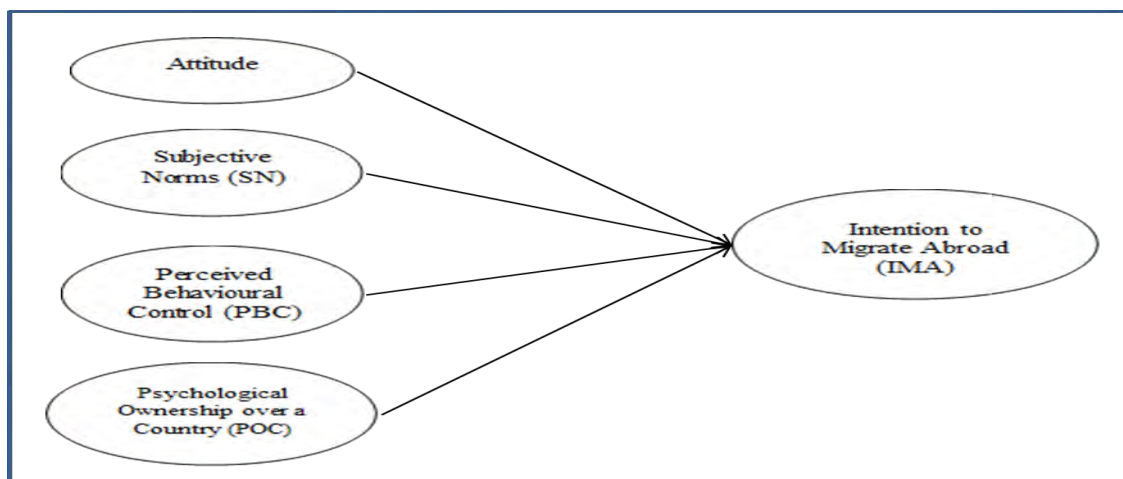
model has good predictability in the field of education, while Chen and Tung (2014) and Ferdous and Polonsky (2013) demonstrated the same in marketing. Meanwhile, Donald, Cooper and Conchie (2014) have applied the model successfully in predicting students' intention to use public transport. Hence, in analysing the Malaysian engineers' IMA, TPB model is expected to fit the data of the present study appropriately.

TPB is also widely used in predicting behavioural intention because it allows additional factors to be added into the model. One of the factors that commonly incorporated into the model is moral norm. Chan and Bishop (2013), Chen and Tung (2014) and Donald et al. (2014) have included the construct to test if performing certain behaviour is considered morally right or not. In extending the model, Conner and Armitage (1998) argued that the new variable must be supported theoretically and preferably related to the field of behavioural study. Therefore, the addition of POC in extending the TPB model in the present study is justified. Since POC is constructed from the psychological perspective, the construct can be used to study individuals' behaviour.

CONCEPTUAL FRAMEWORK

Figure 1 illustrates the conceptual framework of the extended TPB model developed for the present study. The engineers' IMA is expected to be directly influenced by four factors – attitude, SN, PBC and POC. Attitude refers to the extent to which an individual appraise a particular behaviour – either favourable or unfavourable (Ajzen, 1991). For the present study, attitude can be best defined as the degree to which the engineers appraise the behaviour of migrating abroad for at least a year, favourably or otherwise. SN is a social factor that measures the degree to which an individual is pressured by others to perform a specific behaviour. In the evaluation of the engineers' intention to migrate, the SN is defined as the extent to which the engineers' significant others pressure the engineers to migrate abroad. Meanwhile, Ajzen explained that PBC measures the degree to which an individual perceives the ease of performing the behaviour. Hence, PBC will be referred as the extent to which the engineers' perceive ease or difficult in migrating abroad for at least a year. Next, POC is described by Cox (2013) as an individual's feeling of ownership over ones country. It describes the psychological experience received by the individual when he or she possesses certain feelings of ownership towards the country. In the present study, POC is defined as the engineers' feeling of psychological ownership over Malaysia.

Figure 1: Proposed Conceptual Framework



Past migration studies that have applied TPB model are limited. The studies known to have used the model are Engle, Schlagel, Dimitriadi, Tatoglu and Ljubica (2015), Remhof, Gunkel and Schlaegel (2014) and Suwandi (2015). The studies by Engle et al. and Remhof et al. evaluated the intention of undergraduates to accept offer to work abroad upon their graduation. Both studies analysed the undergraduates' behaviour towards working abroad and contributed to human resource management policies in encouraging future employees to take

up international assignment. Meanwhile, Suwandi (2015) analysed the intention of Indonesian female workers who were residing in Egypt to undertake job as domestic workers. The study assessed the workers' behaviour – who were mostly working illegally in Egypt – towards taking up the jobs as domestic workers offered legally. Overall, the motives of the three studies were to identify the respondents' behaviour that can be used to encourage them to take up jobs abroad. In contrast, the present study aimed to identify the factors that influence the engineers' migration behaviour so that appropriate intervention policies can be implemented by the Malaysian authorities to discourage such behaviour.

Hypotheses development

In explaining the relationship between attitude and IMA, past studies have shown that positive relationship exists between the two variables. In Engle et al. (2015), significant relationships were established in all the five countries where the surveys were performed (Croatia, Germany, Russia, Turkey and US). Meanwhile, Remhof et al. (2014) found sensation seeking, which was used as one of the indirect measurements of attitude, significantly influenced the intention of undergraduates in Germany to work abroad. Both the studies provided evidence that positive attitudes will increase the intention to work abroad. Therefore, in the present study, it is hypothesised that the engineers' positive attitude towards the behaviour of migration is expected to increase their IMA. Hence, the first hypothesis developed for this study is as follows:

H₁: The Malaysian engineers' intention to migrate abroad is positively influenced by their positive attitudes toward the behaviour of migration

Regarding the influence of the second antecedent, which is SN, on the behavioural intention, past studies have established a significant positive relationship between the two. All the three studies (in Engle et al. 2015; Remhof et al. 2014; Suwandi, 2015) have shown that individuals who think that their important others will support them in performing the behaviour of migration are expected to have higher IMA. In particular, Suwandi (2015) found SN as the only predictor among the three antecedents to significantly influence the Indonesian females to take up the offer to work as domestic workers in Egypt. Overall, the findings in the past studies explained that when the important others pressure the individuals to perform a specific behaviour, the individuals will have stronger intention to comply with their wishes. Hence, for the present study, it is expected that when the engineers' feel that many of their important others want them to migrate abroad, their IMA will increase significantly. The following is the second hypothesis for the present study:

H₂: The Malaysian engineers' intention to migrate abroad is positively influenced by their positive subjective norms on migrating abroad

Next, individuals who believe that they have better control over a particular behaviour are expected to have stronger intention to perform the behaviour. However, in the case of migration, the relationship is not clearly established. The findings in Engle et al. (2015) indicate significant relationships between PBC and intention in four out of five countries surveyed (result for Russian data was not significant). Meanwhile, in Remhof et al. (2014), two variables – self efficacy and cultural intelligence – were used as proxies for PBC. Among them, only cultural intelligence was found to be significant in explaining the undergraduates' intention to take up international assignment. The relationship between PBC and intention to work as domestic worker in Suwandi (2015) was non-significant. Nevertheless, in the present study, it is hypothesised that the engineers will have stronger IMA if they perceive that they have better control over such behaviour. The relationship between the two variables is expected to be positive.

H₃: The Malaysian engineers' intention to migrate abroad is positively influenced by their positive perceived control over migrating abroad.

Since the concept of POC is relatively new, there is no evidence of any past studies that have investigated its influence on IMA. However, a number of studies have investigated the relationship between patriotism (one of the constructs used to measure national identity) and the IMA. Leong and Soon (2011) and Mattes and Mniki (2007) have established a significant

negative relationship between the two variables. When individuals' feeling of patriotism are strong, they are not expected to leave their countries, thus have lower IMA. Similarly, in the present study, it is expected that if the engineers have strong feeling of ownership over Malaysia, they will have low IMA. Hence, the following negative relationship is hypothesised between the two constructs:

H₄: The Malaysian engineers' intention to migrate abroad is negatively influenced by their strong feeling of psychological ownership over Malaysia.

RESEARCH METHODOLOGY

Measurement of the Constructs

In measuring the dependent variable for this study, the intention to perform the behaviour is referred as *'the intention to migrate abroad for at least a year in the next two years'*. According to Beine, Docquier and Rapoport (2008), when individuals intend to migrate for long term, they can ended up staying permanently in the host countries. Hence, long term migration could bring more harm to the sending countries. United Nation (1998) defined long-term migration as 'staying abroad for at least a year'. In regards to migration, de Groot, Mulder and Manting (2011) explained that individuals usually migrate within two years after they initiated the intention. The actual movement is hardly takes place beyond two years. Therefore, the term 'migration' in this study is referred to at least a year and the actual behaviour of the migration to take place within the next two years.

Ajzen (1991) has suggested researchers to use multiple items in measuring the constructs in the TPB model as to ensure higher internal validity. In the past studies, some of the commonly worded items used to measure intention were 'I intend to ...', 'I will ...' and 'I want to ...' (for example, see Bagozzi, 1992; Horng et al., 2013; Hyland et al., 2013). In view of this, three items are developed to measure the IMA. For example, the first item is *"I intend to migrate abroad for at least a year in the next two years"*. The items are measured using seven-point Likert scale, from 'Strongly Disagree' to 'Strongly Agree'.

In the past, attitude were measured by three to seven items. For example, three items were included in Hyland et al. (2013), five in Horng et al. (2013) and seven in Chen and Tung (2014). In the present study, five items are included in measuring the engineers' attitude towards migrating abroad. Adjectives such as good, enjoy, benefit, pleasant and valuable which were widely used in the TPB literatures are selected. For each of the five items, respondents are requested to choose the scale that best represent their attitude towards migration. The items are evaluated using semantic differential scale, from 1 to 7. For example, in evaluating whether migrating abroad is worthless or valuable, the item *'For me to migrate abroad in the next two years is ... Worthless 1 2 3 4 5 6 7 Valuable'*.

In measuring the second antecedent which is SN, the suggestion by Lapinski and Rimal (2005) is taken into consideration. The authors suggested the use of injunctive and descriptive norms in measuring the overall SN of individuals. The injunctive norms measure what the important others generally belief a person should do or behave in a particular situation. Meanwhile, the descriptive norms measure the actual behaviour of the important others in such situation. In the present study, two items each are constructed to measure the injunctive and descriptive norms of the engineers. In regards to injunctive norms, the items asked the engineers to state if their important others will support and approve their IMA. In measuring the descriptive norms, the items evaluate the actual migration behaviour of the engineers' important others. All the four items are measured using seven-point Likert scale, from 'Strongly Disagree' to 'Strongly Agree'.

Similar to the first two antecedents of intention, past studies have used multiple items to measure PBC. The numbers ranged from three to seven (e.g. three in Chen & Tung, 2014; five in Horng et al., 2013; seven in Burkhalter, et al., 2009). In general, the themes used in the past studies to measure the individuals' PBC were resources and time to perform the behaviour, their self-efficacy, ease of performing the behaviour and also the control over such behaviour. Based on the suggestions in the literature, the present study has included four items to measure the engineers' PBC over the behaviour of migrating abroad. For example, in measuring the

engineers' self-efficacy, the statement '*I am confident that if I wanted to, I could migrate abroad for at least a year in the next 2 years*' is developed. All the four items are measured using seven-point Likert scale, ranging from 'Strongly Disagree' to 'Strongly Agree'.

The last construct in the conceptual framework is POC. As discussed earlier, the concept is relatively new in the literature. In measuring the construct, the suggestions by Cox (2013) is considered. Cox used three routes that lead to the development of psychological ownership – control, knowledge and engagement - in developing the items for POC. In determining the engineers' perception on the degree of control they have over their country, two items are included. Another two items are added to measure the extent to which they collect news and knowledge in relation to their country, Malaysia. Finally, two more items are incorporated into the questionnaire to evaluate the engineers' participation in activities related to the country, such as standing when national anthem is played and voting during elections. Similar to the other constructs, POC is measured by seven-point Likert scale ranging from 'Strongly Disagree' to 'Strongly Agree'.

Sampling design, data collection and analysis

The target engineers in this study are those categorised as generation Y (gen-Y). These are the engineers who were born between 1979 and 1995 (Macmillan Dictionary, 2010). Gen-Y group is selected because they are known to have higher tendency to move from one job to another and are also more willing to take up new challenges abroad (PricewaterhouseCoopers, 2009; Sebastian, 2013). Therefore, they are expected to have stronger IMA than their precedents, generation X group. The location of the study included many industrial zones in various states of the Peninsula of Malaysia. Convenience sampling method was applied to collect the data, where the survey questionnaires were distributed personally to the engineers. In Malaysia, the prevalence of brain drain is prominent among its minority ethnics, particularly the Chinese, followed by the Indian. Hugo (2011) and World Bank (2011) stated that the two ethnics consist of more than 90 percent of the total emigrants from Malaysia. Meanwhile, the Malay ethnic, who are the majority in the country, consists less than 10 percent of the migrants. Therefore, this study has applied quota sampling technique to ensure that the Chinese ethnic represents approximately 80 percent of the total sample, while the Malay and Indian ethnics represent 10 percent each. A minimum sample size of 400 was considered for this study in accordance with the suggestions by Kline (2005). The author stated that in applying Structural Equation Modelling (SEM) analysis, a sample size of 200 is appropriate if data is normally distributed. Otherwise, a sample size of about 400 was suggested. Since it is common to have data with non-normality distribution for social science related studies, the present study collected data from 420 engineers.

In predicting the factors that significantly influence the IMA using TPB model, SEM analysis was applied in all the three studies (in Engle et al. 2015; Remhof et al, 2014; Suwandi, 2015). The application of SEM is consistent with the argument by Lei and Wu (2007). According to them, when the constructs are latent variables – variables that cannot be measured objectively – they are measured subjectively using a number of items. In such cases, SEM is more appropriate analysis than other multivariate analyses. As discussed earlier, all the constructs in the TPB model as well as the POC construct are measured using multiple items in this study. Therefore, the hypothesised extended TPB model in Figure 1.1 will be tested by SEM analysis, using the Analysis of Moment Structure (AMOS) software, version 22.

DATA ANALYSIS

Among the 420 responses received, some of the survey forms have approximately 30 percent of missing values, which is considered high. Hence, they were removed together with some responses which only selected neutral answers for all the questions. After the removal of 18 responses, descriptive analysis using data from 402 respondents were performed.

Descriptive analysis

The respondents' demographic profiles are summarised in Table 1. The descriptive analysis revealed that 65 percent of the respondents are male while the rest are female. In terms of age, nearly 40 percent are between 29 and 32, while another 35 percent are between

33 and 36. The rest are below 29 years old. The analysis also shows that nearly 80 percent of the engineers surveyed have bachelor degree. Engineers with masters and diploma represent about 10 percent of the sample respectively. A total of 320 engineers of Chinese ethnic, 41 of Malay ethnic and another 41 of Indian ethnic do represent the sample. Hence the ethnic ratio of 80: 10: 10 among the Chinese, Malay and Indian is fulfilled. Nearly three quarters of the engineers (300 out of 402) in the sample are married. Among them, close to 40 percent have two children, while another 20 percent have one child. Based on this analysis, the typical engineers for this study are male of Malaysian Chinese ethnic, married with two children and age between 29 and 32.

Descriptive analysis of the five constructs are performed to assess the engineers' perception regarding the attitude, SN, PBC, POC and IMA. The results of the statistical analysis revealed that the mean scores of the five items that measure the engineers' attitude are between 4.27 and 4.31, while their average score is 4.30. This indicates that the typical engineers do have a slight positive attitudes toward migrating abroad in the next two years. The engineers in the sample also do slightly perceived positive subjective norms toward the behaviour of migration. The mean scores of the four items ranged from 4.29 to 4.34, with the average score of 4.31. Next the mean scores of the four items that underlying the PBC construct are between 3.94 and 3.99. The average mean score of the five items is 3.95. Hence, the typical engineers surveyed in this study do slightly disagree that they have complete control in performing the behaviour of migrating abroad in the next two years.

Table 1: Respondents' Demographic Profile

Demographic Profile	Number of Respondents (N= 402)	Valid Percentage (percent)
Gender		
Male	264	65.7
Female	138	34.3
Age		
21-24	18	4.5
25-28	85	21.1
29-32	158	39.3
33-36	141	35.1
Education		
Diploma and below	39	9.7
Bachelor	316	78.6
Masters	47	11.7
Ethnic		
Chinese	320	79.6
Indian	41	10.2
Malay	41	10.2
Marital status		
Single	91	22.6
Married	300	74.6
Widowed	4	1.0
Divorced	7	1.7
Number of children		
0	110	27.4
1	91	22.6
2	157	39.1
3	36	9.0
4	7	1.7
5+	1	0.2

Regarding POC over Malaysia, the average mean score of the six items measuring the construct is 4.10, while the mean scores of the individual items ranged from 3.96 to 4.19. This indicates that the engineers do slightly have positive feeling of ownership over Malaysia. Finally, IMA, which is the dependent variable of this study, has an average mean score of 4.66. The mean scores of the three items are 4.65, 4.66 and 4.67 respectively. Overall, the typical

engineers do agree that they have the IMA for at least a year in the next two years. Moreover, close to 60 percent of them have at least indicated some intention to do so, which is considerably high. In summary, the descriptive analysis results indicate that the typical engineers sampled in the survey do slightly have positive attitude and subjective norms in regards to migration. However, their PBC over migration is slightly negative. It also revealed that the engineers have some positive feeling that they have the ownership over their country. In regards to IMA, they do have a slightly positive intention to perform the behaviour of migration in the next two years.

Structural Equation Modelling analysis

Before the SEM analysis is performed, the data was checked for any missing values. The number of items with missing values are very low and they were replaced using the multiple imputed technique suggested in Hair, Black, Babin, Anderson and Tatham (2006). In assessing the presence of any univariate outliers in the data, the standardized values (z-scores) of all the items were generated and their minimum and maximum values were tabulated (as suggested by Kline, 2005). Since none of the items have values more than the absolute value of three, univariate outliers do not appear in the data. Next, the presence of multivariate outliers was assessed. Using regression analysis method, the values of Mahalanobis Distance (D2) for all the cases were tabulated. Since case 125 has D2 value more than 18.467 (it is the critical chi-square value, with $p < 0.001$ and degree of freedom of four), it was removed from the data. Hence, the final survey is based on 401 cases. The final step in the data preparation and screening is to test if the data is normally distributed or not. First, normal distribution test for all the 22 items were performed by generating their skewness and kurtosis values. Based on the cuts-off point suggested by Hair et al. (2006), all the items have absolute values below two ($< |2|$). It shows that all the individual items are normally distributed. Second, the presence of multivariate normality was performed using AMOS. The critical ratio of the Mardia's multivariate kurtosis was found to be more than 1.96, which indicates multivariate non-normality. As a remedy, Bollen-Stine bootstrapping approach was applied in estimating the parameters (Bollen & Stine, 1993).

In meeting the objectives of this study, the hypothesised model is tested using SEM analysis. The analysis involves two stages – first is the analysis of measurement model and followed by the analysis of structural model.

Measurement model analysis

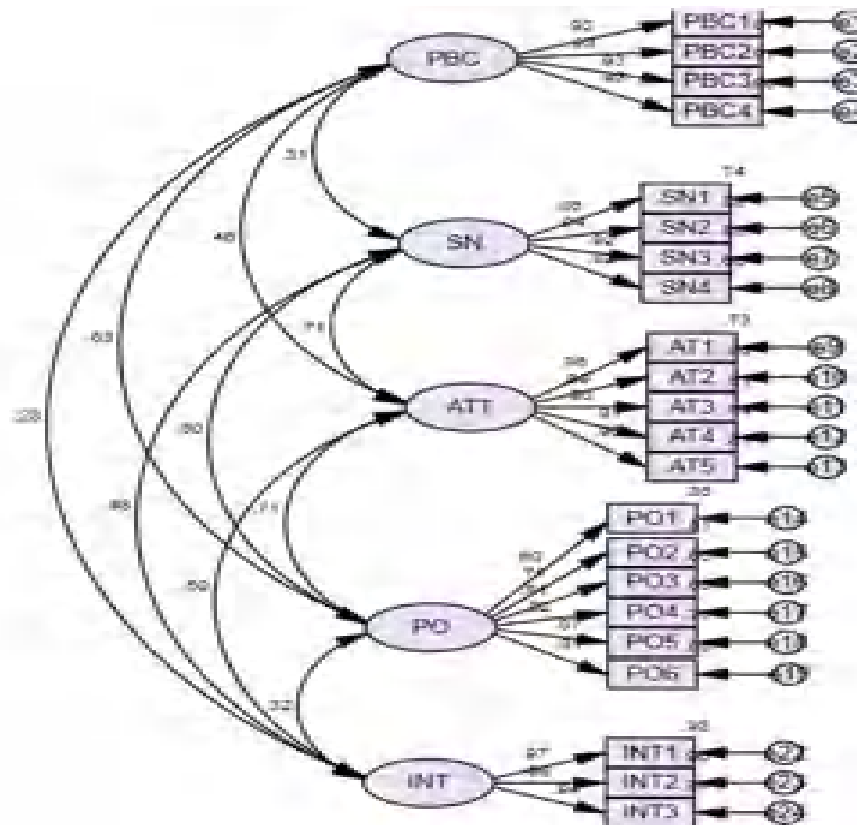
In the first stage, the relationships between the constructs and their respective observable items are assessed. Figure 2 illustrates the result of the analysis whereas the values represent the standardised estimators of all the relevant parameters. The 22 observable items provided a total of 253 variance and co-variance, which exceeded the 54 parameters which need to be estimated. Therefore, the model is identified with positive number of degree of freedoms. Next the model is assessed if it fits the data well. The various indices to test the fitness of the model is summarised in Table 2. The p-value for the chi-square test is less than 0.05, indicates that the model has poor fit. Nevertheless, Hair et al. (2006) has clarified that it is common to achieve significant chi-square result when the model is not normally distributed. Upon inspecting the other indices, all the values are within the cuts-off points recommended in Awang (2015) and Kline (2005). For instance, the values of CFI and TLI are 0.966 and 0.961 respectively. These values exceeded the cuts-off value of 0.90. In summary, the hypothesised model shown in Figure 1 fits the data of this study very well.

Table 2: Model Fit Indices for Measurement Model

Name of category	Name of index	Level of acceptance	Result
1. Absolute fit	Chi-Square	P-value > 0.05	0.000
	RMSEA	RMSEA < 0.08	0.063
	SRMR	SRMR < 0.08	0.045
2. Incremental fit	CFI	CFI > 0.90	0.966
	TLI	TLI > 0.90	0.961
3. Parsimonious fit	Normed Chi-Square	Chi-Square/ df < 3.0	2.594

Note: Root Mean Square Error of Approximation (RMSEA), Standardised Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), normed chi-square statistic (Chi-sq/df).

Figure 2: Standardized Estimates of the Measurement Model



Next, in determining how well each of the items load into their respective underlying construct, their standardised loadings are generated. As shown in Table 3, all the items have loadings above 0.7, except item PO1 (first item of POC) where the value is 0.601. Nevertheless, according to Awang (2013), for a newly constructed variable, any loadings above 0.5 is acceptable. Since POC is relatively a new construct in the literature, it is acceptable to include PO1 as a measurement of POC construct. Hence, all the 22 observable items that measure their respective constructs are retained in the model.

Table 3: Standardized Loadings

Latent construct	Items	Loading
Attitude	AT1	.857
	AT2	.894
	AT3	.897
	AT4	.915
	AT5	.898
Subjective Norms (SN)	SN1	.857
	SN2	.937
	SN3	.922
	SN4	.815
Perceived Behavioural Control (PBC)	PBC1	.917
	PBC2	.935
	PBC3	.932
	PBC4	.930

Latern construct	Items	Loading
Psychological Ownership (POC)	PO1	.601
	PO2	.713
	PO3	.813
	PO4	.822
	PO5	.865
	PO6	.807
Intention	INT1	.967
	INT2	.982
	INT3	.940

Next, the constructs' reliability and validity are assessed using confirmatory factor analysis (CFA). The internal reliability of the five constructs are measured by composite reliability (CR), where the cuts-off value is above 0.7 (Sekaran, 2000). Based on the CFA results summarised in Table 4, the CR values for all the constructs are above 0.8, indicate high internal reliability of the constructs. Meanwhile, the constructs' validity are evaluated by convergent validity and discriminant validity. For the first validity, the average variance-extracted (AVE) values for all the five constructs are above 0.6, meaning the criteria for convergent validity are fulfilled. Next the discriminant validity of a construct is achieved if the square root of AVE exceed the correlation values of that construct with the rest of the constructs. For example, in Table 4, the square root of AVE for PBC is 0.929 (in bold), which is more than the values of its correlations with the other four constructs that ranged from 0.226 to 0.627. Hence, the validity tests have provided clear evidence that the five constructs are distinct from each other.

Table 4: Confirmatory Factor Analysis Results

	CR	AVE	MSV	MaxR(H)	PBC	ATT	POC	INT	SN
PBC	0.962	0.862	0.393	0.962	0.929				
ATT	0.951	0.794	0.533	0.978	0.458	0.891			
POC	0.895	0.623	0.533	0.982	0.627	0.730	0.789		
INT	0.974	0.927	0.353	0.990	0.226	0.594	0.344	0.963	
SN	0.939	0.794	0.504	0.992	0.304	0.710	0.609	0.479	0.891

Note: Composite Reliability (CR), Average Variance-Extracted (AVE), Maximum Shared Variance (MSV)

Structural Model Analysis

In the structural model, the relationships between the four independent variables and the IMA is assessed. Figure 3 illustrates the results of the structured model analysis with the standardised estimators. The structural model is also identified with positive degree of freedoms. In addition, all the model fit indices (except chi-square values) shown in Table 5 fulfilled the cuts-off values suggested by Awang (2015) and Kline (2005).

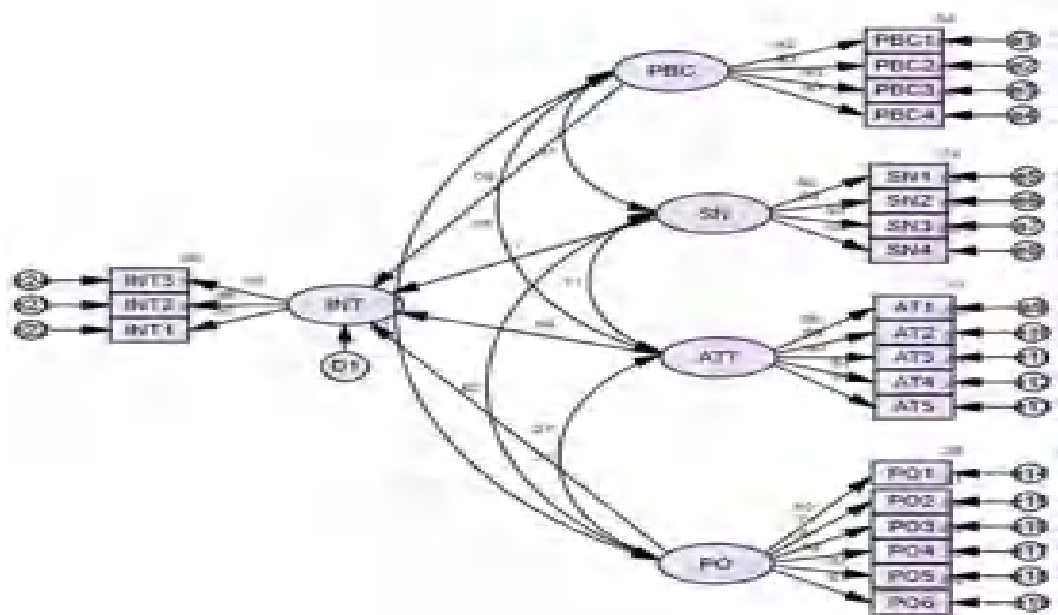
Table 5: Model Fit Indices for Measurement Model

Name of category	Name of index	Level of acceptance	Result
1. Absolute fit	Chi-Square	P-value > 0.05	0.000
	RMSEA	RMSEA < 0.08	0.063
	SRMR	SRMR < 0.08	0.045
2. Incremental fit	CFI	CFI > 0.90	0.966
	TLI	TLI > 0.90	0.961
3. Parsimonious fit	Normed Chi-Square	Chi-Square/ df < 3.0	2.593

Using the Bollen-Stine bootstrapping approach, the SEM analysis provided a coefficient of determination (R^2) value of 0.389, meaning that close to 39 percent changes in the IMA among the engineers could be explained by the changes in the four antecedents. The variance is similar to the value found in Remhof et al. (2014). Meanwhile, in Engle et al. (2015), the variance was 42 percent for the pooled data of the five countries surveyed. The moderate

variance in the intention is consistent with the arguments by Armitage and Conner (2001) that people's behaviours are unpredictable.

Figure 3: Standardized Estimates of the Structural Model



The results of the standardised estimators for the four hypotheses are shown in Table 6. The first, second and fourth hypothesis are found to be significant at one percent significant level. Their p-values are below 0.01 and the critical ratios are above 1.645. Hence, the results confirmed that the engineers' attitude, SN and POC have significant influence on their IMA. However, as the critical ratio for PBC is 0.996 (which is below 1.645), it does not have significant effect on the intention. Among the three significant factors, attitude and SN have positive effect on the intention, while POC influence the intention negatively. Moreover, the standardised coefficient of attitude has the highest value, followed by POC and SN. It means that the engineers' IMA for at least a year is influenced the most by their attitudes toward migration.

Table 6: Results of the Structural Model Analysis

Hypotheses	p-value	Std.	SE (CR)	Significance (Direction)
<i>H₁: Malaysian engineers' positive attitude towards migrating abroad will significantly increase their intention to migrate abroad</i>	0.000*	0.635	.110 (8.337)	Significant (positive)
<i>H₂: Positive subjective norms on migrating abroad will influence the Malaysian engineers' intention to migrate abroad positively</i>	0.003*	0.174	.085 (2.683)	Significant (positive)
<i>H₃: Perceived positive control over migration behaviour by the Malaysian engineers do significantly influence their intention to migrate abroad</i>	0.159	0.056	.073 (0.996)	Non-significant
<i>H₄: A strong feeling of psychological ownership over Malaysia amongst Malaysian engineers will lower their intention to migrate abroad</i>	0.000*	-0.268	0.160 (-3.341)	Significant (negative)

Note: Standardized estimator (Std.), Standard error (SE), Critical ratio (CR), * significant at 1percent

The results also indicate that the engineers who have positive attitude are expected to have stronger intention to migrate. However, among the engineers who evaluate the outcomes of migrating abroad negatively, they should have lower intention to perform the behaviour. In regards to attitude, the result of this study is consistent with Engle et al. (2015) and Remhof et al. (2014). The two studies have also established positive relationships between attitude and intention to work abroad among undergraduates. In contrast, the study by Suwandi (2015) did not find any significant relationship between attitude and the Indonesian female migrants' intention to work as domestic workers in Egypt.

Besides attitude, the engineers' SN also do significantly influence their IMA. The coefficient's positive sign indicates that when the engineers' important others either put strong pressure on them or provide strong support to them to perform the migration behaviour, IMA will increase significantly. This finding is similar to the one discussed in other migration literatures. Past studies like Engle et al. (2015), Remhof et al. (2014) and Suwandi (2014) have established significant positive relationships between SN and intention to work abroad. Overall, it can be concluded that individuals' IMA is significantly influenced by their important referents.

The engineers' POC over Malaysia is also significant in predicting the IMA of the engineers to migrate abroad in the next two years. The negative sign of the standardised estimator support the hypothesis that engineers with stronger feeling of POC will have lower IMA. This is because they are more attached to the home country and will be reluctant to leave the country. In contrast, those with lower POC will be more willing to leave the country, thus have higher IMA. Similar results were recorded in Leong and Soon (2011) and Mattes and Mniki (2007) where individuals with strong feeling of patriotism were found to have lower IMA.

Unlike the three constructs, PBC was found to be non-significant in explaining the engineers' IMA. This indicates that the intention does not depend on whether the engineers have full control over the behaviour of migration or not. Consistent with this finding, Suwandi (2014) also did not find any relationship between PBC and IMA. However, the relationship was significant in Engle et al. (2015) and Remhof et al. (2014). Therefore, the effect of PBC on the intention to move abroad is not yet clearly established. More research on the effect of PBC on the intention is required in the future.

CONCLUSION AND DISCUSSION

The main purpose of this study is to determine the behavioural factors that influence the Malaysian gen-Y engineers' intention to migrate abroad. The findings of the study has successfully shown that the hypothesised extended TPB model is able to explain close to 40 percent variance in the intention. Among the three antecedents in the model, attitude and SN are significant predictors of intention, while PBC is not. Moreover, POC is also significant in influencing the engineers' intention.

This study has an important contribution to the literature of migration. Previously, studies by Leong and Soon (2011) and Mattes and Mniki (2007) have shown that strong feeling of patriotism, as a proxy of national identity, could lower individuals' IMA. The studies explained that individuals who strongly identified themselves to their nation are more attached to their country. In measuring the national identity, Cox (2013) has shown that POC is a better measurement of national identity than patriotism or nationalism. The present study has successfully tested the role of POC in migration, and predicted that by instilling strong feeling of POC among the citizens, it can reduce brain drain in the country. In developing intervention policy to reduce brain drain, authorities could target the three routes to POC – control, knowledge and engagement – to strengthen individuals' POC.

In addition, this study also has some important contributions to the policy makers. Based on the result of the descriptive analysis, about 60 percent of the engineers have responded that in the next two years, they have some intention (between slightly and strongly) to migrate abroad for at least a year. Since more than half of the engineers surveyed have such intention, it shows that the present policies in tackling brain drain in Malaysia is neither sufficient

nor effective. Therefore, the authorities need to complement the existing policies with a new one from a different field of study. It is suggested that future policy should attempt to change the professionals' behaviour towards migration. In developing the relevant behavioural intervention policy, the authorities should first understand the factors that influence the professionals' behaviour.

The finding of this study has shown that the IMA among the Malaysian gen-Y engineers are influenced significantly by their attitude, SN and POC over Malaysia. Since attitude has the strongest effect on the intention, policy makers should put priority in determining the beliefs that contribute to the positive attitudes. Once the beliefs are identified, the authorities could design relevant intervention policy to change those beliefs, from positive to negative. When more engineers have negative belief in regard to migration, it will help them to form negative attitudes toward migration. Similarly, the local authorities should also take initiative to identify the engineers' important others who do strongly influence the engineers to migrate abroad. Hence, future policy should also target the attitude of these people. If policy can successfully change the important others' attitude as well, more engineers will have negative SN towards migrating abroad. Besides that, the authorities should also identify policy that could instil stronger POC feeling among the engineers. In reference to the three routes discussed in Cox (2013), the feeling of POC can be enhanced if the engineers feel that they have certain control over their country. Other than that, the engineers should be equipped with more knowledge regarding the history of Malaysia. Regarding the third route, engagement, the authorities could involve the engineers in more activities organized at national level. By strengthening the engineers' POC through the three routes, their intention to move abroad can be lowered significantly.

Though the findings of the study managed to meet the objectives appropriately, some limitations are evidence. First of all, the study only focused on determining the behavioural factors that influence the engineers' intention. It did not make any effort to understand why they behave in such manners. Therefore, future studies should conduct qualitative analysis to get better insights into the engineers' behaviour in migration. Another limitation of this study is that the complete model of TPB is not analysed. Since the purpose of the study is to predict the determinants of the intention, it only included the direct measures of the three antecedents. The three beliefs that measure the three antecedents indirectly were excluded. The inclusion of the three beliefs could help policy makers to determine the beliefs that underlying their attitudes, norms and control in regards to migration. Hence, future studies should consider to include both the direct and indirect measures of the three antecedents in explaining the engineers' IMA.

REFERENCES

- Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.
- Arango, J. (2000). *Explaining migration: A critical view*. United Kingdom: Blackwell Publishers.
- Armitage, C.J. and Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.
- Arnoss, J.D. (2011). Economic costs of the Malaysian brain drain: implications from an endogenous growth model. *Malaysian Journal of Economic Studies*, 48 (2), 117 – 130.
- Arslan, C., Dumont, J., Kone, Z., Moullan, Y., Ozden, C., Parsons, C. and Xenogiani, T. (2014). *A new profile of migrants in the aftermath of the recent economic crisis*. OECD Social, Employment and Migration Working Papers (No. 160). Paris: OECD Publishing.
- Awang, Z. (2013). *Structural equation modelling using AMOS graphic*. Selangor: Universiti Teknologi MARA Press.
- Awang, Z. (2015). *SEM made simple: A gentle approach to learning structural equation modelling*. Selangor: MPWS Rich Publication.

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- Bagozzi, R.P. (1992). The self-regulation of attitude, intentions and behaviour. *Social Psychology Quarterly*, 55, 178-204.
- Beine, M., Docquier, F., & Rapoport, H. (2008). Brain drain and human capital formation in developing countries: winners and losers. *The Economic Journal*, 118 (April), 631–652.
- Board of Engineering Malaysia (2017). *Statistics*. Retrieved May 10, 2017 from <http://www.bem.org.my/web/guest/home>
- Bollen, K.A. & Stine, R.A. (1993). Bootstrapping goodness-of-fit measures in structural equation models. In K.A. Bollen and J.S. Long (Eds). *Testing structural equation models* (pp. 111–135). Newbury Park, CA: Sage.
- Bris, A. and Caballero, J. (2015). *Revisiting the fundamental of competitiveness: A proposal*. IMD World Competitiveness Yearbook. Lausanne: IMD World Competitiveness Center.
- Burkhalter J.E., Warren B., Shuk, E., Primavera, L., & Ostroff, J.S. (2009). Intention to quit smoking among lesbian, gay, bisexual, and transgender smokers. *Nicotine and Tobacco*, 11(11), 1312-1320.
- Castles, S. (2010). Understanding global migration: A social transformation perspective. *Journal of Ethnic and Migration Studies*, 36(10), 1565-1586.
- Chan, L. and Bishop, B. (2013). A moral basis for recycling: Extending the theory of planned behaviour. *Journal of Environmental Psychology*, 36, 96 -102
- Chandar, H., Jauhar, J. & Abdul, G.A.B. (2015). Postgraduates' perception about the causes of brain drain among Malaysian professionals. *Problems and Perspectives in Management*, 13(2), 365-370
- Chen, M. and Tung, P. (2014). Developing an extended theory of planned behaviour model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221–230
- Chew, R. (2016). *26 percent of Malaysian UHNWIs consider leaving Malaysia*. Retrieved November 10, 2016 from <http://www.theedgeproperty.com.my/content/26-malaysian-uhnwis-consider-leaving-malaysia>
- Choong, Y.O., Keh, C.G., Tan, Y.T., Lim, Y.H. & Tho, M.S. (2013). *Propensity to work abroad amongst generation Y working adults in Malaysia*. Paper presented at International Conference on Social Science Research, Penang, MALAYSIA, June 4-5.
- Conner, M. & Armitage, C. J. (1998). Extending the theory of planned behaviour: A review and avenues for further research. *Journal of Applied Social Psychology*, 28, 1429-1464.
- Cox. O.B. (2013). *National identity ownership* (Doctoral dissertation). Kansas: University of Kansas.
- de Groot, C., Mulder, C.H. & Manting, D. (2011). Intentions to move and actual moving behaviour in the Netherlands. *Housing Studies*, 26(3), 307–328.
- Docquier, F. (2014). The brain drain from developing countries. *IZA World of Labour*, 31. doi: 10.15185/izawol.31
- Docquier, F. & Rapoport, H. (2012). Globalization, brain drain and development. *Journal of Economic Literature*, 50(3), 681–730.
- Donald, I.J., Cooper, S.R., & Conchie, S.M. (2014). An extended theory of planned behaviour model of the psychological factors affecting commuters' transport mode use. *Journal of Environmental Psychology*, 40, 39-48.

- Dunnewijk, T. (2008). *Global migration of the highly skilled: A tentative and quantitative approach*. UNU-MERIT Working Papers (No. 070). Maastricht: UNU-MERIT, Maastricht Economic and Social Research and Training Centre on Innovation and Technology.
- Dyne, L.V. & Pierce, J.L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behaviour. *Journal of Organizational Behaviour*, 25, 439–459.
- Engle, R.L., Schlagel, C., Dimitriadi, N., Tatoglu, E. & Ljubica, J. (2015). The intention to become an expatriate: a multinational application of the theory of planned behaviour. *European Journal of International Management*, 9(1), 109-137.
- Foo, G. (2011). Quantifying the Malaysian brain drain and an investigation of its key determinants. *Malaysian Journal of Economic Studies*, 48(2), 93-116.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson R.E. & Tatham, R.L. (2006) *Multivariate Data Analysis* (6th. Ed). New Jersey: Pearson Prentice Hall.
- Harnoss, J. D. (2011). Economic costs of the Malaysian brain drain: Implications from an endogenous growth model. *Malaysian Journal of Economic Studies*, 48 (2), 117-130.
- Ho, Y.J. & Tyson, A.D. (2011). Malaysian migration to Singapore: Pathways, mechanisms and status. *Malaysian Journal of Economic Studies*, 48(2), 131-145.
- Hornig, J.S., Su, C.S. & So, S.A. (2013). Segmenting food festival visitors: Applying the theory of planned behaviour and lifestyle. *Journal of Convention & Event Tourism*, 14(3), 193-216.
- Hugo, G. (2011). Malaysian migration to Australia. *Malaysian Journal of Economic Studies*, 48(2), 147-174.
- Hyland, P., Boduszek, D., Shevlin, M. & Adamson, G. (2012). Investigating the latent structure of the theory of planned behaviour and its effectiveness in explaining intentions to participate in counselling among a sample of police officers. *Journal of Police Crime Psychology*, 27, 129–140.
- Jauhar, J., Yusoff, Y. & Khoo, M.Y. (2009). Factors that drive brain drain of accountants in Malaysia. *Proceedings of the 6th International Conference on Intellectual Capital, Knowledge Management & Organizational Learning*, pp. 164-176.
- Kerr, S.P., Kerr, W., Ozden, C. & Parsons, C. (2016). *Global talent flows*. World Bank Group Policy Research (Working Paper 7852). Retrieved January 18, 2017 from <http://documents.worldbank.org/curated/en/793861475694096298/pdf/WPS7852.pdf>
- Kline, R. B. (2005). *Principles and practice of structural equation modelling*. New York: The Guilford Press.
- Lapinski, M.K. & Rimal, R.N. (2005). An explication of social norms. *Communication Theory*, 15(2), 127-147.
- Lei, P.W. & Wu, Q. (2007). Introduction to structural equation modelling: Issues and practical considerations. *Educational Measurement: Issues and Practice*, 26, 33–43.
- Leong, C.H. and Soon, D. (2010). *A study on emigration attitude of young Singaporeans*. Institute of Policy Studies (Working Paper No. 19), Singapore.
- Lim, T.L. (2014). Framing the Malaysian brain drain: A comparison between the reporting styles of The Star Online vs Malaysiakini. *The Journal of the South East Asia Research Centre for Communications and Humanities*, 6(1), 97-121.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Macmillan Dictionary (2010). *Generation Y definition and synonyms*. Retrieved October 7, 2015 from <http://www.macmillandictionary.com/dictionary/british/generation-y>
- Mattes, R. and Mniki, N. (2007). Restless minds: South African students and the brain drain. *Development Southern Africa*, 24(1), 25-46.
- Nadaraj, V. (2016, March 18). Malaysia's Brain Drain Reaching Critical Stage. *ASEAN Today*. Retrieved January 17, 2017 from <https://www.aseantoday.com/2016/03/malaysias-brain-drain/>
- New Straits Times (2014, March 17). Need to fix talent shortage. *New Straits Times*. Retrieved June 6, 2015 from <http://www.nst.com.my/business/nation/mida-need-to-fix-talent-shortage-1.516738#ixzz2wBDMelTO>
- OECD-UNDESA (2013). *World migration in figures*. Retrieved August 19, 2015 from <http://www.oecd.org/els/mig/World-Migration-in-Figures.pdf>
- Presley, A., Damron-Martinez, D. & Zhang, L. (2010). A study of business student choice to study abroad: A test of the theory of planned behaviour. *Journal of Teaching in International Business*, 21, 227–247.
- PricewaterhouseCoopers (2009). *Managing tomorrow's people: Millennials at work – perspectives from a new generation*. Retrieved June 6, 2015 from http://www.pwc.de/de_DE/de/prozessoptimierung-/assets/Managing_tomorrows_people_millennials_at_workperspectives_from_a_new_generation.pdf
- Quah, C.H., Zainal, S.R. & Chai, G. E. (2014). Return intentions of Malaysia's diaspora: The push and pull factors. *Case Studies in Business and Management*, 1(1), 140 -151.
- Remhof, S., Gunkel, M. & Schlaegel, C. (2014). Goodbye Germany! The influence of personality and cognitive factors on the intention to work abroad. *The International Journal of Human Resource Management*, 25(16), 2319-2343.
- Sebastian, G.S. (2013). *How to engage and understand gen Y?* Retrieved October 7, 2015 from <http://leaderonomics.com/business/growth/how-to-engage-and-understand-gen-y>
- Sekaran, U. (2000). *Research methods for business: A skill business approach*. New York: John Willey & Sons.
- Sharmila, G. (2016). *Recruiting and retaining engineering talent*. Retrieved October 7, 2016 from <http://www.kinibiz.com/story/corporate/210362/recruiting-and-retaining-engineering-talent.html>
- Suwandi, N. (2015). The Migration behaviour model of Indonesian female migrant domestic workers in Egypt. *Corporate Ownership & Control*, 13(1), 774 – 785.
- TalentCorp (2012). *Talent roadmap 2012*. Kuala Lumpur: TalentCorp Malaysia
- Tyson, D. A., Jeram, D. & Azlan, H.N., (2011). Ethnicity, education and the economics of brain drain in Malaysia: Youth perspectives. *Malaysian Journal of Economic Studies*, 48(2), 75-184.
- United Nations (1998). *Migrant/Migration*. Retrieved August 20, 2015 from <http://www.unesco.org/new/en/social-and-human-sciences/themes/international-migration/glossary/migrant/>
- Wahab, M.A. (2014). The occurrence of brain drain in Malaysia: Perceptions on to work or not to work overseas in the future. *Journal of Emerging Trends in Economics and Management Sciences*, 5(5), 480-489.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

World Bank (2011). *Malaysia economic monitor - brain drain*. Washington D.C: World Bank. Retrieved August 25, 2014, from <http://www.worldbank.org/my>.

World Bank (2016). *Malaysia Economic Monitor: The quest for productivity growth*. Washington D.C: World Bank. Retrieved January 17, 2017, from <http://www.worldbank.org/en/country/malaysia/publication/malaysia-economic-monitor-december-2016>

Yeow, J.A., Ng, P.K., Chin, T.S. & Boo, S.S.Y. (2013). *Brain drain in Malaysia: Undergraduate students' perception*. International Conference on Economics and Business Research 2013, Park Royal Penang, July, 15-16, 2013.

Yuen, M. (2017, January 22). Finding fortunes in foreign land. *The Star Malaysia*. Retrieved March 21, 2017 from <http://www.thestar.com.my/news/nation/2017/01/22/finding-fortunes-in-foreign-lands/>

Family-Friendly Policy Usage and Work-Family Conflict: The Influence of Interactional Justice

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Abstract

The adoption of family-friendly policy by management comes along with the intention to make their company to be an attractive workplace to work with and retain their talented employees. Although family-friendly policy serves as a mechanism to reduce employee work-family conflict, its usefulness remains uncertain. It seems the policy is not always beneficial as it will not fit across individuals who have differential experiences in their work and family life interface. The influence of the availability and usage of the policy were found to differ on mitigating work-family conflict in literature. Other gaps such as the discrepancy between the desired and the actual work and family time was also found to intensify employees' work-family conflict. Furthermore, the influence of usage of family-friendly policy on work-family conflict was found inconsistent. Lack of attention is given to fairness in the process of accessing the policy, which is crucial for the effectiveness of the policy in meeting the employees' various needs and preferences on the options of the policy. Such fairness could be possible if the aforementioned gaps are addressed. This conceptual paper proposes interactional justice as potential moderator to explain the inconsistency in the relationship between family-friendly policy usage and work-family conflict. In addition, to establish the ways in which family-friendly policy can be used more effectively in alleviating employees' work-family conflict. Fairness facilitates positive attitude and behavior, as well as enables employees' desires and preferences of family-friendly benefits options from the family-friendly policy to be accurately captured. This grants the right options that allow employees to have better arrangement of work and family life. Future directions and implications of interactional justice are discussed.

Keywords: communication, family-friendly policy, interactional justice, work-family conflict

INTRODUCTION

Family-friendly policy has been initiated as one of the human resource strategies to solve employees' difficulties in juggling their work and family life interface. Effective family-friendly policy will make firms as attractive workplace worth to work with and enables firms to be success in talented workforce retention (Bourhis, & Mekkaoui, 2010; Carless & Wintle, 2007). The effect of family-friendly policy availability and usage in mitigating work-family conflict is inconsistent in literature (Allen, Johnson, Kiburz & Shockley, 2013; Malisetty & Kumari, 2016; Mesmer-Magnus, & Viswesvaran, 2006). The usage of family-friendly policy is not necessarily all the while meet one's desired work and family life arrangement. Despite the policy allow one to allocate time, attention and energy effectively for meeting their work and family role responsibilities, one sometime faces resource depletion when utilize the policy wherein their family members put more expectations on them to accomplish more family-related tasks (Allen, Johnson, Kiburz, & Shockley, 2013).

Family-friendly policy offered by firms may not fit all employees as employees are differ in the experience of work-family conflict, work and family life value, and their preference of policy options (Carlson & Kacmar, 2000; Odle-Dusseau, Britt, and Bobko, 2012; McNamara, Pitt-Catsouphes, Matz-Costa, Brown, and Valcour, 2013). Thus, interactional justice that involves interpersonal and informational fairness that enact the decision making procedure is expected to play important role to provide conducive climate that encourage communications between organization authorities or superiors and subordinates as well as between coworkers that are believed could accelerate the effect of family-friendly policy usage in reducing the risk of work-family conflict. This paper proposes that interactional justice has potential moderating

effect on the relationship between family-friendly policy usage and work-family conflict to explain the inconsistency of the relationship. Future directions and implications of interactional justice are discussed.

LITERATURE REVIEW

Family-Friendly Policy

Family-friendly policy that firms commonly adopt includes flexible work scheduling, childcare or eldercare services, parental and maternity leave. Flexible work scheduling encompasses temporary, part-time, contract and shift work arrangements, flextime, compressed work week, and telecommuting (Poelmans and Sahibzada, 2004; Raghuram, London, and Larsen, 2001; Kossek and Ozeki, 1999). The usage of the policy apparently involves communicating needs and personal life disclosure and negotiation between superiors and subordinates for achieving desired outcome of work and family life arrangements (Carlson & Kacmar, 2000; Odle-Dusseau, Britt, and Bobko, 2012; McNamara, Pitt-Catsouphes, Matz-Costa, Brown, and Valcour, 2013). Failure of getting involve in negotiation with superiors end up with not taking up the policy options by subordinates (Brewer, 2000). The usage of the policy options seems differ in the sense of different cultural values of high power distance and low power distance oriented in European countries. Shift work is favored in high power distance-oriented European countries while part-time work is common in low power distance-oriented European countries (Raghuram, London, & Larsen, 2001). Failure of policy to fit the individual needs resulted in discrepancy between the desired and actual work time and family time (Odle-Dusseau, Britt, & Bobko, 2012).

Interactional Justice

Interactional justice is social aspect of fairness pertaining to outcome distribution and procedure used (Bies, 2015; Colquitt, LePine, Piccolo, Zapata, & Rich, 2012; Greenberg, 1993). Such social aspect of fairness refers as quality of interpersonal treatment one receives or the concerns given for the enactment of procedure and outcome distributions (Bies, 2015; Greenberg, 1993) which differ from procedural justice per se that refer to the fairness in the sense of procedure development (Greenberg, 1993). Interactional justice constitutes informational and interpersonal justice. Informational justice refers to providing knowledge of the procedures that leads to the outcome, for instance, such fairness is perceived when reasonable explanation or justification is provided pertaining to the procedure used that leads to the undesirable outcome (Greenberg, 1993). Interpersonal justice is emerged where in people affected by a decision have been treated with dignity, respect and human worth by authorities in procedures enactment or any decisions implementation (Brockner, Ackerman, Greenberg, Gelfand, Francesco, Chen, Leung, Bierbrauer, Gomez, Kirkman, & Shapiro, 2001; Colquitt, LePine, Piccolo, Zapata, & Rich, 2012; Folger & Skarlicki, 2001; Greenberg, 1993). For instance, the parties who are decision makers show concern for individuals pertaining to the consequences of distributive outcome they received such as express apologies to keep themselves away from the anger of another parties affected by the decision they made (Greenberg, 1993).

Interactional justice encompasses communication content involved and the way authorities communicate the information with subordinates for their various decisions such as resource allocation, negotiation, and conflict management (Vermunt & Steensma, 2001). The fairness includes the emphasis of social relations, warmth, morale, and supportiveness in the interpersonal treatment quality (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). In Grandey's (2001) review, employees need to be communicated with the information of family-friendly policies available to them and they are informed the changes of such policies so that they aware the new and existing policies offered at their workplace. The interaction fairness is perceived when authorities provide justification of the essential of family-friendly policies adoption to employees in managing their work and family life as well as to organizations' values and goals achievement such as company productivity in responding to employees' family needs that reflect organization supports (Grandey, 2001). Grandey (2001) suggested that employees need to be informed by authorities if changes occur for the policy adoption such as will one's rewards or promotion (distribution outcome) be affected due to the policies they accessed? How compensation will be made for those non beneficiaries of the policy? Will employees' current

career be secured when return from their parental leave? Who will take over the jobs of those are taking leave?

Interactional fairness enables company authorities to obtain required information such as employees' willingness to support child-care center services to help colleagues stay at work, the employees' desire of telecommuting option to be offered in fulfilling their need for family time that help them to determine the policy options that are more acceptable and desirable to be offered (Grandey, 2001). Quality interaction is conducive to trust building (Sutherland, 2011). In Colquitt et al.'s (2012) study, interpersonal justice predicts both affect-based trust and cognition-based trust. According to Mayer, Davis, and Schoorman (1995), trust is the trustor's willingness to be vulnerable to a trustee based on positive expectations about the trustee's actions. Affect-based trust is more emphasis on caring and supportive expectations while cognitive-based trust encompasses the competence and integrity expectations. Both trust foster ones' disclosure upon their work and family life conditions enables them to access and utilize family-friendly policy options, seek alternate family-friendly policy options suggested by superiors, negotiate with superiors or coworkers to manage work and family life boundaries (Greenberg & Landry, 2011; Rosenzweig et al., 2011).

Interactional justice is violated when interpersonal distancing behaviors existed. Such behaviors are perceived unfair as they seem to be disregard for others and their rights. Explanations less likely provided by superiors to their subordinates and superior fails to treat subordinate with respects and dignity (Folger & Skarlicki, 2001). Disrespectful or inappropriate communications such as improper comments in the procedure enactment restrain the sense of reciprocal care and concern and could resulted in negative emotions (Colquitt et al., 2012). Interactional justice has been proven crucial for alleviating the work-family conflict (Kyei-Poku, 2014). The interaction fairness helps to reduce emotional exhaustion that could increase the intensity of work-family conflict (Kyei-Poku, 2014). There is evidence show that interactional justice has moderating effect on relationship between job demand on work-family conflict in Heponiemi, Elovainio, Pekkarinen, Sinervo & Kouvonen's (2008) study sample of working women in long-term care for elderly people. Interactional justice is perceived when employees receive adequate and truthful information timely and the authorities' open, trustworthiness, and honest communication (Colquitt, 2001; Kossek, Colquitt, and Noe, 2001). Employees are believed to be more willing to share their work and concerns to proactively seek the support from authorities and coworkers with such fair communication manner and rather than take passive acts for meeting their work and family role responsibilities (Kossek et al., 2001). Lack of such interaction fairness discourages employees' personal life information sharing. As overall, interactional justice is crucial for both voices of company authorities and employees to be heard to reach mutual understanding and meeting the each other needs in responding to employees' work and family demand and successfully embark the family-friendly policy and encourage the usage of the policy for mitigating employees' work-family conflict experiences. The fairness enables superiors to grant the usage of right family-friendly policy which is truly helpful to mitigating employees' work-family conflict which enhance the effectiveness of the policy usage compare to those who are in the unfair interpersonal treatment and information climate. Thus, following proposition is postulated:

Proposition: Interactional justice moderates the relationship between family-friendly policy usage and work-family conflict.

CONCLUSION AND DISCUSSION

Interactional fairness is needed for fair interpersonal communication and communicating information to assure the employees or parties affected who intend to utilize the benefits of the family-friendly policies without fear of the adverse consequences to their existing career or rewards that they deserve for. Allow appropriate communication between superiors and subordinates to capture real work and family needs of employee, sense of reciprocal care and concern. Interactional fairness could enhance one's sensitivity towards the quality of interpersonal treatment that could avoid interpersonal hostility and communication breakdown, trust building between superiors and subordinates that encourage self-disclosure for seeking effective solution on work and family life arrangements which are derived from family-friendly

policies. Understanding interactional justice is a research avenue for closing up the gap between the desired policy option and the actual policy offered to successfully help employees meeting their multiple roles in work and family life domains. It is suggested that future researchers to give more attention on examining empirically the moderating effect of interactional justice and other types of justice on the effectiveness of family-friendly policy usage and work-family conflict to provide deeper insight of the significant effect of type of fairness on work-family conflict to answer the following questions. Will different types of justice make difference on the aforementioned relationship? Will it be same effect of informational and interpersonal justice within interactional justice? These questions are crucial to realize the positive effect of the policy and make the firms become an attractive workplace and enable firms to possess sustainable human resources.

REFERENCES

- Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley, K. M. (2013). Work–family conflict and flexible work arrangements: Deconstructing flexibility. *Personnel Psychology, 66*(2), 345-376.
- Bies, R. J. (2015). Interactional justice: Looking backward and looking forward. In R. Cropanzano, & M. L. Ambrose (Eds.), *Oxford handbook of justice in the workplace* (pp. 89-107). NY: Oxford University Press.
- Bourhis, A., & Mekkaoui, R. (2010). Beyond work-family balance: Are family-friendly organizations more attractive? *Industrial Relations, 65*(1), 98-117.
- Brockner, J., Ackerman, G., Greenberg, J., Gelfand, M. J., Francesco, A. M., Chen, Z. X., Leung, K., Bierbrauer, G., Gomez, C., Kirkman, B. L., & Shapiro, D. (2001). Culture and procedural justice: The influence of power distance on reactions to voice. *Journal of Experimental Social Psychology, 37*(4), 300-315.
- Carless, S. A., & Wintle, J. (2007). Applicant attraction: The role of recruiter function, work–life balance policies and career salience. *International Journal of Selection and Assessment, 15*(4), 394-404.
- Carlson, D. S., & Kacmar, K. M. (2000). Work–family conflict in the organization: Do life role values make a difference?. *Journal of Management, 26*(5), 1031-1054.
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology, 97*(1), 1-15.
- Folger, R., & Skarlicki, D. P. (2001). Fairness as a dependent variable: Why tough times can lead to bad management. In R. Cropanzano (Ed.), *Justice in the workplace: From theory to practice* (Vol. 2, pp. 97-120). NJ: Lawrence Erlbaum.
- Grandey, A. A. (2001). Family friendly policies: Organizational justice perceptions of need-based allocations. In R. Cropanzano (Ed.), *Justice in the workplace: From theory to practice* (vol. 2, pp. 145-174). NJ: Lawrence Erlbaum.
- Greenberg, J. (1993). The social side of fairness: Interpersonal and informational classes of organizational justice. In R. Cropanzano (Ed.), *Justice in the workplace: Approaching fairness in human resource management* (pp. 79–103). Hillsdale, NJ: Erlbaum.
- Greenberg, D., & Landry, E. M. (2011). Negotiating a flexible work arrangement: How women navigate the influence of power and organizational context. *Journal of Organizational Behavior, 32*(8), 1163-1188.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Malisetty, S., & Kumari, K. V. (2016). An investigation on relationship of deviance workplace behavior with organisational justice, abusive supervision and work-family conflict. *Indian Journal of Science and Technology*, 9(39), 1-13.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3),709–734.
- McNamara, T. K., Pitt-Catsouphes, M., Matz-Costa, C., Brown, M., & Valcour, M. (2013). Across the continuum of satisfaction with work–family balance: Work hours, flexibility-fit, and work–family culture. *Social Science Research*, 42(2), 283-298.
- Mesmer-Magnus, J. R., & Viswesvaran, C. (2006). How family-friendly work environments affect work/family conflict: A meta-analytic examination. *Journal of Labor Research*, 27(4), 555-574.
- Morganson, V. J., Litano, M. L., & O’Neill, S. K. (2014). Promoting work–family balance through positive psychology: A practical review of the literature. *The Psychologist-Manager Journal*, 17(4), 221.
- Odle-Dusseau, H. N., Britt, T. W., & Bobko, P. (2012). Work–family balance, well-being, and organizational outcomes: Investigating actual versus desired work/family time discrepancies. *Journal of Business and Psychology*, 27(3), 331-343.
- Rosenzweig, J. M., Malsch, A. M., Brennan, E. M., Huffstutter, K. J., Stewart, L. M., & Lieberman, L. A. (2011). Managing communication at the work-life boundary. *Best Practices in Mental Health*, 7(1), 67-93.
- Shockley, K. M., & Allen, T. D. (2010). Investigating the missing link in flexible work arrangement utilization: An individual difference perspective. *Journal of Vocational Behavior*, 76(1), 131-142.
- Sutherland, I. E. (2011). Communication competence and trust in leaders: From transactional, through transitional, to transformational exchanges. *Theses and Dissertations*, 1146-1230. Lehigh University
- Vermunt, R., & Steensma, H. (2001). Stress and justice in organizations: An exploration into justice processes with the aim to find mechanisms to reduce stress. In R. Cropanzano (Ed.), *Justice in the workplace: From theory to practice* (Vol. 2, pp. 27-48). NJ: Lawrence Erlbaum.

Performative Role of Document in Malaysian Contemporary Art Consumption

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Abstract

Consumer research valued documents and texts primarily for their content - as container of information in which data analysis focuses on the authenticity and accuracy of their content. However, by repositioning what documents 'do' and not just what they 'say', it recognizes that documents are created and used as resources by human agents for purposeful ends. The analysis focuses thus shifted away from scoured for evidence to how documents are produced, circulated and assumed their present content and structure. Taking this performative perspective, this paper demonstrates how documents come to exist, use, and how they come to assume their present content and structure facilitating art collection practice. This methodological oriented paper draws data from two coffee table books published by group of art collectors show that these documents are used to enact art collection practice as something that is sacred, and not profane or for their instrumental value. The research findings suggest production and consumption of document is situated in social setting, and they partake in a complex social-material performance of art collection practice. Documents therefore play an active role in shaping and advocating of art consumption practices in the rapid commodification of Malaysia art.

Keywords: Document research, Semiotic Square, Art Collection

INTRODUCTION

Documents or text data have been widely used in marketing and consumer research, these include advertisement (Stern, 1995), movies and television programmes (Hirschman, 1988, 1990), personal diaries (Belk, 1992), historical archives (Karababa & Ger, 2011), newspapers (Henry, 2010; Humphereys, 2010), comic books (Belk, 1987), Personal diaries, journals, and letters (Belk 1992), blog archives (Arsel and bean 2013). However, despite their wide spread usage, documents are generally valued for their content - as a container of factual, static information on social practice and meaning (Miller & Alvarado, 2005). Documents are therefore commonly treated as a source of evidence. Accordingly, documents analysis focuses on the authenticity and accuracy of their contents. In addition, documents are frequently treated as 'props' (Prior, 2003:4), or 'background material for real analysis' (Silverman 2011:230) and thus mainly used for data triangulation purpose (Miller & Alvarado, 2005; Bowen, 2009). This paper adopts a different perspective - a performative approach which treats documents as 'thing' that is actively effect consumption practice. Specifically, this methodological paper illustrates the analytical usefulness of accorded documents the performative role, how they are use, and how they come to assume their present content and structure in carry out the activities of art collection. Content and meaning interpretation thus become secondary.

LITERATURE REVIEW

Document is any material which exists independently of the researcher's action. Documents have long been an important source of data in sociological research (Drew 2006). Documents are produce by both individuals or institutions for purpose other than social research. They typically include letters, newspaper articles, diaries, autobiographies,

organization charts of companies, minutes of board meetings, acts of Parliament, court sentences, company balance-sheets, marriage certificates, commercial regulations and contracts, and so on. A classic example of using document as research data is Durkheim's use of records and statistic relating to suicide (Durkheim 1952 [1987]).

In consumer research, documents or text data have been widely used. This include Belk's (1992) usage of personal diaries and journal in the study of material possession, Stern's (1995) study on consumer myth with advertisements, and more recently, study by Karababa and Ger (2011) on emergent of coffeehouse culture and consumer subject in early modern Ottoman period with multiple textual data and documentations which include travellers' notes, price book, miniatures, engravings, and drawings, festival books, chronicles, poems, and fatwas.

So far, documents have been deployed almost exclusively sources of factual information about some form of social activity or aspect of the social world, either in the past or in contemporary society (Drew 2006). The research strategy concentrates on scoured for evidence or for facts. There is, however, productive way of approaching documents in research in contrast to treating document solely as resource or as 'informant' (Glaser and Strauss,1967). Prior (2003, 2008) argues that documents have dual roles to play in social research. Prior acknowledges that documents are a type of repository (document content, evidence or facts) which act as sources of evidence. However, documents are also 'thing' their own right which play an active role in social settings. The analytical value of the document as thing has tend to be overlooked. By treating document as 'thing', it recognizes that documents are created and used as resources by human agents for purposeful ends. This point was well illustrated by Drew's (2006) study on the news reporting of Northern Ireland conflict, commonly referred as the 'troubles' from 1968-1998. Instead of reporting 'factual' information, Drew found out that news reporting are created and used by rivalling sides to shift the blame to each others. Treating document as 'thing' and focus on both what they 'say' and 'do' thus open ups ways to understand the active roles of documents play in consumption practice, which would otherwise remain opaque and diffuse.

METHODS

Data Collection

This paper aims to demonstrate the analytical benefits adopting performative perspective in approaching documents as research data in the practice of art collection. This paper accorded documents a performative function - how they are socially produced, circulate, and used. The main data of this paper consist of selected chapters of two coffee books published by art collectors. The first book - "*Thirty Art Friends: Appreciating Southeast Asian Art*" (30 AF) was published in 2010 featured 15 art collectors from Singapore and Malaysia each. In the book, each of the 30 art collectors shared stories about three South-East Asian works in their collection, as well as their individual journeys in collecting art. The second book, "*Malaysian Art Friends 2: Selected Works From 10 Collectors*" (MAF 2) published in 2014 was a follow up from first book which adopts the same format as the first book. There were all together 10 Malaysian art collectors featured in this book in which five of them appeared in 20 AF before. The Malaysian art collectors featured in both books are not necessarily considered as nation top art collectors, but instead a group of close knit friends who share similar passion in art. Both books are self funded by the collectors. This paper concentrates only on Malaysian art collectors thus yielding a total of 23 chapters from the two books. Table 1 detail the two books which form the research data for this paper.

Table 1. Research Data Key Facts

Book Title	Basic feature	Special highlight
Thirty Art Friends: Appreciating Southeast Asian Art	Hardcover 346 pages Retail at RM215	This is a first art collection book published by a group of private art collector. In general. Books on art collection are rare and this publication filled the long void gap
30 Art Friends Vol 2: Collecting Southeast Asian Art	Hardcover 204 pages Retail at RM250	Featured forewords by President Benigno Aquino of the Philippines, Prime Minister Datuk Seri Najib Tun Razak of Malaysia and Prime Minister Lee Hsien Loong of Singapore.

Data Analysis

Two primary procedures involve in the data analysis. Firstly, the data is analyse for their content (art collection practices) using comparative keyword analysis (CKA). Secondly, those meaningful practices developed from CKA are further analyse with semiotic square to show ways of art collectors navigate between these practices which subsequently reveal the active roles of documents. The data analysis process explained above may sound contradictory with the performative perspective. However, as shown by Stern (1995) in his study on advertising research, both form and content of the advertisements can be used and served as organizing devices to structure consumer consumption experience. Though Stern did not explicitly use the term performative, a detail reading of his approach resembles the approach that this paper is taking. Each of the two-data analysis procedure is explained.

Data analysis is conducted with Comparative Keyword Analysis (CKA)(Seale & Charteris-Black, 2010; Seale et al 2007; Silverman, 2011). The process of CKA involves two sequential steps; counting and accounting. The first step, counting, is a straight forward content counting to map out high frequency keywords found in the documents. These keywords are not pre-specified by the researcher but rather from their relative frequency. This process is necessary an inductive approach (Silverman 2011) which affords a greater opportunity for new perspectives to emerge (Seale et al, 2006). A corpus analysis software - WordSmith software (version 6) is used to produce a word frequency list. Note, however, statistical reading of the frequency table is not the focus. This analysis focus is similar with Arsel and Bean's (2012) in their study of blog archives. Table 2 shows top 10 of the keyword table produced

Table 2. Top 10 Keywords Generated "Work"

Lexical Word	Frequency
Work/s	515
Arts/s	430
My	264
Painting/s	227
First	167
Time	129
Gallery	122
Exhibition	117
Malaysian	105
Artwork/s	102

Table 3. Example of keyword in Context with as the keyword

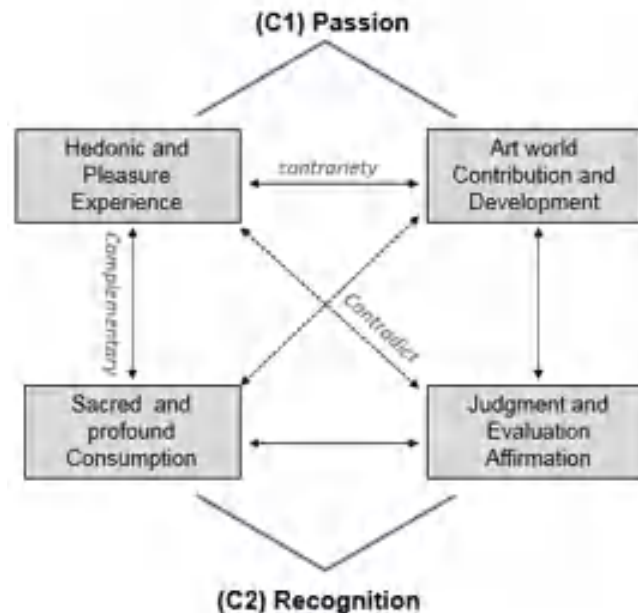
Descending order of L1	Keyword	
Art	work/s	-
Artists	work/s	who/mostly
Earlier	work/s	by / of
First	work/s	of/produced/that
Mixed-media	work/s	like /he
New	work/s	mainly
Photographic	work/s	and / by
Buy	work/s	that / of
Early	work/s	is / by / produced
Installation	work/s	-

The second step involves understanding how these keywords are linked and integrated with one another to form the context related to art collection practices. To locate occurrences of these keywords, a concordance feature from WordSmith software is use in which a span of co-text to the left and right of the keyword, or concordances is produced to give a contextual meaning. The result is displayed in a Keyword-in-Context (KWIC) table as shown in Table 3. Subsequently the top 20% of the keywords and their concordances were reduced to three-word cluster for ease of analysis. The shorten KWIC is analyzed on their context according to usage and function. The result of CKA enabled the researcher to classified into meaningful categories (shared semantic or stylistic fields) in a process analogous to the development of a coding scheme for the interpretive qualitative analysis of text. Semiotic square (Bradford and Sherry, 2015; Floch 2001; Greimas 1990; Hetzel 1998; Kozinest, 2007) is a useful tool to discover hidden themes in a phenomenal field and interpret those themes more comprehensively. This paper employs semiotic square to link those differences practices of doing art collection and by understand how art collectors navigate these practices, this paper argues that the hidden roles of documents are reveal.

FINDINGS

Figure 1 lays out the four practices this paper identified from the research data. These four practices are arranged in a relationship of semiotic square (Greimas 1990). These are the four main practices that art collectors carried out as evidence from the research data. A brief description for each of the four practices are described below:

Figure 1. Semiotic Square of Art Collection Practice



Hedonic and pleasure experience relates to the multisensory, fantasy and emotive aspects art consumption experience. Sacred and Profound refers to the desires of art collectors to gain a deep understanding and learning of the art creative process and intellectuality of the artists. Art world contribution and development is the support and patronage of art collectors toward local art scene development. Judgement and evaluation affirmation focuses on objective art appreciation competencies that surpassed individual preferences. Importantly, these four practices are link to each other in a complex relation. Hedonic and pleasure experience, which is very much individual centered, is having a contradictory relationship with objective judgement and evaluation and affirmation. Similar contradictory relation exists between artworld contribution and development with sacred and profound consumption. The other two types of relationship are complementary and contrariety which is shown in Figure 1.

The semiotic square also produces, second, so-called meta-concepts. These meta concepts are what this paper argues reveal how the books are used for purposeful end. The most important of the meta-concept in this study is C1 passion, and C2 Art Collector. Passion refers to practices of buying based on personal preferences and the motive is intrinsic. The most common expression is "buy what I like". Recognition is opposite, it refers to a more sophisticated art history approach in which consideration influenced by the perceived historical significant of the art. However, the 'historical signification' is not necessary apparent, out there but rather is created through the savviness and sophistication of the practice of sacred and profound consumption, and judgement and evaluation affirmation. By contrasting C1 passion and C2 Recognition, the finding suggests that the books strategically shifted art collecting away from merely just as an amateurish hobby taken up possibly by the rich, a passion possibly self-servicing in nature, but rather a carefully curated, intellectual and public servicing undertaking which serves the greater good of the public. The research findings suggest production and consumption of document is situated in social setting, and they partake in a complex social-material performance of art collection practice. Documents therefore play an active role in shaping and advocating of art consumption practices in the rapid commodification of Malaysia art.

DISCUSSION

This paper demonstrates that by not limiting documents only to what they say, but broadening the analytical focus to what documents do, its open up new opportunities of using document as research data. The performative perspective should be considered as a viable strategy in qualitative research dealing with document or other forms of textual data. The performative perspective could be further strengthening by supplementation of field observation.

REFERENCES

- Arsel, Z. and J. Bean (2013). "Taste regimes and market-mediated practice." *Journal of Consumer Research* 39(5): 899-917.
- Belk, R. W. (1987). "Material values in the comics: A content analysis of comic books featuring themes of wealth." *Journal of Consumer Research*: 26-42.
- Belk, R. (1992). "Moving Possessions: An Analysis Based on Personal Documents from the 1847-1869 Mormon Migration." *Journal of Consumer Research* 19(3): 339-361.
- Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), 27-40.
- Bradford, T. W., & Sherry, J. F. (2015). Domesticating Public Space through Ritual: Tailgating as Vestival. *Journal of Consumer Research*, 42, 120-151.
- Drew, P. (2006). When documents 'speak': documents, language and interaction. In P. Drew, G. Raymond, & D. Weinberg (Eds.), *Talk and interaction in social research methods* (pp. 63-80): SAGE Publications Ltd.
- Durkheim, E., Simpson, G., & Spaulding, J. A. (1952). *Suicide. A Study in Sociology*. Translated by John A. Spaulding and George Simpson. Edited with an Introduction by George Simpson: London.
- Glaser, B., & Strauss, A. (1967). Grounded theory: The discovery of grounded theory. *Sociology The Journal Of The British Sociological Association*, 12, 27-49.
- Greimas, A. J. (1990). *The social sciences: a semiotic view*. University of Minnesota Press.
- Henry, P. C. (2010). "How mainstream consumers think about consumer rights and responsibilities." *Journal of Consumer Research* 37(4): 670-687.
- Humphereys, A. (2010). Semiotic Structure and the Legitimation of Consumption Practices: The Case of Casino Gambling. *Journal of Consumer Research*, 37, 490-510.
- Karababa, E. and G. Ger (2011). "Early modern Ottoman coffeehouse culture and the formation of the consumer subject." *Journal of Consumer Research* 37(5): 737-760.
- Kozinets, R. V. (2007). Technology/ideology: How ideological fields influence consumers' technology narratives. *Journal of Consumer Research*, 34(6), 865-881.
- Miller, F. A. and K. Alvarado (2005). "Incorporating documents into qualitative nursing research." *Journal of Nursing Scholarship* 37(4): 348-353.
- Prior, L. (2003). *Using documents in social research*, Sage.
- Prior, L. (2008). Repositioning documents in social research. *Sociology*, 42(5), 821-836.
- Quek, T. K. (2010). 30: Thirty Art Friends : Appreciating Southeast Asian Art : a Project: Quek Tse Kwang.

Quek, T. K. (2014) 30 Art Friends Vol 2: Collecting Southeast Asian Art

Seale, C., & Charteris-Black, J. (2010). Keyword analysis: A new tool for qualitative research. *The SAGE handbook of qualitative methods in health research*. London: SAGE Publications Ltd, 536-555.

Seale, C., Ziebland, S., & Charteris-Black, J. (2006). Gender, cancer experience and internet use: a comparative keyword analysis of interviews and online cancer support groups. *Social science & medicine*, 62(10), 2577-2590.

Silverman, D. (2011). *Interpreting Qualitative Data: Methods for analyzing talk, text and interaction*. London, Sage

Stern, B. B. (1995). "Consumer myths: Frye's taxonomy and the structural analysis of consumption text." *Journal of Consumer Research*: 165-185.

Effects of Advertising Self-disclosure, Message Appeal and Regulatory Orientation: A Field Experiment on Private Retirement Schemes in Malaysia

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Abstract

This research examines whether the impact of advertising self-disclosures in private retirement scheme (PRS) advertisements (e.g. investment objectives, risks, charges and expenses of investing in a PRS – present versus absent) and advertising message appeals (hard sell versus soft sell) is moderated by innate personal motivational traits (i.e. self-regulatory focus). In particular this study investigates the impact of these variables with regards to the cognitive (knowledge) response of retail investors. The theoretical framework is based on Higgins (2012) regulatory focus theory on chronic personal motivational disposition inherent in an individual (i.e. prevention/promotion), and how this disposition might mitigate self-disclosures and message appeal contained in advertisements in terms of perceived knowledge. ANOVA results from a between subjects experiment indicated that individual regulatory orientation interacted with the effects of advertising self-disclosures and message appeals. Specifically, when exposed to hard sell advertisements with self-disclosures/soft sell advertisements with self-disclosures perceived knowledge towards the PRS advertisement tends to be favorable to prevention oriented investors/promotion oriented investors respectively. In addition the effect is greater on prevention subjects in comparison to promotion subjects. This study also looks at possible managerial and public policy implications in terms of marketing communication for the PRS industry.

Keywords: Regulatory Focus, Self-disclosure, Perceived Knowledge, Message Appeal

PRIVATE RETIREMENT SCHEMES

Private retirement schemes (PRS), as part of the impetus of the private pension fund initiative is in its infancy in Malaysia. This endeavor was only officially launched in July 2012 by the Malaysian government (Securities Commission Malaysia, 2013). This scheme is considered a long-term investment to help individuals save for their retirement, and is undertaken solely on a voluntary basis by the employee. PRS is an initiative undertaken by the Malaysian government to enhance its long term capital growth under the Capital Market Master Plan initiated in 2012 (Securities Commission Malaysia, 2012). The primary objective of PRS is to improve the living standards of Malaysians post retirement via additional savings. It is also introduced to accelerate the private pension industry in Malaysia, which forms an integral part of this financial industry. In fact PRS forms the third pillar of the multi-pillar pension framework – as introduced by the World Bank in 1998 (World Bank, 2005) – to complement Malaysia's sole mandatory retirement savings plan undertaken by the Employees Provident Fund (EPF). EPF savings is deemed insufficient to meet with the rising cost of living and the longer life span of Malaysians (Kaos, 2012). From another perspective, Malaysia's PRS may also be considered as private mutual funds existing in the United States. It can be stated in the coming years PRS will be deemed to be an important part of financial services in developing countries, such as India, Indonesia, and Malaysia (Ramasamy & Yeung, 2003). In Malaysia's case, the PRS industry is potentially worth about RM18 billion, or about USD\$5 billion (Azhar, 2012).

Currently, non-bank intermediaries including private pension provident funds account for 36 per cent of the Malaysian financial system assets (IMF, 2013). Currently eight private institutions have been identified to take part in PRS (Securities Commission Malaysia, 2012). However since PRS comes with associated risks, this industry has a natural tendency to become a highly regulated industry. Suffice to say, this industry is currently overseen by the

Securities Commission Malaysia, and regulated by the Capital Markets and Services Act 2007, the Capital Markets and Services (Private Retirement Scheme Industry) Regulations 2012, and the Guidelines on Private Retirement Schemes (Securities Commission Malaysia, 2012). PRS is an entirely new investment mode for most Malaysians. According to a survey conducted by insurance company, Manulife Malaysia, the interest-bearing savings account remains the highest investment choice among Malaysians at 98 percent, closely followed by fixed deposits, or term-deposits at 10 percent ("Bracing Malaysians," 2010). The same survey had indicated that retirement investment schemes as an option is low, at only 4 percent. This trend indicates the hesitance among ordinary retail consumers in Malaysia to invest schemes such as PRS.

From a policy viewpoint with the financial crisis that has economically affected the world and Southeast Asia in the last 15 recent years, policy makers in general have become wary of the pitfalls of such schemes in the financial sector, as financial companies including insurance companies had their fingers burnt ("ISSA Survey", 2009) – hence a more regulated control. For instance, the Financial Services Authority (UK) had found promotional materials unsuited, and to the investor's disadvantage, and examining the ban of some pension fund schemes to retail consumers (FSA, 2012), which the Malaysian policy makers will also need to carefully consider when fully implementing PRS. In financial services advertising previous studies have included studies on information content on mutual fund advertising (Jones & Smythe, 2003), cause and effect relationship between mutual fund advertising and investment decisions (Jain & Wu, 2000), mutual fund advertising and fund characteristics of equity and fixed income mutual funds (Jones et al., 2007) access to company information and motivation affects perception of a company's advertising efforts (Karrh, 2004). Despite the prevalence of mutual fund advertising, there is research scarcity in terms of studying the effectiveness of self-disclosures contained in mutual fund advertising. Therefore, this study on financial services advertising documents what will be the effect of advertisement disclosures and advertisement appeals within a print magazine context (Huhmann & Bhattacharya, 2005; Jones & Smythe, 2003) on consumers' perception, evaluation and buying intention (Koehler & Mercer, 2009; Huhmann & Bhattacharya, 2005; Lee et al., 2012) of financial products (i.e. PRS) with respect to consumers' regulatory orientation (Daryanto et al., 2010; Zhou & Pham, 2004). This research contributes to non-existent literature on emerging financial services advertising in the Malaysian context. Specifically this research investigates financial decision making within the context of print magazine. Of the many existing media sources, print magazine is considered an influential source by which an average investor learns and acquires knowledge about financial product offerings (Koehler & Mercer, 2009; Jones & Symthe, 2003).

LITERATURE REVIEW

Private Retirement Schemes (PRS)

Despite the odds in research between the United States and Malaysia with regards to mutual fund advertising (unit trust) the information that is contained in the unit trust advertisement is regarded as important for consumer welfare and public policy (Jones & Symthe, 2003) because consumers' relative lack of expert knowledge in financial investments (Capon et al., 1996, Alexander et al., 1998) remains a hindrance towards wise investment planning (Jones & Smythe, 2003). However in Malaysia unit trust advertising from a consumer welfare and public policy perspective is an understudied although there have been some studies from a business viewpoint (e.g. Ramasamy & Yeung, 2003; Abdullah et al., 2007; Saad et al., 2010). Previous research has shown that investors show preference to unit trust advertising (mutual fund) that can assist them in their decision making, and the precise amount of information in an advertisement is a variable that is positively correlated with advertising value (Zanot, 1984; Ducoffe, 1995). As Jones & Smythe (2003) have noted the amount of information contained in the unit trust advertisement would either strengthen or diminish unit trust advertisers claims, and could indicate if consumers are being presented the appropriate information to make well thought out investment decisions.

This leads to this study where appropriate information in unit trust advertisements include the presence of self-disclosure (e.g. risk, investment objectives), the type of message appeal strategy, and whether chronic inherent personality trait (i.e. promotion vs. prevention focus) may affect the consumers perception, attitude and buying intention of unit trusts. This

study is looking at an extension of unit trusts known in Malaysia as private retirement schemes (PRS), which was developed by the Securities Commission Malaysia to accelerate the development of the private pension industry in Malaysia (Private Pension Administrator [PPA], 2014a) in July 2012. Therefore, this communication study lends to new knowledge in the Malaysian context. In this study, mutual funds, unit trusts, and PRS will be interchangeably used.

Advertising Self-disclosures

According to Stern & Harmon (1984), advertising self-disclosure can be defined as “statement or disclaimer made with the purpose of clarifying or qualifying potentially or deceptive statements made within an advertisement” (p. 13), and it provides consumers with information pertinent to a precise understanding of the product (or service) in the advertisement (Andrew et al., 2009). For the purpose of this study, self-disclosures will be used. In fact there has already been much research done with regards to the importance of self-disclosures so as to ensure customers are not misinformed or deceived by the message claims in advertisements (Hoy & Lwin, 2007). In fact advertising self-disclosures have been examined widely in marketing and public policy over the last 30 year (Torres et al., 2007). For example in health communication (e.g. Bates et al., 2009; Orwin et al., 1984; Beltramini, 1988; Argo & Main, 2004; Kozup et al., 2003). In other words advertising self-disclosures are an important source of information to aid consumers to choose a product or service of their liking which suits their own individual goals. Along these lines of argument, message self-disclosures or summary self-disclosure, as Stern & Harmon (1984) have defined is a declaration communicated with the intention of explaining or putting into context ambiguous or deceiving proclamations in an advertisement. In fact Andrew et al. (2009) have also stated that various academic text have noted that self-disclosures offer customers pertinent information resulting in more knowledge about a particular product (or service) being advertised. As a matter of fact, Hoy & Lwin (2007) have stated such guidelines are supposed to provide a direction with regards to acceptable standards in terms of self-disclosure and unfair advertising, and such standards have been incorporated in various policy statements. In addition Foxman et al. (1988) described that advertising self-disclosures in fact are supposed to provide additional information during the customer decision making process, as well as protect the advertiser from advertising deception. Other authors have gone one step further by noting that advertising self-disclosures also facilitate information transparency (Franke et al., 2004; Lee et al., 2013), while some contend that advertising self-disclosures are a vital part during information processing and decision making (Stewart & Martin, 2004; Grunig, 2001).

Advertisement self-disclosures may have a variety of forms that may include basic information about the product characteristics, risk of usage, qualification of product claims, information on reducing or avoiding risk, warning or recommending product use (Hoy & Lwin, 2007). In financial services advertising, it may comprise guidelines from government bodies (i.e. Securities Commission Malaysia, Private Pension Administrator, Federation of Investment Managers Malaysia) to enable retail investors to evaluate investment decisions easily (Lee et al., 2011). For example, guidelines could be contain information on investment objective, past performance of unit trusts (or mutual funds), applicable fees, etc. (Lee et al., 2013). Based on the these guidelines, in this study it consisted of items such as applicable charges for opening a PRS account, fees incurred for the chosen fund, a graph consisting the performance of the fund, and investment objective.

Advertising Message Appeal

There are several ways at taking a closer look at how financial service company advertisements could appeal to customers, this study examines one particular form of advertising strategy, i.e. hard-sell vs. soft-sell that could be used (Ahn et al., 2011) in financial advertising. Even though advertising literature has established many different kinds of advertising appeals such as happiness, adventure, success (Hestoni, 2000; Macias et al., 2003; Warren et al., 2007), generally the academic fraternity concede all these various appeals can be comprehensively categorized into two kinds: soft vs. hard appeals (Macias et al, 2003). From another perspective, soft vs. hard appeals could also be referred to as emotional vs. rational (Synder & Debono, 1985), transformational vs. informational (Puto & Wells, 1984), feeling vs. thinking (Vaughn, 1980), image vs. functional (Park et al., 1986), and value-expressive vs. utilitarian (Johar & Sirgy, 1991). The implications of these terms are switchable (Hestoni, 2000).

Going by the literature arguments, hard-sell appeals could be defined as direct, logical messages. It can be conceptually defined as providing meaningful facts to the consumer (Cutler et al., 2000). The objective is to directly focus on features or benefits of the product itself (Puto & Wells, 1984; Milton, 1974). Hard-sell advertisements can also be stated as expository advertisements (Smith, 1995), factual advertisements (Peracchio & Meyers-Levy, 1997), lecture advertisements (Wells, 1989), or argumentative advertisements (Boller & Olson, 1991). More importantly, the ideas conveyed by the advertisements are not endorsed by a character and connected in causal events connected by time or chronological order of events (Padgett & Allen, 1997). As a result, the ideas presented in such advertisements can be moved around with minimal or no change to the overall meaning of the advertisement copy (Smith, 1995).

In contrast, soft-sell advertisements can be conceptually defined as highlighting the value of experience or beyond experience of consuming a good or service that may be offered to customers (Deighton & Schindler, 1988). Hence, direct features and benefits of the product or service are not the main focus of the advertisement (Puto & Wells, 1984). Similarly, Cutler et al. (2000) have argued soft-sell advertisements may affect a consumer emotionally such that acceptance of the product or service is higher. Soft-sell advertisements may also be stated as drama advertisements, narrative advertisements, and showcases the features, benefits of a product or service via a story format or a conversational manner (Peracchio & Meyers-Levy, 1997; Deighton et al., 1989; Wells, 1989). Unlike hard-sell advertisements, soft-sell financial service advertisements offer a narrative story in order to compel a retail investor to purchase the financial instrument. The embedded message is presented in a contextual, relational material, causal and chronological order (Padgett & Allen, 1997), which is in direct relation to the product's origins, which is to motivate product use by the consumer (Stern et al., 1998). Generally narrative advertisements are found to be in a linear fashion, starting with an introduction and ending with a conclusion (Polyorat et al., 2007); although sometimes this may not be the prerequisite order (Kim, 2007). In relation to PRS advertising in financial services, this could mean PRS advertisers would want to promote the importance and worth of the financial services, and therefore would devise a message strategy to gain customer satisfaction and retention, and perhaps increase service quality perceptions via soft-sell advertising, which may include emotional and empathetic messages (Coombs & Holladay, 2006). In other words, the content may be aspirational in tone.

As opposed to soft-sell advertising, hard-sell advertisements offer a factual representation or account about the product and brand in a systematic order, such that consumers will have more self-assurance in their ability to evaluate and purchase the product after glancing through the advertisement (Puto & Wells, 1984). In other words, the content may be direct in tone. Similar to soft-sell approach, Pennington (1993) has suggested hard-sell approaches have also been successfully used by financial service organizations. In fact previous studies in financial services (e.g. Stafford & Day, 1995) have noted that straight-forward information that can be verified may help reduce uncertainty with regards to product service intangibility and improve attitudes and buying intentions. In short both soft-sell as well as hard-sell message strategies have been employed in the financial industry, although there is no known study in the Malaysian context. In fact promotional strategy studies in the Malaysian financial services context is considered outdated, as only one has been found (Shanmugam, 1989).

Message appeal can be defined as hard sell or soft sell. Hard sell appeals are logical and messages that provide meaningful facts to consumers (Cutler et al., 2000). Meanwhile soft sell appeals can be defined as highlighting the value of experience that maybe offered to the consumer (Deighton & Schindler, 1988). Both constructs were operationalized according to Puto & Wells (1984), a scale containing 23 items, of which 8 items measured hard sell, and 15 items that measured soft sell appeals. For example, a question like "I learned something from this advertisement that I didn't know before about this retirement scheme" measured hard sell appeals, while a question like "This advertisement was meaningful to me" had measured soft sell appeals. Both the hard sell and soft sell scale items were be led by (1) strongly disagree to (6) strongly agree. The reliability for both hard and soft sell were 0.73 and 0.88 respectively.

Regulatory Focus Theory and Regulatory Fit

Regulatory focus theory is a motivation theory developed by Higgins (2012), and has been gaining prominence in consumer research (e.g. Zhou & Pham, 2004; Pham & Avnet, 2004), intrinsic motivation research (Freitas & Higgins, 2002), decision making research (Crowe & Higgins, 1997), creativity (Friedman & Foerster, 2001), cognitive performance (Keller & Bless, 2006) and advertising effectiveness (Roy & Phau, 2014). Based on the pleasure principles of hedonism and self-discrepancy (Higgins, 2012), the theory suggests individuals are motivated to adopt two unique strategies of seeking and regulating the desired end state of pleasure – either being prevention oriented or promotion oriented. A metaphor to explain this theory would be savings for the future. A promotion approach may involve taking a risky, but proactive strategy by investing in the uncertain stock market, while a prevention approach may entail taking a safe, but secure strategy by investing in a fixed interest savings account. While the former strategy maximizes gains, the latter minimizes losses. While promotion oriented individuals are associated with the ideal-self guide, prevention oriented individuals are associated with the ought-self guide (Higgins, 2012). Theoretically Pham & Higgins (2005) have noted that individuals innate chronic regulatory focus orientation (i.e. prevention or promotion) is independent of each other. Individuals may be rated highly in both focuses, rated lowly in both focuses, or could be high in one focus only (Elliot & Thrash, 2010).

Regulatory focus may occur in two forms. It could chronically reside within an individual (Van-Dijk & Kluger, 2004). Chronic regulatory orientation may be acquired via an individual's socialization process within the family and societal framework and therefore either one of the orientation (prevention or promotion) may be inherently persistent over time. Meanwhile, regulatory orientation may also be primed temporarily via external stimuli, typically by manipulating or framing of an event as gains/non-gains or loss/non-loss (Forster et al., 1998). As an example, prevention or promotion goals may be induced by framing a possible penalty or reward situation respectively (Higgins, 2012) for assuming a task. Whether promotion or prevention goals are chronically inherent or situationally primed, both goals have similar consequences (Higgins, 2012). This study focuses on chronic regulatory focus, as the intention of this study is on a person's accumulated experience in prior goal achievement (Higgins & Silberman, 1998). An off-spring tenet of regulatory focus theory is the principle of regulatory fit – a concept about how people “feel right” and strongly engage about what they are undertaking when the manner in which their goal pursuit sustains their orientation towards their individual goal (Lee & Higgins, 2009; Higgins, 1997, Higgins, 2012). The antecedent process of feeling right is contingent upon an individual's construal (low or high level) and message fluency (ease of information processing) (Higgins, 2012; Lee & Aaker, 2004; Liberman et al., 1999).

In fact in the last 10 years both regulatory focus and fit theories have emerged to become potent philosophical tools in explaining how persuasion in advertising is contingent upon the recipient's (who is receiving the message) individuality called ‘viewers’ regulatory focus, which relates to how motivated a viewer is in wanting to achieve something or avoid perils. In fact many authors (e.g. Forster & Higgins, 2005; Chernev, 2006; Florack & Scarabis, 2005) have stated that a consumer's chronic regulatory focus (and fit) has a major impact on process information, product evaluation, and in making a brand choice decision. What is more important in this study is that this theory can also be extended to financial decision making in that it can be used to understand how a prospective investor perceives an advocated message in reference to one's own beliefs and attitudes in financial decision making (Daryanto et al., 2010). However in the Malaysian context very rare studies have been conducted on regulatory focus (e.g. Pihie & Bagheri, 2012). Regulatory focus/fit construct is defined as the way individuals experience regulatory fit when they process information or make a trade-off decision in a way that supports their regulatory levitation. This concept was operationalized according to Lockwood et al. (2002)'s regulatory focus gauge, an eighteen dimensions scale, which has been utilized and validated in past research. This scale explains and predicts well an individual's regulatory focus with regards to risk-taking and decision making in the areas of finance, food, and health (Liu, 2011; Cesario & Higgins, 2008).

However, in relation to this experiment the regulatory orientation was measured using an 8-item modified version of Lockwood et al. (2002) original regulatory focus questionnaire. The regulatory questionnaire was according to Lee & Koo (2012) and Yeo & Park (2006) and consisted of four promotion items (e.g. “In general, I am focused on obtaining positive

consequences when making a decision”) and four prevention items (e.g. “In general, I am focused on preventing negative consequences when making a decision”). Both the promotion and prevention scale items were led by (1) not at all true of me to (7) very true of me would be used. The reliability for both prevention and promotion focus were 0.93 and 0.84 respectively. In deciding between a promotion focus and prevention focus individual, a median split was conducted according to Yeo & Park (2006) and Werth & Foerster (2007).

Advertising Response Outcome: Cognition

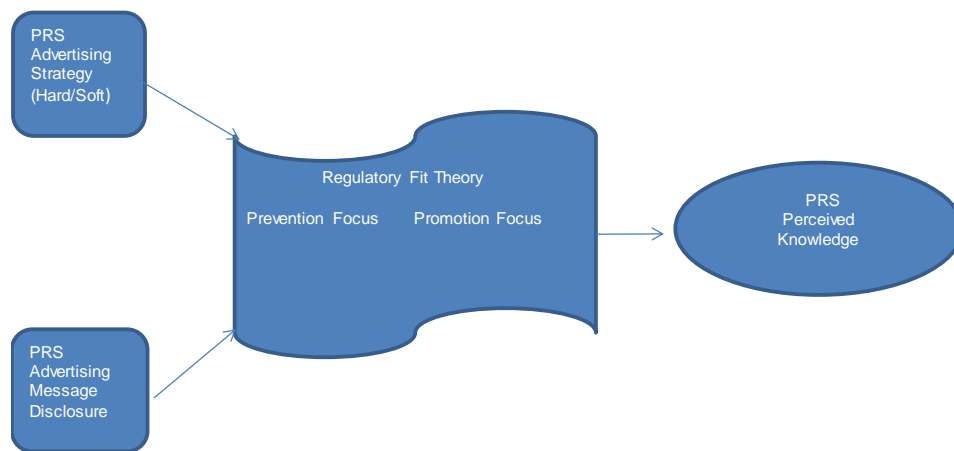
Service advertising is characterized by four distinct conditions: intangibility of the product, customer engagement and interaction with the product, perishability and variability in quality of the product – all of the four conditions are dependent on differing customers and their temporal states of mind (i.e. different purchase times for the same customer) (Zeithmal et al., 1985; Lovelock, 2001). Research has also shown that information contained in service advertising are market signals that may influence an investor’s perception or belief about the product or service, despite that the unobservable quality of the service still exists (Boulding & Kirmani, 1993). Building on this, responses to advertising can be determined from the dimension of cognition (Lutz, 1975; Hutchinson & Alba, 1991; Wright, 1980). Cognitive measure is labeled as the ability of an advertisement to create attention and generate beliefs and thoughts (Goetzmann & Peles, 1997; Lee et al., 2012; Li et al., 2002; Bettman & Park, 1980). Generating beliefs and thoughts generally leads to perception of the service or product (Boulding & Kirmani, 1993). There is substantial evidence that advertising self-disclosures embedded in advertising messages have significant impact on consumers’ perception (Lee et al., 2012). In fact Andrews et al. (2009) have noted advertising self-disclosures signal consumers to carefully examine selling messages and widen their scope in terms of cognitive framing of reference.

Perceptions can be measured from the angle of self-reported risk, product knowledge, and responsible advertising (Torres et al., 2007; Lee et al., 2013; Lee et al., 2013). An example is knowledge perception. Consumer knowledge is considered a crucial construct in understanding how a consumer searches and processes information (Alba & Hutchinson, 1987). Literature indicates there are three types of knowledge: subjective knowledge, objective knowledge, and usage knowledge (Brucks, 1985). Among the three types of knowledge researchers have noted that subjective knowledge has proven to be a stronger predictor for perceptions and behaviors (e.g. Selnes & Gronhaug, 1986; Flynn & Goldsmith, 1999). Brucks (1985) has defined subjective knowledge as the degree to which individuals perceive they know. Previous studies have shown that subjective knowledge is associated to searching for information (Brucks, 1985), processing for information (Alba & Hutchinson, 1987) and decision making process (Moorman et al., 2004). In fact, past knowledge about a product group enhances comprehension of new information (Punj & Staelin, 1983). This is true particularly for consumers who are engaged with message content (Lee & Koo, 2012).

There is also growing evidence that indicate self-disclosures as important determinants through which a novice, uninformed and amateur investor may obtain financial literacy in financial services advertising (Lee et al., 2012; Lee et al., 2013; Lee & Haley, 2011). It can also be acknowledged that increased financial knowledge affects future financial planning (Monticone, 2010; Perry & Morris, 2005). Conceptually the purpose of an advertisement is to attract attention, and generate product knowledge (Li et. al, 2002). Knowledge can affect brand choice and can be operationally defined by perceived knowledge (Bettman & Park, 1980), as it concerns an active search for information, which consumers heuristically depend on (Li et. al, 2002; Park & Lessig, 1981; Bettman & Park, 1980). Thus it was measured according to Li et al. (2002) – e.g. “I feel very knowledgeable about this product”, led by (1) strongly disagree to (7) strongly agree. The total of four scale items used to measure this construct had a reliability of 0.94.

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework



The theoretical framework is shown in Figure 1. The objective of this study is investigate how the presence and absence of advertising self-disclosures and two message appeal type (hard sell vs. soft sell) may affect an individual's cognitive, affective and conative response. Traditionally in psychology these three components of the mind have often been studied (Tallon, 1997; Huitt, 1996). In addition, financial service advertising is characterized by four distinct conditions: intangibility of the product, customer engagement and interaction with the product, perishability and variability in quality of the product – all of the four conditions are dependent on differing customers and their temporal states of mind (i.e. different purchase times for the same customer) (Zeithmal et al., 1985; Lovelock, 2001). Research has indicated that information present in service advertising are market signals that may influence an investor's perception or belief about the product or service, despite that the unobservable quality of the service still exists (Boulding & Kirmani, 1993). Building on this, responses to advertising can be determined from a cognitive dimension (Lutz, 1975; Hutchinson & Alba, 1991; Wright, 1980).

Cognitive measure is labeled as the ability of an advertising stimulus to create attention and generate beliefs and thoughts (Goetzmann & Peles, 1997; Lee et al., 2012; Li et al., 2002; Bettman & Park, 1980). Generating beliefs and thoughts generally leads to perception of the service or product (Boulding & Kirmani, 1993). Perception can be measured from the angle of product knowledge (Lee et al., 2013). An example is knowledge perception. Consumer knowledge is considered a crucial construct in understanding how a consumer searches and processes information (Alba & Hutchinson, 1987). Literature indicates subjective knowledge has proven to be a strong predictor of perception and behavior (e.g. Selnes & Gronhaug, 1986; Flynn & Goldsmith, 1999). Brucks (1985) has defined subjective knowledge as the degree to which individuals perceive they know. There is also growing evidence that indicate self-self-disclosures as important determinants through which a novice, uninformed and amateur investor may obtain financial literacy in financial services advertising (Lee et al., 2012; Lee et al., 2013; Lee & Haley, 2011). In light of the proposed theoretical framework, this study posits the following hypotheses:

H1: Prevention (promotion) oriented subjects, when exposed to a hard sell (soft sell) advertisement appeal, would receive stronger impact on perceived knowledge.

RESEARCH METHODOLOGY

Sampling Design

A between group field experiment was conducted in this study so as to ensure that there was no known possibility of one treatment contaminating the other treatment (Lee et al., 2012). For this study, a professional advertising consultant was tasked to create four full page

colored PRS advertisements for the print media (i.e. magazine). The advertisement had a fictitious brand name for anonymity. The four types of PRS advertisements were: (i) a hard sell PRS advertisement with advertising self-disclosure, (ii) a hard sell PRS advertisement without advertising self-disclosure, (iii) a soft sell PRS advertisement with advertising self-disclosure and (iv) a soft sell PRS advertisement without advertising self-disclosure (see Appendices 1 till 4). It was typically a 2 X 2 X 2 experiment model.

In the case of manipulating the advertisement self-disclosures, in addition to limited Malaysian guidelines on PRS, the current study also adhered to regulatory guidelines on private mutual fund advertising disclosure and literature (e.g. Federation of Investment Managers of Malaysia, (2013c), Securities Commission (2013), Private Pension Administrator (2014e), The Pensions Regulator (2013) and previous studies (i.e. Huhmann & Bhattacharyya, 2005; Jones & Smythe 2003). Typically, the mandatory advertising self-disclosures included in the PRS advertisements were items such as investment objective, cost related information, and past performance. As for the manipulation of the creative advertisement appeal, the current study followed the theoretical and practical guidelines according to previous studies (i.e. Lord & Putrevu, 2009; Tai, 2004; Laskey et al., 1989; Puto & Wells, 1984). To be specific, hard sell advertisements featured the PRS offering via fact-based, precise, and logical message appeals. In contrast, soft sell advertisements featured the PRS offering via a narrative plot, which seemed to project the actual experience an investor would encounter during financial decision making. In order to ensure there was no biasness, only verbal description of the advertisement were manipulated, with all other elements (e.g. visuals) of the advertisement being held constant (Lee et al., 2012).

Research Procedure

Prior to data collection, so as to ensure that the advertising strategies (hard sell versus soft sell) and advertising self-disclosure were operationalized appropriately with the stated guidelines, the four test advertisements created by a professional graphic designer (i.e. hard sell advertisement with disclosure, hard sell advertisement without disclosure, soft sell advertisement with disclosure, soft sell advertisement without disclosure) were viewed by advertising professors. After confirming to the attestation of the ads, the four advertisements were pre-tested with a group of 36 people from various walks of life. All 36 participants were working adults, including 14 participants who were actually involved in the private retirement scheme (PRS) industry. These 14 were sourced from the Private Pension Administrator, the agency that overlooks the still nascent operations of the PRS industry in Malaysia. In order to maintain procedural validity (as part of internal validity), the manipulation of the message strategy in the test advertisement was rated as being hard-sell or soft-sell according to the Puto & Wells (1984) scale by the participants. The same 36 participants were also requested if they had noticed the self-disclosure presented in the PRS test advertisements according to Frantz & Rhoades (1993), Barlow & Wogalter (1993) and Torres et al. (2007) seven point Likert scale item, "I noticed the advertisement self-disclosure", led by (1) strongly disagree to (7) strongly agree.

In the pre-test, all 36 participants had rated the test advertisements according to scales designed and classified by Puto & Wells (1984). The items were eight for hard sell and 15 for soft sell. Although these measurements had already been verified for reliability in Western countries, this researcher conducted another reliability test in the Malaysian context. The reliability test showed ($\alpha = 0.72$) for the 8 items measuring hard sell and ($\alpha = 0.83$) for the 15 items measuring soft sell. According to Cronbach (1951), scores between 0.7 and 0.9 is considered good. In this instance reliability results were similar to earlier study studies (e.g. Lord & Petrevu, 2009; Puto & Wells, 1984). In conducting a paired t test, there was a significant difference in the scores of soft sell advertising ($M=3.40$, $SD=.42$) and hard sell advertising ($M=3.18$, $SD=.25$); $t(35)=4.21$, $p = .001$. Apart from that a paired t-test showed there was a significant difference in the scores of advertisements with self-disclosure ($M=5.5$, $SD=.83$) and advertisements without self-disclosure ($M=2.83$, $SD=1.07$); $t(35)=11.47$, $p = .001$. The actual research intended to gather data in as much as ecologically and externally valid situation as possible by using a field experiment (Lee et al., 2012). Since this study was conducted in Malaysia, it was intended by this researcher to collect data from a random sample of Malaysian investors. On the foundation of the socio-demographic profile of Malaysian unit trust investors as explained by the Federation of Investment Managers Malaysia (2012) Employees Provident

Fund (2013), this study was limited to retail investor subjects based on the following criteria: (i) between the ages of 25 to 50, (ii) married, unmarried, (iii) college graduates, (iv) employed (full or part time). This group was typically known to save and invest for their future with respect to their own retirement, family concerns, children's education (Federation of Investment Managers, 2012; Employees Provident Fund, 2013).

In terms of procedural validity, the researcher contacted the human resource department of the intended university, and requested the department to systematically and randomly send an e-mail invitation letter to academic staff working in the university to take part in an experiment for a new product being offered by a financial institution. Since the experiment was conducted in four conditions (i.e. hard with no self-disclosure, hard sell with self-disclosure, soft sell with no disclosure, soft sell with disclosure), therefore from the staff list in ascending alphabetical order, the human resource department sent out the four separate experiment conditions (via email) to four different names according to alphabetical order, and repeat the process. The questionnaires measuring the dependent variable: cognition was randomized, so as to ensure internal validity. The reliability of all the measurement scales used in designing the questionnaire was found to be satisfactory according to Cronbach's alpha (Cronbach, 1951). The measurement scales for the constructs used can be referred in Appendix 5. The reliability scores are listed in Table 1.

**Table 1
Measurement and Cronbach's Alpha**

Measurement	Number of Items	Cronbach's Alpha
Prevention Focus	4	0.93
Promotion Focus	4	0.84
Hard Message Appeal	8	0.73
Soft Message Appeal	15	0.88
Perceived Knowledge	4	0.94

A measure of dominant regulatory focus was created by subtracting participants' scores on the prevention goal subscale from scores on the promotion goal subscale. It should be noted that the reliance on this difference-score measure is justified by the earlier studies that had used this approach (e.g. Lockwood & Kunda, 2002; ElSamen, 2011; Higgins et al., 2001). Based on the sample size of 292 ($M = 1.01$, $SD = 1.59$, $p < .001$), and on a median split of 0.5, the participants were categorized as either promotion focused or prevention focused. Higher scores on this measure reflect relatively greater promotion than prevention focus.

DATA ANALYSIS

Perceived knowledge was subjected to a multivariate analysis of variance having two levels of message strategy (hard sell, soft sell) and two levels of advertisement self-disclosure (with, without). The effects were analysed at the $p < .001$ significance level. Cohen's (1988) criteria for gauging small, medium and large effect sizes were used as a reference. Table 2 shows the regulatory orientation of an individual had yielded a main effect on perceived knowledge: $F(1, 284) = 4.54$, $p < .001$, partial eta squared = .02. As for advertising self-disclosure, it also yielded a main effect for perceived knowledge: $F(1,284) = 46.21$, $p < .001$, partial eta squared = .14. However there was no main effect on perceived risk with respect to advertising strategy per se: $F(1, 284) = 0.25$, $p < .001$. Meanwhile there was an interaction effect observed between advertising strategy, advertising self-disclosure and regulatory focus: $F(1, 284) = 12.64$, $p < .001$ ($M_{hard-pvn} = 4.55$, $M_{soft-pmn} = 2.53$) and its effect was small with a partial eta squared = .05, indicating hard sell advertisements was more effective for prevention oriented conditions, as was soft sell advertisements for promotion oriented conditions.

As also shown in Table 2 and both charts in Figure 2, when a hard sell advertisement with self-disclosure was shown to a prevention oriented individual there was an increase in perceived knowledge from ($M = 3.58$, $SD = 0.28$, $p < .001$) to ($M = 4.55$, $SD = 0.40$, $p < .001$). Similarly, when a soft sell advertisement with self-disclosure was shown to a promotion oriented

individual, there was also an increase in perception towards knowledge from ($M = 3.78$, $SD = 0.78$, $p < .001$) to ($M = 4.64$, $SD = 0.32$, $p < .001$). Therefore H is supported.

Table 2: ANOVA results to test H

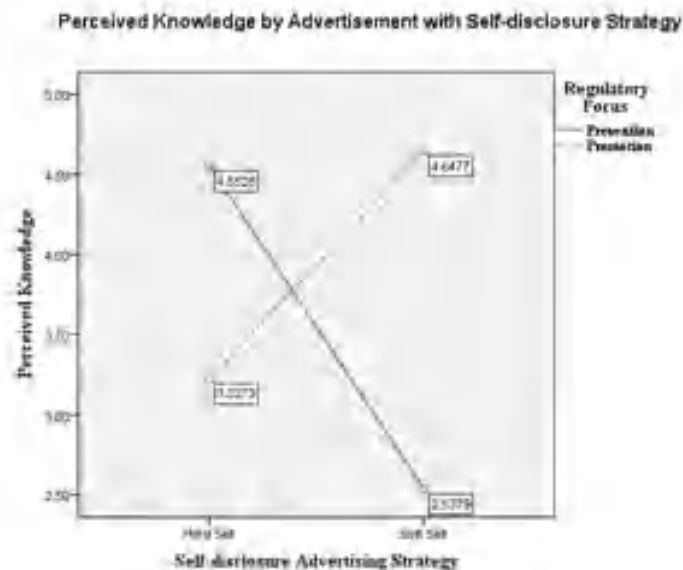
Source	df	MS	F	eta ²	Effect Size
Advertising strategy	1	0.14	0.25	0	Nil
Self-disclosure	1	25.89	46.21***	0.14	Large
Regulatory orientation	1	2.54	4.54***	0.02	Small
Advertising strategy x Self-disclosure x Regulatory orientation	1	7.08	12.64***	0.05	Small
Error	284				
Total	292				

*** $p < .001$

Regulatory Orientation	No-disclosure Advertising Strategy				With-disclosure Advertising Strategy			
	Hard sell		Soft sell		Hard sell		Soft sell	
	M	SD	M	SD	M	SD	M	SD
Prevention	3.58	0.28	3.78	0.78	4.55	0.40	4.64	0.32
Promotion	2.48	0.98	2.70	0.87	3.22	1.22	2.53	0.71

Figure 2: ANOVA results to test H





CONCLUSION AND DISCUSSION

The current study in the Malaysian context has contributed to new knowledge with regards to regulatory focus/fit in several ways. The crucial finding is that self-regulatory fit theory does provide a motivational approach in explaining cognition and consumer behavior with regards to private retirement decisions. In essence regulatory fit theory does provide evidence in explaining product evaluation in terms of cognitive (i.e. perception) measures. First, different individuals perceive and use verbal expressions quite differently, and an individual's personal trait (e.g. regulatory focus) may affect their economic decision making. For instance, as defined by Semin et al. (2005), promotion oriented individuals may use a different strategy (e.g. approach strategy) in order to communicate their goals in relation to others, as opposed to prevention focused individuals who may depend on an avoidance strategy. Semin et al. (2005) have noted that the 'linguistic signature' of a promotional person is characterized by abstract language (i.e. there is a regulatory fit when soft sell messages with self-disclosures are used). Similarly, the same authors have stated that a prevention person is characterized by concrete language (there is a regulatory fit when hard sell messages with self-disclosures are used).

Second, as suggested by previous literature (e.g. Hunt & Einstein, 1981; Zhu & Meyers-Levy, 2007; Johnson, 1984; Kirmani & Zhu, 2007) promotional oriented individuals engaged in relational elaboration (i.e. story-like), as opposed to prevention oriented individuals who are engaged in item-specific elaboration (i.e. factual). As predicted in the hypotheses, promotion oriented individuals responded well to soft sell advertising strategies with self-disclosures, while prevention oriented folks were allured by hard sell engagement strategies with self-disclosures. Taken together, these findings suggest regulatory focus plays an important part when determining what type of message appeal is best suited to an individual.

Third, in the corpus of consumer persuasion research, it has been shown that target audiences experience a natural fit whenever an advertisement highlights behavioral conduct as a consequence of a fit with the individual's regulatory orientation, known as 'regulatory relevance' (Aaker & Lee, 2001, 2006). As a result, regulatory relevance impacts and enhances the persuasive nature of advertisements. This research implies if the target audience is heterogeneous in nature with respect to regulatory focus (i.e., half are promotion oriented with the other half prevention oriented) it would be beneficial for PRS advertisers to use two kinds of message engagement (i.e. hard sell with self-disclosures vs. soft sell with self-disclosures) to appeal to both segments of the consumer market. A promotion type of message (i.e. story like) can be used to engage the promotion 'approach and achievement' type target audience, while a prevention focused message (i.e. more factual) can be used to address the prevention 'avoidance and risk reduction' type target audience (Lee & Aaker, 2004; Andrews et al., 2009). This would in turn enhance their cognition towards the advertisement, thus more positive perceptions of the product. As stated by Wang & Lee (2006), preferences in investment

decisions are inherent constructs as decision tasks are often complex, involving many choices, each with many characteristics (e.g. few fund options in PRS). In addition a person may have a preference according to various trade-off strategies (concise vs. elaborative) (Craik & Lockhart 1972), which may include the message context (e.g. what kind of information is available?) as well.

Fourth, this study also investigated the consequences of regulatory focus theory on consumer behavior towards financial decision making. For instance, as discussed earlier, building on earlier studies, this study supplements the academic notion that attitudes formed under an accessible ideal (i.e. promotion oriented condition) was greater under subject affective response condition (i.e. soft sell with self-disclosures), and attribute evaluation formed under an ought ideal (i.e. prevention oriented condition) was greater under substance of the message condition (i.e. hard sell with self-disclosures) (Zhu & Meyers-Levy, 2007; Pham & Avnet, 2004) – although the impact is greater for self-disclosures with hard sell strategy as has been shown in this study. This evaluation (i.e. hard sell with self-disclosure and soft sell with self-disclosure) may result in positive feelings that may be transferred towards product perception (in this case knowledge) (Lee & Koo, 2012; Florack & Scarabis, 2006; Lee & Aaker, 2004).

Hitherto current research has examined separating message recipient into psychological states (e.g. promotion vs. prevention) only, but Hirsch et al. (2012) study confirmed message-person congruence led to positive evaluations. In fact the Hirsch et al. (2012) study had only investigated product advertisements. So this study has added another new dimension by examining message-person congruence using multi-dimensional approach (e.g. hard sell message with self-disclosure/no self-disclosure) in assessing recipient's characteristics (i.e. prevention focus) within the context of financial service advertising.

Finally, this study suggests the crucial usefulness of the outcome variable: perceptions towards knowledge. In a nutshell, the three main components in this study are: cognitive (the way we think); affective (the way we feel); and behavioral (the way we act) towards a particular entity (Petty et al., 1997). As demonstrated by the field experiment, regulatory focus does moderate the impact of advertising appeal strategy (i.e. hard sell vs. soft sell) and self-disclosure (present and absent condition) on all three outcomes consistently. In this regard, PRS advertisers need to match advertising appeal strategies (in some instances, both strategies in a single advertisement) and self-disclosures, which may be evaluated in accordance to an individual's regulatory orientation, so as to have greater persuasive effect on decision making. The confirmation of this study's hypotheses adds to limited literature with regards to measuring consumer attitudes in relation to financial service advertising (i.e. PRS). From a marketing perspective, this study has added to non-existent literature on Malaysian PRS advertising (e.g. investor relations, corporate advertising) with regards to how regulatory orientation of an individual moderates self-disclosures contained in financial advertisements, and therefore affecting investment buying intention. Since consumers are increasingly exposed to financial advertising, self-disclosures in financial advertising will be increasingly becoming crucial going forward, as it will play an important role in financial decision making (Wang, 2013). For products like mutual funds and credit cards, disclosures, including terms and conditions, fee structure, although commonplace have become more complicated these days, creating a paradox for marketers and consumers alike (Wang, 2013), therefore it can be observed the same may be applied within the PRS context. Given that unethical and irresponsible advertising is quite prevalent in financial advertising, the call for effective communication of financial disclosures is a pertinent issue for consumers and marketers (Wang, 2013).

In addition, as noted by Karrh (2004) and Keller (2006), corporate financial advertising can be regarded as a long term commitment, rather than a short-term expense, therefore considering the target audiences' regulatory orientation prior to advertising by financial institutions may be seen as a socially responsible action by consumers at large. So what would this study's findings mean to financial marketers?

First, self-disclosures play an important role in terms of perception trust and investment decision making. Research in behavioral finance decision making have suggested that financial investment perceptions and attitudes may be precise and technical. However, to a novice or an ordinary investor the understanding of the perception (e.g. risk or knowledge) may also be

intuitive and emotion driven (Jordan & Kaas, 2002). Studies have shown that heuristics (rules-of-thumb) may affect perceptions, especially in cases where there is incomplete information or limited cognitive capacity (Johnson & Tellis, 2005). It can be inferred that judgmental heuristics may have a negative effect on advertising initiatives (Jordan & Kaas, 2002).

Second, this study also confirms promotion focus individuals are more attuned to using affect as a heuristic judgment. This would mean that promotion focus consumers would rely on story-like messages, while prevention focus consumers would depend on fact-like messages to make an investment decision. In relation, it is interesting to note this research underscores the match between soft-sell advertising message appeal strategy and promotion orientation, while at the same time there is a match between hard-sell advertising and prevention orientation. What is of particular interest in this study is that self-disclosures contained in hard-sell advertisements affects prevention oriented individuals in a greater capacity as opposed to self-disclosures contained in soft-sell advertisements with regards to promotion focus individuals.

Third, along with other studies the findings in this study seem to suggest that consumers would view PRS providers as more socially responsible when they engage customers with advertising self-disclosures (e.g. Lee et al. 2013; Torres et al. 2007). As suggested by Lee et al. (2013), advertising self-disclosures may be regarded as a crucial element by both the prospective investor and marketer of financial services (i.e. PRS in this case). Advertising self-disclosures may in fact prevent misleading and deceptive information, while simultaneously facilitating transparency, which may result in positive perception and belief of a brand and company (Lee et al. 2012). This is especially true of novice or inexperienced PRS investors in the Malaysian context, who would give prominence to information contained in a message that is easy to comprehend and memorize (Alba & Hutchinson, 1987).

With regards to public policy implications, first, this study reflects previous literature that has suggested investors (especially novice) often make decisions about complex financial offerings based on unconscious and simplified judgmental heuristics (i.e. sub-optimal information processing), limited cognitive aptitude, or incomplete information, which may not necessarily bode well for the financial well being of an individual (e.g. Lee et al., 2013; Ratner et al., 2008). This is the reason perhaps Gilbert & Ebert (2002) have argued that presenting a simple yet utilitarian information piece (i.e. advertising self-disclosure) is likely to lessen sub-optimal decision and biased perceptions within a complex decision-making context (i.e. investing in PRS).

Second, much public policy debate has deliberated on financial literacy and market transparency which may be achieved through the right communication approach and proper information flow, in light of the complexity and the insecurity in the financial services industry (Kozup & Hogarth, 2008). It is hoped this study may contribute to appropriate provisioning of advertising self-disclosures in terms public policy interventions.

Third, numerous studies have indicated the importance of educating and strengthening retail consumers' skills on investing and financial literacy (Adkins & Ozanne, 2005). This can be leveraged by using their personal and social abilities with regards to how they comprehend a marketing message based on their autonomy and sovereignty (McGregor, 2011; Viswanathan et al., 2005) – for example tapping on their regulatory orientation before the appropriate message appeal and self-disclosure is used.

Lastly, it is also hoped that with the increasing complexity of PRS in Malaysia in the near future, public policy intervention with regards to self-disclosures may also be complemented via other educational tools (i.e., virtual forums, mobile applications) which may directly enhance the investor's knowledge, understanding, and experience about private retirement schemes.

REFERENCES

- Aaker, J. L., & Lee, A. Y. (2001). "I" seek pleasures and "we" avoid pains: The role of self-regulatory goals in information processing and persuasion. *Journal of Consumer Research*, 28(1), 33-49.

- Aaker, J. L., & Lee, A. Y. (2006). Understanding regulatory fit. *Journal of Marketing Research*, 43(1), 15-19.
- Abdullah, F., Hassan, T., & Mohamad, S. (2007). Investigation of performance of Malaysian Islamic unittrust funds: Comparison with conventional unit trust funds. *Managerial Finance*, 33(2), 142-153.
- Adkins, N. R., & Ozanne, J. L. (2005). The low literate consumer. *Journal of Consumer Research*, 32(1),93-105.
- Ahn, H., Song, Y. A., & Sung, Y. (2011). When the going gets tough, ads become straightforward butmulti-appealed: The influence of the recession on financial services advertising appeals. *Journal of Financial Services Marketing*, 16(3), 230-243.
- Alba, J. W. & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of ConsumerResearch*, 13(4), 411-54.
- Alexander, G. J., Jones, J. D., & Nigro, P. J. (1998). Mutual fund shareholders: Characteristics, investorknowledge, and sources of information. *Financial Services Review*, 7(4), 301-316.
- Andrews, J. C., Netemeyer, R. G., & Burton, S. (2009). The nutrition elite: Do only the highest levels ofcaloric knowledge, obesity knowledge, and motivation matter in processing nutrition ad claims and disclosures?. *Journal of Public Policy & Marketing*, 28(1), 41-55.
- Argo, J. J., & Main, K. J. (2004). Meta-analyses of the effectiveness of warning labels. *Journal of Public Policy & Marketing*, 23(2), 193-208.
- Azhar, M.K. (2012, October). Private retirement scheme potentially worth RM18b, says Manulife. *TheEdge*. Retrieved from <http://www.theedgemalaysia.com/highlights/224058-private-retirement-scheme-potentially-worth-rm18b-says-manulife.html>
- Barlow, T., & Wogalter, M. S. (1993). Alcoholic beverage warnings in magazine and television advertisements. *Journal of Consumer Research*, 20(1), 147-156.
- Bates, K., Burton, S., Howlett, E., & Huggins, K. (2009). The roles of gender and Motivation As moderators of the effects of calorie and nutrient information provision on away-from-home foods. *Journal of Consumer Affairs*, 43(2), 249-273.
- Beltramini, R. F. (1988). Perceived believability of warning label information presented in cigaretteadvertising. *Journal of Advertising*, 17(1), 26-32.
- Bettman, J. R., & Park, C. W. (1980). Effects of prior knowledge and experience and phase of the choiceprocess on consumer decision processes: A protocol analysis. *Journal of Consumer Research*, 7(3), 234.
- Boller, G.W., & Olson, J. C. (1991). Experiencing ad meaning: Crucial aspect of narrative/drama processing. In R. Holman & M. Solomon (Eds.), *Advances in consumer research* (Vol. 18, pp. 164–171). Provo,UT: Association of Consumer Research.
- Boulding, W., & Kirmani, A. (1993). A consumer-side experimental examination of signaling theory: Doconsumers perceive warranties as signals of quality? *Journal of Consumer Research*, 20(1), 111-123.
- Bracing Malaysians for Retirement. (2010). Retrieved from <http://moneycompass.com.my/en/bracing-malaysians-for-retirement/>
- Brucks, M. (1985). The effects of product class knowledge on information search behavior. *Journal of Consumer Research*, 12(1), 1-16.

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Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Capon, N., Fitzsimons, G. J., & Prince, R. A. (1996). An individual level analysis of the mutual and investment decision. *Journal of Financial Services Research*, 10(1), 59-82.
- Chernev, A. (2006). Goal-attribute compatibility in consumer choice. *Journal of Consumer Psychology*, 14(1), 141-150.
- Coombs, W.T. & Holladay, S.J. (2006). Unpacking the halo effect: Reputation and crisis management. *Journal of Communication Management*, 10 (2), 123-37.
- Craik, F. I., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of Verbal Learning and Verbal Behavior*, 11(6), 671-684.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotion and prevention in decision-making. *Organizational Behavior and Human Decision Processes*, 69(2), 117-132.
- Cutler, B. D., Thomas, E. G., & Rao, S. R. (2000). Informational/transformational advertising: Differences in usage across media types, product categories, and national cultures. *Journal of International Consumer Marketing*, 12(3), 69-83.
- Daryanto, A., de Ruyter, K., & Wetzels, M. (2010). Getting a discount or sharing the cost: the influence of regulatory fit on consumer response to service pricing schemes. *Journal of Service Research*, 13(2), 153-167.
- Deighton, J., & Schindler, R. M. (1988). Can advertising influence experience?. *Psychology & Marketing*, 5(2), 103-115.
- Ducoffe, R. H. (1995). How consumers assess the value of advertising. *Journal of Current Issues & Research in Advertising*, 17(1), 1-18.
- Elliot, A. J., & Thrash, T. M. (2010). Approach and avoidance temperament as basic dimensions of personality. *Journal of Personality*, 78(3), 865-906.
- ELSamen, A. A. (2011). Examining the construct validity of the Lockwood goal orientation scale using the general hierarchical model: An exploratory study. *Journal of Management Policy and Practice*, 12(4), 81.
- Federation of Investment Managers. (2013c). *Code of ethics and rules of professional Conduct (Unit trust funds)*. Retrieved from <http://www.fimm.com.my/pdf/member/Code%20of%20Ethics%20and%20Rules%20of%20Professional%20Conduct%2020113.pdf>
- Financial Services Authority. (2012). *FSA proposes to ban the promotion of UCIS and similar products to ordinary retail investors*. Retrieved from <http://www.fsa.gov.uk/library/communication/pr/2012/083.shtml>
- Florack, A., & Scarabis, M. (2006). How advertising claims affect brand preferences and category brand associations: The role of regulatory fit. *Psychology & Marketing*, 23(9), 741-755.
- Florack, A., Scarabis, M., & Gosejohann, S. (2005). Regulatory focus and consumer information processing. Applying social cognition to consumer-focused strategy, 235-263.
- Flynn, L. R., & Goldsmith, R. E. (1999). A short, reliable measure of subjective knowledge. *Journal of Business Research*, 46(1), 57-66.

- Forster, J., Higgins, E. T., & Idson, L. C. (1998). Approach and avoidance strength during goal attainment: regulatory focus and the "goal looms larger" effect. *Journal of Personality and Social Psychology*, 75(5), 1115.
- Foxman, E. R., Muehling, D. D. & Moore, P. A. (1988). Disclaimer footnotes in ads: Discrepancies between purpose and performance. *Journal of Public Policy and Marketing*, 7, 127-137.
- Franke, G.R., Huhmann, B.A. & Mothersbaugh, D.L. (2004). Information content and consumer readership of print ads: A comparison of search and experience products, *Journal of the Academy of Marketing Science*, 32(1), 20-31.
- Frantz, J. P., & Rhoades, T. P. (1993). A task-analytic approach to the temporal and spatial placement of product warnings. *The Journal of the Human Factors and Ergonomics Society*, 35(4), 719-730.
- Friedman, R. S., & Foerster, J. (2001). The effects of promotion and prevention cues on creativity. *Journal of Personality and Social Psychology*, 81,1001-1013.
- Freitas, A. L., & Higgins, E. T. (2002). Enjoying goal-directed action: The role of regulatory fit. *Psychological Science*, 13(1),1-6.
- Goetzmann, W. N., & Peles, N. (1997). Cognitive Dissonance and Mutual Fund Investors. *Journal of Financial Research*, 20, 145-158. Retrieved from <https://stuwww.uvt.nl/fat/files/library/Goetzman,%20William%20N.%20and%20Peles,%20Nadav%20-%20Cognitive%20Dissonance%20and%20Mutual%20Fund%20Investors%20%281993%29.pdf>
- Grunig, J.E. (2001). Two-way symmetrical public relations: Past, present, and future. In R.L. Heath (Ed.), *Handbook of public relations* (pp. 11-30), Thousand Oaks, CA: Sage.
- Hestoni, A.(2000). The relationship between values and appeals in Israeli advertising: A smallest space analysis. *Journal of Advertising*, 29 (3), 55-68.
- Higgins, E. T., & Silberman, I. (1998). Development of regulatory focus: Promotion and prevention as ways of living. In J. Heckhausen & C.
- Higgins, E.T. (1997). Beyond pleasure and pain. *American Psychologist*, 52, 1280-1300.
- Higgins, E.T. (2012). *Beyond Pleasure and Pain*. New York: Oxford University Press.
- Hirsh, J. B., Kang, S. K., & Bodenhausen, G. V. (2012). Personalized persuasion: Tailoring persuasive appeals to recipients' personality traits. *Psychological Science*, 23(6), 578-581.
- Hoy, M. G., & Lwin, M. O. (2007). Disclosures exposed: Banner ad disclosure adherence to FTC guidance in the top 100 US web sites. *Journal of Consumer Affairs*, 41(2), 285-325.
- Huhmann, B. A. & Bhattacharyya, N. (2005). Does mutual fund advertising provide necessary investment information? *International Journal of Bank Marketing*, 23 (4), 296-314.
- Huitt, W. (1996). Measurement and evaluation: Criterion-versus norm-referenced testing. *Educational Psychology Interactive*.
- Hunt, R. R. & Einstein, G.O. (1981). Relational and item-specific information in memory. *Journal of Verbal Learning and Verbal Behavior*, 20 (5), 497-514.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Hutchinson, J., & Alba, J. W. (1991). Ignoring irrelevant information: Situational determinants of consumer learning. *Journal Of Consumer Research*, 18(3), 325-345.
- International Monetary Fund. (2013). *Malaysia: Financial Sector Stability Assessment*. Retrieved from <http://www.imf.org/external/pubs/ft/scr/2013/cr1352.pdf>
- International Social Security Association. (2009). *Extending social security coverage in Asia-Pacific: A review of good practices and lessons learnt*. Retrieved from <http://cis.ier.hit-u.ac.jp/English/society/conference1001/asher-paper6.pdf>
- Jain, P.C. & Wu, J.S. (2000). Truth in mutual fund advertising: Evidence on future performance and fund flows. *Journal of Finance*, 55(2), 937-58.
- Johar, J. S. & Sirgy, M. J. (1991). Value-expressive versus utilitarian advertising appeals: When and why to use which appeal. *Journal of Advertising*, 20(3), 23-33.
- Johnson, J., & Tellis, G. J. (2005). Blowing bubbles: Heuristics and biases in the run-up of stock prices. *Journal of the Academy of Marketing Science*, 33(4), 486-503.
- Johnson, M. D. (1984). Consumer choice strategies for comparing non-comparable alternatives. *Journal of Consumer Research*, 11 (3), 741-53.
- Jones, M. A., & Smythe, T. (2003). The information content of mutual fund print advertising. *Journal of Consumer Affairs*, 37(1), 22-41.
- Jones, M. A., Lesseig, V. P., Smythe, T. I., & Taylor, V. A. (2007). Mutual fund advertising: Should investors take notice? *Journal of Financial Services Marketing*, 12(3), 242-254.
- Jordan, J., & Kaas, K. P. (2002). Advertising in the mutual fund business: The role of judgmental heuristics in private investors' evaluation of risk and return. *Journal of Financial Services Marketing*, 7(2), 129-140.
- Kaos, J. (2012, June). Govt mulls life-long pension for private sector employees. *The Star*. Retrieved from <http://thestar.com.my/news/story.asp?file=/2012/6/19/nation/11507064&sec=nation>
- Karrh, J. A. (2004). Does advertising influence investors? Evidence and research propositions. *Journal of Current Issues & Research in Advertising*, 26(2), 1-10.
- Keller, J., & Bless, H. (2006). Regulatory fit and cognitive performance: the interactive effect of chronic and situationally induced self-regulatory mechanisms on test performance. *European Journal of Social Psychology*, 36(3), 393-405.
- Kim, M. (2007). Early literacy learning of young children with hearing loss: written narrative development (Doctoral dissertation, Ohio State University). Retrieved from <http://etd.ohiolink.edu/send-pdf.cgi/Kim%20MinJeong.pdf?osu1199258403>
- Koehler, J. J., & Mercer, M. (2009). Selection neglect in mutual fund advertisements. *Management Science*, 55(7), 1107-1121.
- Kozup, J. C., Creyer, E. H., & Burton, S. (2003). Making healthful food choices: The influence of health claims and nutrition information on consumers' evaluations of packaged food products and restaurant menu items. *Journal of Marketing*, 67, 19-34.
- Kozup, J., & Hogarth, J. M. (2008). Financial literacy, public policy, and consumers' self-protection – More questions, fewer answers. *Journal of Consumer Affairs*, 42 (2), 127-136.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Lee, A., & Aaker, J. (2004). Bringing the frame into focus: The influence of regulatory fit on processing fluency and persuasion. *Journal of Personality and Social Psychology*, 86, 205-218.
- Lee, A.Y. & Higgins, E.T. (2009). The persuasive power of regulatory fit. In M. Wanke (Ed.), *The social psychology of consumer behavior* (pp. 319-333), NY: Psychology Press.
- Lee, K.-T. & Koo, D.-M. (2012). Effects of attribute and valence of e-wom on message adoption: Moderating roles of subjective knowledge and regulatory focus. *Computers in Human Behaviour*, 28, 1975-1984
- Lee, T. D., Chung, W., & Haley, E. (2011). Adherence of retirement mutual fund providers to the securities and exchange commission (SEC)'s advertising guidance: provision and readability of advertising disclosure. *Journal of Consumer Policy*, 34(4), 455-474.
- Lee, T. D., Haley, E., Yun, T. W., & Chung, W. (2011). US retirement financial services advertising's financial information provisions, communication strategies and judgmental heuristic cues. *Journal of Consumer Affairs*, 45(3), 391-418.
- Lee, T. D., Yun T. W., & Haley, E. (2012). The interplay between advertising disclosures and financial knowledge in mutual fund investment decisions. *Journal of Consumer Affairs*, 46 (2), 260-287.
- Lee, T. D., Yun, T., & Haley, E. (2013). Effects of mutual fund advertising disclosures on investor information processing and decision-making. *Journal of Services Marketing*, 27(2), 104-117.
- Lieberman, N., Idson, L. C., Camacho, C. J., & Higgins, E. T. (1999). Promotion and prevention choices between stability and change. *Journal of Personality and Social Psychology*, 77(6), 1135.
- Lockwood, P., Jordan, C. H., & Kunda, Z. (2002). Motivation by positive or negative role models: Regulatory focus determines who will best inspire us. *Journal of Personality and Social Psychology*, 83(4), 854-864.
- Lord, K. R., & Putrevu, S. (2009). Informational and transformational responses to celebrity endorsements. *Journal of Current Issues & Research in Advertising*, 31(1), 1-13.
- Lovelock, C. (2001). *Services Marketing: People, Technology, and Strategy*. New Jersey: Prentice-Hall.
- Lutz, R. J. (1975). Changing brand attitudes through modification of cognitive structure. *Journal of Consumer Research*, 1 (4), 49-59.
- Macias, W. & Lewis, L.S.(2003). A content analysis of direct-to-consumer (DTC) prescription drug web sites. *Journal of Advertising*, 32 (4), 43-56.
- McGregor, S. (2011). Consumer acumen: Augmenting consumer literacy. *Journal of Consumer Affairs*, 45(2), 344-357.
- Milton, S. (1974). *Advertising for Modern Retailers*. New York: Fairchild.
- Monticone, C. (2010). How much does wealth matter in the acquisition of financial literacy? *Journal of Consumer Affairs*, 44(2), 403-422.
- Moorman, C., Diehl, K., Brinberg, D., & Kidwell, B. (2004). Subjective knowledge, search locations, and consumer choice. *Journal of Consumer Research*, 31(3), 673-680.
- Orwin, R., Shucker, R. & Stokes, R. (1984). Evaluating the life cycle of a product warning: Saccharin and the diet soft drinks. *Evaluation Review*, 8, 801-22.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Padgett, D., & Allen, D. (1997). Communication experiences: A narrative approach to creating service brand image. *Journal of Advertising*, 26, 49-62.
- Park, C. W., & Lessig, V. P. (1981). Familiarity and its impact on consumer decision biases and heuristics. *Journal of Consumer Research*, 8, 223-231
- Park, C. W., Jaworski, B. J. & MacInnis, D. J. (1986). Strategic brand concept-image management. *The Journal of Marketing*, 50(4), 135-145.
- Pennington, R. (1993). *Domestic and foreign advertising in Mexican newspapers*. Paper presented at the Annual Convention of the Association for Education in Journalism and Mass Communication, Kansas City, MS.
- Peracchio, L. A., & Meyers-Levy, J. (1997). Evaluating persuasion-enhancing techniques from a resource-matching perspective. *Journal of Consumer Research*, 24(2), 178-191.
- Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *Journal of Consumer Affairs*, 39(2), 299-313.
- Petty, R. E., Wegener, D. T., & Fabrigar, L. R. (1997). Attitudes and attitude change. *Annual Review of Psychology*, 48, 609-647.
- Pham, M. T., & Avnet, T. (2004). Ideals and oughts and the reliance on affect versus substance in persuasion. *Journal of Consumer Research*, 30(4), 503-518.
- Pham, M. T., & Higgins, E. T. (2005). The state of the art and theoretical propositions. *Inside Consumption: Consumer Motives, Goals, and Desires*, 8.
- Pihie, Z. A. L., & Bagheri, A. (2012). An exploratory study of entrepreneurial attributes among Malaysian university students. *Life Science Journal*, 9(3), 2358-2365.
- Polyorat, K., Alden, D. L., & Kim, E. S. (2007). Impact of narrative versus factual print ad copy on product evaluation: The mediating role of ad message involvement. *Psychology & Marketing*, 24(6), 539-554.
- Private Pension Administrator. (2014a). *Overview*. Retrieved from <http://www.ppa.my/prs/about-prs/overview/>
- Private Pension Administrator. (2014e). *PRS FAQs*. Retrieved from <http://www.ppa.my/prs/prs-faqs/>
- Punj, G. N., & Staelin, R. (1983). A model of consumer information search behavior for new automobiles. *Journal of Consumer Research*, 9(4), 366-380.
- Puto, C. P. & Wells, W. D. (1984). Informational and transformational advertising: The differential effects of time. *Advances in Consumer Research*, 11(1), 638-643.
- Ramasamy, B., & Yeung, M. C. (2003). Evaluating mutual funds in an emerging market: factors that matter to financial advisors. *International Journal of Bank Marketing*, 21(3), 122-136.
- Ratner, R. K., Soman, D., Zaubermaun, G., Ariely, D., Carmon, Z., Keller, ... Wertenbroch, K. (2008). How behavioral decision research can enhance consumer welfare: From freedom of choice to paternalistic intervention. *Marketing Letters*, 6 (2), 383-397.
- Roy, R., & Phau, I. (2014). Examining regulatory focus in the information processing of Imagery and analytical advertisements. *Journal of Advertising*, 43 (4), 371 – 381.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Saad, N. M., Majid, M. S. A., Kassim, S., Hamid, Z., & Yusof, R. M. (2010). A comparative analysis of the performance of conventional and Islamic unit trust companies in Malaysia. *International Journal of Managerial Finance*, 6(1), 24-47.
- Securities Commission Malaysia. (2012). *The SC approves eight private retirement scheme providers*. Retrieved from <http://sc.com.my/main.asp?pageid=379&linkid=3047&yearno=2012&mod=paper>
- Securities Commission Malaysia. (2013). *Private retirement scheme*. Retrieved From <http://www.sc.com.my/main.asp?pageid=1180&menuid=1052&newsid=&linkid=&type=S>
- Selnes, F. and Gronhaug, K. (1986). Subjective and objective measures of product knowledge Contrasted. *Advances in Consumer Research*, (13), 67-71.
- Semin, G. R., Higgins, T., de Montes, L. G., Estourget, Y., & Valencia, J. F. (2005). Linguistic signatures of regulatory focus: how abstraction fits promotion more than prevention. *Journal of Personality and Social Psychology*, 89(1), 36.
- Shanmugam, B. (1989). Marketing of financial services in a developing country: The Malaysian experience. *International Journal of Bank Marketing*, 7(4), 33-38.
- Smith, M. C. (1995). Age differences in memory for narrative and expository print advertisements. In F.Hansen (Ed.), *European advances in consumer research* (Vol. 2, pp. 109–112), Provo, UT: Association of Consumer Research.
- Snyder, M., & DeBono, K. G. (1985). Appeals to image and claims about quality: Understanding the psychology of advertising. *Journal of personality and Social Psychology*, 49(3), 586.
- Stafford, M. R., & Day, E. (1995). Retail services advertising: the effects of appeal, medium, and service. *Journal of Advertising*, 24, 57-71.
- Stern, B. B., Thompson, C. J., & Arnould, E. J. (1998). Narrative analysis of a marketing relationship: The consumer's perspective. *Psychology & Marketing*, 15, 195-214.
- Stern, B. L., & Harmon, R. R. (1984). The incidence and characteristics of disclaimers in children's television advertising. *Journal of Advertising*, 13(2), 12-16.
- Stewart, D.W. & Martin, I.M. (2004). Advertising disclosures: Clear and conspicuous or understood and used?. *Journal of Public Policy & Marketing*, 23(2), 183-92.
- Tai, H. S. (2004). The relationship of cultural values and message strategies in service advertising. *Marketing Intelligence & Planning*, 22(4), 438-454.
- Torres, I.M., Sierra, J.J. & Heiser, R.S. (2007). The effects of warning-label placement in Print ads. *Journal of Advertising*, 36(2), 49-62.
- Tallon, A. (1997). *Head and heart: Affection, cognition, volition as triune consciousness*. Fordham Univ Press.
- Van-Dijk, D., & Kluger, A. N. (2004). Feedback sign effect on motivation: Is it moderated by regulatory focus?. *Applied Psychology*, 53(1), 113-135.
- Vaughn, R. (1980). How advertising works: A planning model. *Journal of Advertising Research*, 20(5), 27- 33.
- Viswanathan, M., Rosa, J. A., & Harris, J. E. (2005). Decision making and coping of functionally illiterate consumers and some implications for marketing management. *Journal of Marketing*, 69(1), 15-31.
- Wang, A. (2013). *Financial Communications*. Palgrave Macmillan: New York.

- Wells, W. D. (1989). Lectures and dramas. In P. Cafferata & A. M. Tybout (Eds.), *Cognitive and affective responses to advertising* (pp. 13–20), Lexington, MA: D.C. Heath.
- Werth, L., & Foerster, J. (2007). How regulatory focus influences consumer behavior. *European Journal of Social Psychology*, 37(1), 33-51.
- World Bank. (2005). *The World Bank pension conceptual framework*. Retrieved from http://siteresources.worldbank.org/INTPENSIONS/Resources/395443-121194657824/PRPNoteConcept_Sept2008.pdf
- Wright, P. (1980). Message-evoked thoughts: Persuasion research using thought verbalizations. *Journal of Consumer Research*, 7(2), 151.
- Yeo, J., & Park, J. (2006). Effects of parent-extension similarity and self-regulatory focus on evaluations of brand extensions. *Journal of Consumer Psychology*, 16(3), 272-282.
- Zanot, E. J. (1984). Public attitudes toward advertising: The American experience. *International Journal of Advertising*, 3(1), 3-15.
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L. (1985). Problems and strategies in services marketing. *The Journal of Marketing*, 49(4), 33-46.
- Zhou, R., & Pham, M. T. (2004). Promotion and prevention across mental accounts: When financial products dictate consumers' investment goals. *Journal of Consumer Research*, 31(1), 125-135.

Happy Nurses and Organizational Citizenship Behavior

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Abstract

About 1 in 10 nurses report a major bout of depression and unhappiness at work. A typical work day for a nurse includes feeding, bathing, and cleaning patients that are often incapable of expressing gratitude or appreciation. Past studies reveal that nurses have the highest burnout rate in the industry, and despite this nurses are often required to go beyond the call of duty and display 'organizational citizenship' behaviors at work. This paper examines the influence of 'happiness' at work among nurses, and its influence on 'organizational citizenship behavior'. A total of 225 nurses participated in this study. Results indicate that nurses with a high level of engagement, job satisfaction, and affective commitment were happier, and thus more likely to display organizational citizenship behaviors.

Keywords: Happiness at work, Organizational citizenship behavior, nursing

INTRODUCTION

Hospitals frequently want their caregivers to be proactive, collaborative and committed to high-performance standards so that excellence is achieved via employee efficiency and effectiveness. One way to achieve this is through individual employee behaviour. OCB is an extra-role behaviour which refers to the offering of constructive suggestions which lead to organisational development, and to making efforts to help one's peers in an altruistic way (Bateman and Organ, 1983). Organ (1988, p. 4) defines it as the "individual behaviour that is discretionary, not directly or explicitly recognised by the formal reward system and that in the aggregate promotes the effective functioning of the organization". OCB is a critical component of job performance (Rotundo and Sackett, 2002), but goes beyond traditional measures of job performance, and reveals a type of behaviour which refers to positive contributions, made by employees, that are not included in their job specifications.

Despite the growing research attention towards detecting OCB antecedents, most have focussed on analysing different job attitudes, hence avoiding a contextual approach (Somech and Drach-Zahavi, 2004). Jo and Joo (2011) recognised the need for an overall consideration of OCB antecedents, and other authors are waiting for an integrated approach of OCB determinants (Jha and Jha, 2010). Little research has been found on OCB antecedents, particularly in the context of public health services. Extant literature shows a lack of research regarding the learning conditions that might raise OCB, particularly in health care services. Our research is framed around nurses working in Malaysian hospitals, which is a particularly pertinent population to study as they work under constant pressure to reduce waiting lists under challenging working conditions. In such frameworks it is essential that nurses contribute in order to achieve an adequate climate of cooperation, and it is here that extra-role behaviours are required.

Research Objectives

- i. To identify the correlation between engagement and OCB of nurses in Malaysia.
- ii. To identify the correlation between job satisfaction and OCB of nurses in Malaysia.
- iii. To identify the correlation between affective commitment and OCB of nurses in Malaysia.

Research Questions

- i. Does engagement increase OCB of nurses in Malaysia?
- ii. Does job satisfaction increase OCB of nurses in Malaysia?

- iii. Does affective commitment increase OCB of nurses in Malaysia?

LITERATURE REVIEW

Work happiness

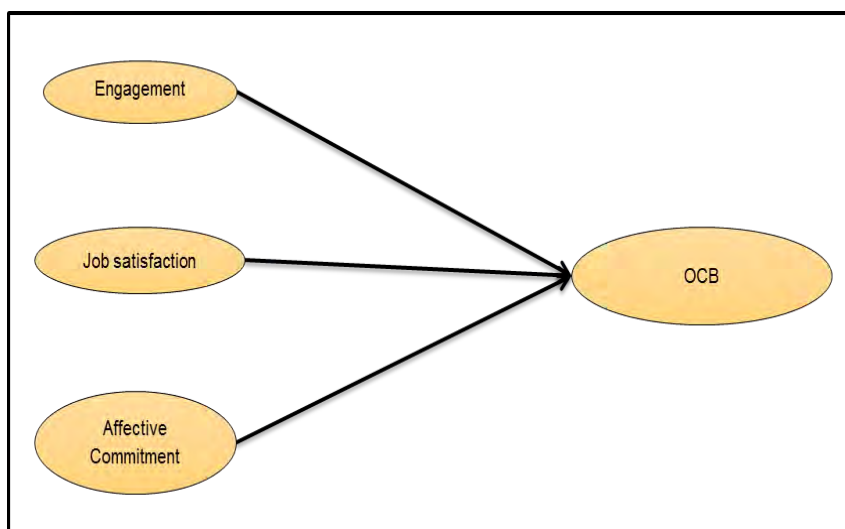
Work happiness is a wide attitudinal construct, comprising an integrated perspective through different positive attitudinal dimensions (Fisher, 2010), namely, engagement, job satisfaction (JS) and affective organisational commitment (AOC). Its comprehensiveness can overcome the compatibility principle, which states that broader attitudinal constructs will better predict behavioural constructs (Harrison et al., 2006). Work happiness dimensions are stable, certain, accessible and derive from direct personal experience, and therefore they may predict behaviour (Fisher, 2010). In line with this, our objective is to discover whether work happiness is related to OCB.

Work happiness is defined as “happy feelings towards the job itself, job characteristics and the organisation as a whole” (Fisher, 2010), and consequently involves different attitudes at work. Warr (2007) noted the excessive number of measures related to positive attitudes, which omit information about meaningfulness at work. Fisher (2010) observed a lack of a sufficiently explanatory measurement of work happiness, and Warr and Inceoglu (2012, p. 1) found that “there have been surprisingly few conceptually-based empirical comparisons between the correlates of different forms of well-being”. Harrison et al. (2006) proposed a higher-order construct defined by JS and organisational commitment, and suggested that further research might add job involvement or job identification. Later, Fisher (2010) stated that work happiness required further exploration.

For all of these reasons, our research takes Fisher’s (2010) conceptualization of work happiness (Fisher, 2010), which comprises three dimensions that broadly capture work happiness, considering the affective implication and feelings at work, evaluative judgments of job characteristics, such as salary, supervision and career opportunities, and feelings of belonging to the organisation. These three dimensions are, respectively, captured using engagement (a special feeling of energy and motivation related to the capacity of thrilling and feeling passionate at work), JS (a more reactive concept that captures feelings about working conditions, such as salary, career opportunities or relationship with peers) and AOC (feelings of affection and belonging to the organisation).

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework



Hypothesis Development

The Correlation between Engagement and OCB

H1: There is a significant positive correlation between Engagement and OCB

OCB may sometimes be the consequence of an economic or social exchange relationship. Here, economic exchange refers to the employment contract (Deluga, 1994), whereas in social exchanges, the employee and the organisation show feelings of respect. The higher the quality of these relationships, the more employees engage in OCBs (Moorman, 1993).

The Correlation between Job Satisfaction and OCB

H2: There is a significant positive correlation between Job Satisfaction and OCB

Ziegler et al. (2012) found a positive relationship between JS, emotions and OCB, and Dalal et al. (2009) associated positive affect with OCB. Resources lead to positive attitudes, which result in pro-social behaviours.

The Correlation between Affective Commitment and OCB

H3: There is a significant negative correlation Affective Commitment and OCB

According to Moorman (1993), organisational commitment might be antecedents of OCB. His results showed the key role of procedural justice in that model. Spence et al. (2014) also examined the positive connection between affective commitment and OCB.

RESEARCH METHODOLOGY

A total of 117 nurses participated in this study. The hospitals covered included in the study were in Ipoh and Selangor. 89% of the respondents were female, while the mean age was 29. Following Fisher (2010)'s conceptualization of work happiness, it was measured through three dimensions: engagement, JS and Affective commitment. Engagement measures vigour, dedication and absorption, and is the opposite of burnout. JS considers how happy the worker is with job conditions, and Affective commitment reflects feelings of belonging to the organisation. OCB was measured using the Lee and Allen (2002) scale, validated in previous research. It is a 16-item Likert scale. Participants answered how often they presently engage in the behaviour, or if they assisted others with their duties.

DATA ANALYSIS

The results indicate the model had goodness of fit, and that 65% of the variation in OCB was predicted by the work happiness model. All three of our hypothesis was also supported, with Job Satisfaction being the strongest predictor of OCB (beta = 0.42), followed by Affective Commitment (beta = 0.35), then engagement (beta = 0.19).

Table 1: Multiple Linear Regression Results

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	33.33	11.11	131.593	<.0001
Error	205	17.26	0.84		
Corrected Total	208	50.60			

Source: Developed from the research

Table 2: Model Summary

R	0.812	R-Square	0.659
Std Error	0.29	Adj R-Sq	0.654

Source: Developed from the research

Table 3: Coefficients

Parameter Estimates					
Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig
	B	Std Error	Beta		
Constant	2.14	0.19		11.19	.000
Engagement	0.21	0.08	0.19	2.55	.011
Job Satisfaction	0.42	0.07	0.42	5.55	.000
Affective Comm	0.30	0.04	0.35	7.48	.000

Source: Developed from the research

DISCUSSION

Nowadays, OCBs are essential to achieve excellence. Our research proposes a model to raise OCB in public service organisations. While different theories explain the connection between positive attitudes and pro-social behaviours, we found a lack of consideration of two issues: a study of wide attitudinal concepts, as Harrison et al. (2006) calls for, and an examination of the contextual scenarios which facilitate learning. For this reason, we examined a knowledge intensive context, focussing on physicians that work in allergy units, where learning is of crucial importance for personal development so as to ensure high-quality health care. Theory needs to be developed to better explain how wide positive attitudes lead to pro-social behaviours. An essential assumption of the attitudinal theory is that aggregate attitudinal constructs can predict general behaviours (Harrison et al., 2006), but this supposition omits the potential effects of an organisational learning context. Following the previous research, it seems that positive attitudes (Bakker et al., 2012) or personal resources (Bakker and Demerouti, 2007), understood as an antecedent of positive attitudes, might foster the occurrence of individual learning. Job engagement partially considers the effects of learning, explaining that opportunity to develop is an antecedent of positive attitudes such as engagement.

On the basis of the results obtained, we suggest that hospital managers and heads of service should enact measures to enhance work happiness. Particularly, there needs to be reflection on how to best promote a better work-life balance for both women and men (Pasamar and Alegre, 2015). Leaving the work environment aside allows physicians to make the most of their free time, enjoy personal relations or hobbies, and thus recharge their personal energy, all of which results in higher positive emotions. Because of this, for a subsequent increase in work happiness, it is also fundamental to match patient numbers to hospital human resources as, all too often, allergy units are completely saturated, which entails work-related physical and mental strain. It is also a basic consideration to show concern for the good training of nurses who work alongside allergists, and who frequently show a lack of proper training. It is equally important to adjust allergists' wages to befit their high level of education, training and heavy responsibility for patients. Last but not least, we also propose that specific steps be taken to promote learning. The creation of medical reference units, between which physicians are allowed to rotate, is recommended first. It is also essential to bring increased attention to economic incentives in professional medical careers. A third measure would be to ensure that real time is made for training, which already exists, but is not always respected. Our proposal is that better access to specific courses (through public financial resources) should be provided.

REFERENCES

- Bakker, A.B. and Demerouti, E. (2007), "The job demands-resources model: state of the art", *Journal of Managerial Psychology*, Vol. 22 No. 3, pp. 309-328.
- Bakker, A.B., Demerouti, E. and Brummelhuis, L.L. (2012), "Work engagement, performance, and active learning: the role of conscientiousness", *Journal of Vocational Behavior*, Vol. 80 No.2, pp. 555-564.

- Bateman, T.S. and Organ, D.W. (1983), "Job satisfaction and the good soldier: the relationship between affect and employee citizenship", *Academy of Management Journal*, Vol. 26 No. 4, pp. 587-595.
- Dalal, R.S., Lam, H., Weiss, H.M., Welch, E.R. and Hulin, C.L. (2009), "A within-person approach to work behavior and performance: concurrent and lagged citizenship counterproductivity associations, and dynamic relationships with affect and overall job performance", *Academy of Management Journal*, Vol. 52 No. 5, pp. 1051-1066.
- Deluga, R.J. (1994), "Supervisor trust building, leader-member exchange and organizational citizenship behaviour", *Journal of Occupational and Organizational Psychology*, Vol. 67 No. 4, pp. 315-326.
- Fisher, C. (2010), "Happiness at work", *International Journal of Management Review*, Vol. 12 No. 4, pp. 384-412.
- Harrison, D.A., Newman, D.A. and Roth, P.L. (2006), "How important are job attitudes? Meta-analytic comparisons of integrative behavioral outcomes and time sequences", *Academy of Management Journal*, Vol. 49 No. 2, pp. 305-325.
- Jha, S. and Jha, S. (2010), "Determinants of organizational citizenship behavior: a review of literature", *Journal of Management & Public Policy*, Vol. 1 No. 2, pp. 27-36.
- Jo, S. and Joo, B.K. (2011), "Knowledge sharing: the influences of learning organization culture, organizational commitment, and organizational citizenship behaviours", *Journal of Leadership & Organizational Studies*, Vol. 20 No. 10, pp. 1-12.
- Lee, K. and Allen, N. (2002), "Organizational citizenship behavior and workplace deviance: the role of affect and cognitions", *Journal of Applied Psychology*, Vol. 87 No. 1, pp. 131-142.
- Moorman, R.H. (1993), "The influence of cognitive and affective based job satisfaction measures on the relationship between job satisfaction and organizational citizenship", *Human Relations*, Vol. 46 No. 6, pp. 759-776.
- Organ, D.W. (1988), *Organizational Citizenship Behaviour: The Good Soldier Syndrome*, Lexington Books, Lexington, KY.
- Pasamar, S. and Alegre, J. (2015), "Adoption and use of work-life initiatives: looking at the influence of institutional pressures and gender", *European Management Journal*, Vol. 33 No. 3, pp.214-222.
- Rotundo, M. and Sackett, P.R. (2002), "The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: a policy-capturing approach", *Journal of Applied Psychology*, Vol. 87 No. 1, pp. 66-80.
- Somech, A. and Drach-Zahavi, A. (2004), "Exploring organizational citizenship behavior from an organizational perspective: the relationship between organizational learning and organizational citizenship behavior", *Journal of Occupational and Organizational Psychology*, Vol. 77 No. 3, pp. 281-298.
- Spence, J.R., Brown, D.J., Keeping, L.M. and Lian, H. (2014), "Helpful today, but not tomorrow? Feeling grateful as a predictor of daily organizational citizenship behaviors", *Personnel Psychology*, Vol. 67 No. 3, pp. 705-738.
- Warr, P. (2007), *Work, Happiness, and Unhappiness*, Lawrence Erlbaum, NJ.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
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- Warr, P. and Inceoglu, I. (2012), "Job engagement, job satisfaction, and contrasting associations with person-job fit", *Journal of Occupational Health Psychology*, Vol. 17 No. 2, pp. 129-138.
- Ziegler, R., Schlett, C., Casel, K. and Diehl, M. (2012), "The role of job satisfaction, job ambivalence, and emotions at work in predicting organizational citizenship behavior", *Journal of Personnel Psychology*, Vol. 11 No. 4, pp. 176-190.

The Effect of Leadership Style on Organizational Commitment in the Service Sector

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Abstract

This paper examines the influence of leadership behaviors on the organizational commitment of employees in the SMEs services sector in Malaysia. In this research, transformational leadership, transactional leadership and laissez-faire leadership were selected as the predictor variable. Organizational commitment was selected as the criterion variable. A total of 400 questionnaires were distributed to employees in the SMEs services sector. The 400 sets each of the Multi Factor Leadership Questionnaire (MLQ) and Organizational Commitment Questionnaire (OCQ) were distributed to respondents in Johor, Selangor, Perak and Kuala Lumpur to identify the perceived leadership behavior and the organizational commitment of the employees. The rationale being that these states are those where the SMEs services sector is heavily clustered. Statistical Analysis System (SAS) software version 9.4 to run the reliability, Pearson correlation, normality and multiple linear regression test. Results indicate that there was a significant relationship between all three leadership behaviors and organizational commitment in the service sector in Malaysia. Transformation and transactional leadership was found to be positively related to commitment, while laissez-faire leadership was inversely related to organizational commitment. The results highlight the importance of leaders as a steward that drives employee commitment within the SMEs services sector in Malaysia.

Keywords: Leadership Styles, Organizational Commitment, SMEs Services Sector, Malaysia

INTRODUCTION

In a world of increasingly global competition, Small and Medium Enterprises (SMEs) have a strong influence on the economics of several nations. SMEs show major roles in development economic growth, generating employment opportunities and reducing deficiency (Ayyagari, Beck, & Demirguc-Kunt, 2007). The Department of Statistics Malaysia (2016) revealed that 90% or 580,985 of business establishments in SMEs Malaysia with the highest attention in the services sector, while other sectors were manufacturing 6%, construction 3%, agriculture 1% while mining and quarrying was 0.1%. Services sector is included wholesale and retail trade, government service, utilities and other services, finance and insurance, information and communication, real estate and business services, transportation and storage, and food and beverage and accommodation. The new definition of SMEs was summarized in Table 1.

Table 1: New SME Definition Based on Size

	Micro	Small	Medium
Manufacturing	Sales revenues, which are fewer than RM 300,000 or fewer than 5 full-timers	Sales revenues, fewer than RM 300,000 to fewer than RM 15 mil or from 5 to fewer than 75 full-timers	Sales revenues, fewer than RM 15 mil to not more than RM50 mil or 75 to not much than 200 full-timers
Services and other sectors	Sales revenues fewer than RM 300,000 or fewer than 5 full-timers	Sales revenues from RM 300,000 to fewer than RM 3 mil or from 5 to fewer than 30 full-timers	Sales revenues from RM3 mil to not more than RM 20 mil or from 30 to not more than 75 full-timers

Based on the Comprehensive Business Directory for Small and Medium Enterprises, SMEs cleared as with RM10 million net assets or shareholders' capitals possessed by Malaysian owned companies or institutions whereas restricted to RM2.5 million of shareholders' funds or net assets prior to that. The additional SME definitions was amendment in 2013 because the increased of price, organizational variations and alteration of trade tendencies in Malaysia economic from the time when 2005 (SMECorp Malaysia, 2015). The increasing of product and service quality in the workplace will change demand dramatically. Organizational commitment will bring essential implications to make sure the competitiveness of the company especially for the small and medium size business. A lack of employee commitment will bring negative effects to absenteeism and turnover (Bennet & Durkin, 2000). Hersey and Blanchard (1984) argued that, if companies wish to have successful business profitability, leadership quality must be improving in order to have a higher organizational commitment. The ability to affect others is a vital reason of a success management (Kanter, 1982; Pavett & Lau, 1983).

Leadership has essential and positive effect on employees' job satisfaction and influencing process of the organizational commitment of the employees (Fang, Chang, & Chen, 2009). Leadership is one of the significant characters in the corporation's organization which help to accomplish the organizational effectiveness and targeted objectives (Keskes, 2014). In addition, leadership behavior is positively impacted on the task outlook and individual and structural performance (Dumdum, Lowe & Avolio, 2002). Moreover, a successful leader is able to influence the employees by handling the management and providing direction to the followers in order to achieve the targeted objectives and acquire wanted consequences (Voon, Lo, Ngui & Ayob, 2011). The effective leadership behaviours of the company (transformational, transactional and laissez-faire) will contribute high work performance and effectiveness of the employees. Organizational commitment has been an important consequence for an organization with the scholars on management and it is concerned by the employees. Commitment brings positive consequences to organization, such as work performance (Chen, Silverthorne, & Hung, 2006; Yousef, 2000), contentment of employee (Chughtai & Zafar, 2006; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002; Yousef, 2000), and rate of resignation (Angle & Perry, 1981; Meyer et al., 2002; Powell & Meyer, 2004). In addition, the dedicated organizations have enthusiasm in the direction of variety to involve in extraction of behavior (Iverson & Buttigieg, 1999). Therefore, this study id aimed to investigate the correlation between leadership behaviors and organizational commitment in the SMEs services sector in Malaysia. The successful of a business must has effective team members through their skill, competent and employees' commitment. If the leaders fail to apply, the organizational commitment will be losing. Leadership behavior will influence the employee performance. Hence, improvement of management quality is the first step to build organizational commitment (Morgan & Hunt, 1994; Meyer et al.,2004).

Problem Statement

According to Teshome (2011) found that preserve capable employees, an effective leadership style is essential. Enhancement of organizational commitment, gaining of competitive advantage, optimizing human capital and implementing business strategies are highly being influenced by the leadership behaviors (Brockner, Tyler, & Scheneider, 1992). Besides that, Teshome (2014) also mentioned that human resource has the significant effect in achieving organizational goal by having a qualified, competent and skilled workforce. Leadership behaviors can be said as the most essential determinant to utilize the workforce. Therefore, a study on which leadership behavior shows the greatest substantial impact on the organizational commitment is essential which the managers able to aware that the most effective leadership behaviors should be applied in the organization.

There would be various impacts on the levels of organizational commitment by using various leadership behaviors according to various industries. Several studies have found that there is a correlation between leadership behaviors and organizational commitment of employees in an organization. Transactional leadership is more effective on commitment of banking employees (Fasola, Adeyemi & Olowe, 2013); ((Mesu, Sanders, & Riemsdijk, 2015); (Yunus, & Ibrahim, 2015); (Vugt, Hepson, Hart & Cremer, 2004). Transformational leadership shows positive correlation with organizational commitment in the state-owned company (Garg & Ramjee, 2013). There is significant and positive correlation between organizational commitment

and empowerment of subordinates with the transformational leadership (Ismail, Mohamed, Sulaiman, Mohamad & Yusuf 2011).

In addition, Malemuna and Phiri (2016) mentioned that there were many studies focused to large firms and in different concept relationships. However, there were differences between large firms and SMEs, which SMEs have fewer capitals, lesser communication systems, different leadership models and lesser chances of development opportunities. CEO of SMECorp. Malaysia (2015), Dato' Hafsah Hashim also mentioned that SMEs is the backbone of economy of Malaysia. The management skills of SMEs are needed to be enhanced for ensuring SMEs to survive. Gunto and Alias (2013) found that SMEs are lack of training and human resource development since it has a smaller capital and it is time consuming. In fact, some of the SMEs trust that employees' own motivation to work hard is more essential instead of training only to have a high quality of employees (Southiseng & Walsh, 2010). Nonetheless, Lo, Ramayah, Min and Songan (2010) mentioned that there are still lack of studies on leadership behaviors on organizational commitment. The existing leaders should reconsider the behavior of their leadership (Aziz, Abdullah, & Tajudin, 2013). This research is conducted for the managers to understand different leadership behaviors effect on the organizational commitment and aware of using the suitable leadership behaviors to generate higher organizational commitment of employees in SMEs Malaysia by highlighting the relationship of the various leadership behaviors on the organizational commitment.

Research Objectives

- i. To identify the correlation between leadership behaviours and organizational commitment in Small and Medium Enterprises (SMEs) services sector in Malaysia.
- ii. To study the correlation between transformational leadership and organizational commitment in SMEs service sector in Malaysia.
- iii. To study the correlation between transactional leadership and organizational commitment in SMEs service sector in Malaysia.
- iv. To study the correlation between laissez-faire leadership and organizational commitment in SMEs service sector in Malaysia.

Research Questions

- i. How does the correlation between transformational leadership and organizational commitment in SMEs service sector?
- ii. How does the correlation between transactional leadership and organizational commitment in SMEs services sector?
- iii. How does the correlation between laissez-faire leadership and organizational commitment in SMEs services sector?

LITERATURE REVIEW

Organizational Commitment

In 1991, Meyer and Allen have defined it as a psychological state that the correlation between the employees and organization. In addition, it has significance influence on employee' decision about stay or left the organization. The employee has a strong relationship to the organization. Employees who remain in the same organization for a long time are strongly committed towards the organization (Meyer et al., 1991). Due to this loyalty, employees who have positively contributed to the success of the organization by devoting full time, accepting and implementing the organizational ends and aims. According to Iverson et al. (1999) also mentioned that employees who are committed eager to spend more time and effort on the organization and have a willingness to the changes in the organization. If the leadership behaviors and the organizational focal point are different or not suitable for the particular organization, it will cause the lower employee's performance and also employee's commitment (Mguqulwa, 2008). This is because the employee will think that they do not have any security in their job and will increase the intention to leave the organization.

Transformational Leadership

Burns (1978) indicated transformational defined as a procedure of accomplishing mutual objectives through the motivation of leaders and subordinates toward the fulfillment of

deliberate change. Obasan and Hassan (2014) have proven that this leadership is the best effectual behaviors of leadership. Transformational leadership have four dimensions that mentioned by Bass (1999). Based on Shurbagi (2014), Porter (2015); Lo, Ramayah, and Min (2009) and Khasawneh, Omari, and Abu-Tineh (2012), this leadership has positive significant connection with organizational commitment. This is because this leadership consume forward-looking the conception that definite behavior features such as visioning, helpful and authorizing which will surpass organizational accomplishments and workers toward higher goal, competences and efficiency. Bass and Avolio (1994) also expose that this leader can inspire subordinates to consider judgmentally and innovatively which will affect their commitment.

Table 2.1: Definition of Components' Transformational Leadership

Components	Characteristics
Idealized influence (behaviour & attributions)	They contribute through influences of behaviour such as share values and in action form such as motivate their employees. They usually act as a role model of their followers. They have to possess some values that capable to enlighten their followers. Therefore, they generally venerated, respected, and reliable (Hughes, 2014). Transformational leaders will strongly emphasis a clear vision and mission to their followers and advocate teamwork spirit to accomplish goals (Shin, 2013).
Inspirational Motivation	Leaders will encourage their followers to achieve share goals (Yahaya & Ebrahim, 2016). This leadership style and idealized influence are the elements of charismatic leadership. Leaders usually have a good communication skill and have strong concept on how to spirit up a person. They like to inspire their followers through vision and communicate enthusiasm about the future goals to let followers see the meaning of their works (Bass, Avolio, Jung, & Berson, 2003). Followers will tend to positive thinking, believe their own abilities, and work harder if compare to those without encouraged by leaders.
Individualized Consideration	Leaders pay attention on the demand of staff and satisfy those employees (Yahaya et al., 2016). They will also support their followers with coaching them through cases and problems until become fully objectified. The followers will feel concerned and valued from leaders. This would enhance followers' commitment and build a stable relationship between both parties (Shin, 2013).
Intellectual Stimulation	Leaders prefer to use a different and innovative ways to instruct followers instead of old and outdated norms (Bass et al., 1994) They choose to tech followers via varied situations and issues to let followers develop new and different solutions to solve those problems. Followers will tend to more creative, challenge to status quo, and sensitive to the environmental changes (Bass, 1985).

Transactional Leadership

Burns (1978) exposes this kind of leadership revealed that the leaders have power to undertake definite tasks and award or chastise according to the performance which had conducted by the employees. This leadership have three dimension which had discussed in theoretical model. Burns (1978) found out transactional leadership are required to urge subordinate staff by desirable to their own benefits. Transactional leadership is a leader that involves an interchange between leader and subordinate means that each of them will get the things that they needed and faithful to organization (Cray, Inglis, and Freeman 2007). According

to Ahmad, Majid & Zin (2015), Necati, Ferudun & Ali (2012), Saeed, Gelaidan and Ahmad (2013), and Rehman, Shareef, Mahmood, & Ishaque (2012), transactional leadership has positive substantial connection with organizational commitment. This leadership behaviors will directly affect organizational commitment through it behavior dimension such as contingent reward, it was forecast the reasonable that subordinate could perform more competently if their efforts are valued. While, Almutairi (2013) study stated that transactional leadership has no substantial connection with organizational commitment. This may due to different association. Different association will obvious different leadership behaviors to conduct organizational commitment (Lee, 2005).

Table 3: Definition of Components' Transactional Leadership

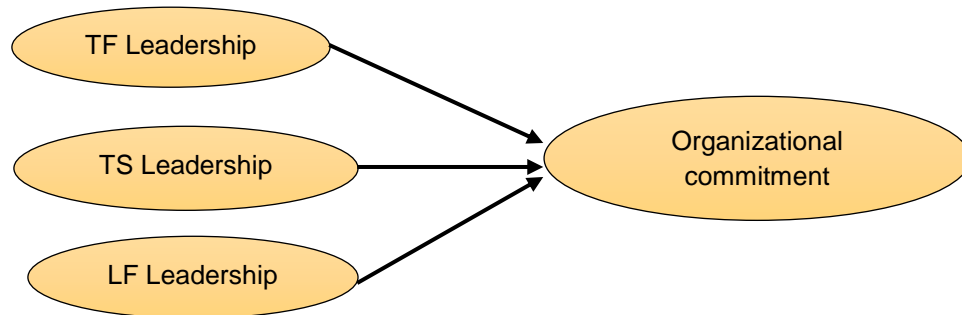
Components	Characteristics
Contingent reward	Leaders use reward to prompt followers to accomplish their work (Bass et al., 2003). The reward such as commission and bonus will be given once subordinate has achieved goals that were agreed to. They are different with transformational leaders because the former use a material forms of reward as motivator. Employees will be encouraged to perform well and leaders are able to get things done also. With some level of contingent rewards, employees might contribute more on the working (Bass, 1985).
Active management by exception	Transactional leaders are more proactive and standard with compliance. They emphasize to prevent the problems before occurring rather than cure. They actively guide the progress of work by subordinates and act promptly when discovered potential problems (Chaudhry, Javed, & Sabir, 2012).
Passive management by exception	Passive management by exception leaders take no action unless problems arise (Teshome, 2011). They prefer to maintain current situation and avoid unnecessary change. Changes will only carry out by them when the exceptional situations become noticeable (McLaggan, Bezuidenhout, & Botha, 2013). Leaders will also give punishment to undesirable performance

Laissez-faire Leadership

Laissez-faire leadership behaviors stated that this leadership was obstacle advance to act, make decision and accept any obligation (Bass et al., 1994). While Bass and Avolio (2004) stated that this leader is mirror to a non-interference approach leadership. It refers to a drastic act of omission leader who is hesitating to influence subordinates' award by surrender over the duties (James & Collins, 2008). Researchers had certainty stated that laissez-faire leadership is the neglect endurance and operative style of leadership (Trottier, Van Wart, & Wang, 2008). Numerous empirical studies show that laissez-faire leadership is significantly related with organizational commitment. According to Garg et al. (2013), Bučiūnienė & Škudienė (2008), Njoroge, Wanjala, Mathews (2017), Shin (2013), and Teshome (2011), laissez-faire leadership has negative significant relationship with organizational commitment. This may lead to the leadership behavior which concern neglect enigma, demonstrating unconcerned and disregard accomplishments. Therefore, a negative leadership behavior will directly affect the committed of organizational negatively. Laissez-faire is a non-leadership factor. It is first described by Kurt Lewin's styles of leadership which included the autocratic and democratic leadership styles (Lewin, Lippit, & White, 1939). It refers to leaders are hands-off and allow their own followers to do decisions with the necessary materials provided. They give complete freedom to followers or little guidance and will only intervene the followers' work when emergency occurrence arises (Yahaya et al., 2016). It can be effective when the employees are highly skilled, experienced, and self-driven which do not need the guidance from leader. Conversely, inefficiency might occur if followers lack of required skilled or not productive (Chaudhry et al., 2012).

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework



Source: Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage Publications.

Hypothesis Development

The Correlation between Transformational Leadership and Organizational Commitment

H1: There is a significant positive correlation between transformational leadership and organizational commitment.

According to Senthamil Raja, and Palanichamy (n.d), Munyeka and Ngrande (2014), and Noraazian and Khalip (2016), transformational leadership was directly influenced organizational commitment. This style of leadership is known as operative leader who definitely has inspiration belief and significance within subordinates and encourage them to consent to stay in the group. It is probable that adjacent subordinates are more expected to appreciate of the consistency in the leader's behavior which will upset the commitment of the organization.

The Correlation between Transactional Leadership and Organizational Commitment

H2: There is a significant positive correlation between transactional leadership and organizational commitment.

According to Marmaya, Hitam, Torsiman and Balakrishnan (2010), Fasola et al. (2013), and Clinebell, Skudiene and Trijonyte (2013), transactional leadership had relationship with the organizational commitments' entire dimension. Thus, dispute that transactional leader has stimulate a rational degree of contribution, faithful, commit and execution from followers by awarding contingent reward.

The Correlation between Laissez-Faire Leadership and Organizational Commitment

H3: There is a significant negative correlation between laissez-faire leadership and organizational commitment.

Teshome (n.d), Silva and Mendis (2017), and Samarin and Sahranavard (2015) stated that laissez-faire leadership is significantly and negatively correlated toward organizational commitment. Base on the finding, we found out that the leadership behavior was abstain from attainment complicated when problem arise, evade decision making and indolent will bring negative effect on organizational commitment exclusively on normative commitment. This means that some of the distinction in how workers impression about not existence appreciative to persist in the organization.

RESEARCH METHODOLOGY

Sampling Design

The sampling procedure is significantly crucial for every research. Sample is defined as the substantial number of individuals that can be represented the entire population. (Wimmer & Dominick, 2003). Sample size is used rather than a population is due to there might be too large elements by using population and this would cause the researchers difficult to collect and inspect all data. According to Sekaran and Bougie (2016), a more reliable result can be obtained by using sample size as the exhaustion and errors can be reduced. In contrast, the advantages of using this sample were included time-saving, low cost, reduced unnecessary disturbances, and it is more functional to be conducted compared to the formal conferences and inspections (Gliner & Morgan, 2000).

Target Population

Target population represents the total number of subjects or the total circumstances of interest to the researcher (Oso & Onen, 2009). It is defined as all actual or theoretical affiliates, people, consequences or subjects that the researcher needs to generalize his results discoveries (Ngechu, 2004) while other researchers defined target population as the total categories of people or objects from which information is acquired (Tustin, Ligthelm & Martins, 2005). This study is to identify the correlation between the leadership behaviors and organization of employee commitment in SMEs services sector in Malaysia. The target respondents in this research were the workers of SMEs services sector Malaysia. The total employed population for SMEs services sector is approximately 580,985 from the total (Department of Statistics Malaysia, 2016). Selangor, W.P. Kuala Lumpur, Johor and Perak only chosen in this research. In the meanwhile, it increases the reliability of the collected data. The total SMEs services sector in Malaysia for these states is approximately 303, 102.

Sampling Frame and Sampling Location

Sampling frame is defined as the sample that was selected from a list of elements within a population (Zikmund, Babin, Carr, & Griffin, 2010). The sampling frame for this research is The Comprehensive Business Directory for Small and Medium Enterprises (15th edition). It lists most of the SMEs within a population which can be sampled. There are the details provided in the book directory such as email address, contact number, company website and company address which used to choose research sample. The top four states for the highest number in SMEs services sector are the sampling locations in this research. The four states, Selangor, W.P. Kuala Lumpur, Johor, and Perak, are targeted for obtaining the most approximately results which can stand for the total population in SMEs services sector in Malaysia.

Sampling Elements

According to Cavana, Delahaye, and Sekaran (2001), sampling component is considered as the population by a single member. This represents that each targeted respondent was measured as a component. The respondents of this research were the employees of SMEs services sector in Malaysia. All the employees could be invited as respondents of this research no matter of the department and the level. Different respondents' demographic profile such as gender, age, race, nationality, job period and working state were focused. Thus, various perspectives of the respondents could be gained in order to achieve a more accuracy and unbiased results.

Sampling Technique

Two sampling techniques, probability and non-probability samplings, were used in this research. Probability sampling is often associated with the survey and experiment strategies. For our research, we adopted probability sampling techniques, including sampling random, cluster, and stratified sampling. Simple random and cluster sampling were applied in this research to select companies from the population. Simple random sampling was a type of sampling technique that is used to select the sample randomly from the sampling frame by using either random number from tables or a computer (Alvi, 2016). Besides that, this research used cluster sampling to select companies based on services sector of SMEs by geographic area. The services sector is one of the labor intensives. Therefore, workers of services sector were usually working in busy stipulation (Grabowski, 2016). The objective of used cluster sampling in this research was to avoid interrupting of staff.

Sample Size

Sample size is defined as the subset of the large population (Cooper & Schindler, 2011). Sample size is important to resolve the research design and objective because sample size will affect the research results (Dahiru, Aliyu, & Kene, 2006). Formative sample size is a main issue of quantitative survey design for an accurate result of collecting data (Hoelter, 1983). This research distributed 400 questionnaires in data collection and minimum collection of 200 which Hinkin (1995) found that it is simple to be used and suitable for large populations.

Research Procedure

In this research, data has been collected by distribute a set of questionnaires to target respondents. The questionnaire was delivered to the targeted respondents by self-administrating and in Google form in order to provide better convenience to respondents as they can answer it at their convenience, remove the necessity of setting up an interview as well as the present of interviewer, it also enables the questionnaires to be delivered wherever it goes, and it is also a low cost economical method to collect large samples. (Advantages of Self-Administered Surveys | Readex Research, 2014). Questionnaire for independent variables is adopted from Multifactor Leadership Questionnaire(MLQ) that originally from Bass and Avolio (1995) while dependent variable is adopted from Organizational Commitment Questionnaire (OCQ) that original sources from Meyer and Allen (1991). Total 48 questions in the research questionnaire. Before analysing the collected data, data processing is needed to ensure that it is consistent, valid and complete data (Sekaran et al., 2016). Data checking, editing, coding, and transcribing were included in the procedures of data processing. In this research, Statistical Analysis System (SAS) was used to conduct the reliability, Pearson correlation, normality and multiple linear regression test.

DATA ANALYSIS

Table 4: Multiple Linear Regression Results

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	180.91166	60.30389	136.73	<.0001
Error	311	137.16563	0.44105		
Corrected Total	314	318.07729			

Source: Developed from the research

Table 5: Model Summary

Root MSE	0.66411	R-Square	0.5688
Dependent Mean	2.47804	Adj R-Sq	0.5646
Coeff Var	26.79994		

Source: Developed from the research

Table 6: Coefficients

Parameter Estimates								
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t 	Standardized Estimate	Tolerance	Variance Inflation
Intercept	1	1.57072	0.19859	7.91	<.0001	0	.	0
LF AVE	1	-0.36177	0.03656	-9.90	<.0001	-0.45794	0.64742	1.54459
TS AVE	1	0.38428	0.07807	4.92	<.0001	0.23455	0.61068	1.63753
TF AVE	1	0.23017	0.05937	3.88	0.0001	0.20236	0.50894	1.96487

Source: Developed from the research

In the Table 1 summary of the model, result showed that R-Square is 0.5688, which it indicates that 56.88% of the variability of dependent variables is accounted for by the variables in the model. While, the p-value for the test statistic is lower than alpha 0.05, it means that the null hypothesis is rejected and can be concluded that leadership behaviors have significant relationship between organizational commitments. The F Value is 136.73, which means that independent variables reliably predict the dependent variable. Furthermore, standardized estimate column shows the extent of independent variables impact to the dependent variable. Firstly, laissez-faire leadership behavior has bringing the most impact to organizational commitment negatively which is 0.4579. Next, transactional leadership behavior is the second highest (0.2345). This means that it able to influence the organizational commitment by 23.45%. Leadership behavior that has the least impact is transformational leadership behavior which it able to influence organizational commitment by 20.23%.

CONCLUSION AND DISCUSSION

Among the leadership behaviours studied in this research, the results indicate that transformational, transactional and laissez-faire leadership are significant related to the organizational commitment in SMEs services sector. It emphasizes the importance of the leader to apply an appropriate leadership behaviour in an organization and which leadership behaviour is more appropriate to be applying in enhancing the organizational commitment. In this research, transformational and transactional leadership showed positive correlation with the organizational commitment in SMEs services sector. These both leaderships are almost equally effective leadership. As transformational leaders give assistances, supports, and pay attention to their followers' individual needs (Arnold et al, 2001). The sufficient understanding and unconditioned support to the employees, it increases employees' working performance and interest. Indirectly, it would lead to the arousal of enhanced self-competence level and presence of self-perceived personal discretion and responsibility among employees, eventually increase employees' intrinsic motivation. Consequently, high intrinsic motivation would affect high levels of organizational satisfaction and commitment among employees (Erkutlu, 2008). Thus, transformational is effective to be applied for enhancing the organizational commitment in SMEs services sector Malaysia.

For the transactional leadership, it adopts and boosts amount of the loyalty, partnership, organizational commitment and job performance among employees by giving contingent rewards. The mutual interests among the leaders and employees is fostered. Consequently, employees would provide continuous commitment to their organization with aiming of the accomplishment and maintenance of desired interests (Dariush et al., 2016). Other than that, Mahmood (2015) also in the same view that organizational commitment among the employees would be increased by practicing positive behaviours and possess desirable intention in fulfilling responsibility. This situation leads to the improvement of employees' motivation and implementation power distance in the most normative way (Mahmood, 2015). Thus, transactional leadership able to be the effective leadership with enhancing the organizational commitment of the employees in SMEs services sector.

However, laissez-faire brings the most significant impact on organizational commitment in this research but it contributes a negative relationship which means that the higher the laissez-faire, the lower the organizational commitment. The employees are willing to have a transformational and transactional leadership rather than to have a laissez-faire leader. The negative relationship between laissez-faire and organizational commitment is consistent with the results of the previous studies. Basset, Bellocq, Wolf, Stoll, Hutin & Limacher, (1990), and Njoroge et al. (2017), commented that although employees prefer autonomy in making decision, uncontrolled autonomy given by laissez-faire managers would cause employing feeling insecure about their own autonomy, tasks, and roles. As a result, managers with laissez-faire leadership behaviours would cause low level of organizational commitment among the employees due to the presence of low levels of cognitive and affective trust, emotional relations, and task behaviours (Bass et al., 1990; Chan et al., 2004; Njoroge et al., 2017). Furthermore, this can be due to Malaysia is a high-power distance country (Hofstede, 2017). Their followers will wait for the instructions given by their leader instead of taking own initiative. Employees in Malaysia are respect toward the authority rather than individually (Smit, 2012). Therefore, it discourages the

application of LF in the organizations by the leaders as the laissez-faire give uncertainty, unclear direction and insignificant extrinsic and intrinsic motivation to the employees. The factors lower the organizational commitment (Chan et al., 2004).

REFERENCES

- Advantages of Self-Administered Surveys | Readex Research. Readex Research. Retrieved May 18, 2017, from <http://www.readexresearch.com/advantages-of-self-administered-surveys/>
- Ahmad, A., Majid, A. H., & Zin, M. L. (2015). The measurement of the effectiveness of leadership styles for organizational commitment in Pakistan. *Asian Social Science*, 11(5).
- Almutairi, D. (2013). The relationship between leadership styles and organizational commitment: A test on Saudi Arabian Airline. *World Review of Business Research*, 3(1), 41-51.
- Alvi, M.H. (2016). *A manual for selecting sampling techniques in research*. Retrieved from <https://mpr.ub.uni-muenchen.de/id/eprint/70218>
- Angle, H., & Perry, J. (1981). An empirical assessment of organizational commitment and organizational effectiveness. *Administrative Science Quarterly*, 26(1).
- Arnold, K., Barling, J., & Kelloway, E. (2001). Transformational leadership or the iron cage: which predicts trust, commitment and team efficacy?. *Leadership & Organization Development Journal*, 22(7), 315-320.
- Ayyagari, M., Beck, T., & Demirguc-Kunt, A. (2007). Small and Medium Enterprises across the globe. *Small Business Economics*, 29(4), 415-434.
- Aziz, R., Abdullah, M., & Tajudin, A. (2013). The effect of leadership styles on the business performance of SMEs in Malaysia. *International Journal of Economics Business and Management Studies*, 2(2), 45-52.
- Bass, B. (1985). *Leadership and performance beyond expectations*. Google Books. Retrieved from https://books.google.com.my/books?id=NCdQgAACAAJ&dq=Leadership+and+performance+beyond+expectations&hl=en&sa=X&redir_esc=y
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9–32.
- Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage Publications.
- Bass, B. M., & Avolio, B. J. (2004). *Manual for the multifactor leadership questionnaire: Manual and sampler set* (3rd ed.). Menlo Park, CA: Mind Garden.
- Bass, B., Avolio, B., Jung, D., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, 88(2), 207-218.
- Basset, P., Bellocq, J., Wolf, C., Stoll, I., Hutin, P., & Limacher, J. (1990). A novel metalloproteinase gene specifically expressed in stromal cells of breast carcinomas. *Nature*, 348(6303), 699-704.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bennet H., & Durkin, M. (2000). The effects of organisational change on employee psychological attachment: An exploratory study. *Journal of Managerial Psychology*, 15(2), 126-147.
- Brockner, J., Tyler, T., & Scheneider (1992). The influence of prior commitment to an institution on reactions to perceived unfairness: The higher they are, the harder they fall. *Administrative Science Quarterly*, 37, 241-2615.
- Bučičūnienė, I., & Škudienė, V. (2008). Impact of leadership styles on employees' organizational commitment in Lithuanian manufacturing companies. *South East European Journal of Economics and Business*, 3(2).
- Burns, J.M. (1978). *Leadership*. New York: Harper and Row
- Cavana, R. Y., Delahaye, B. L., & Sekaran, U. (2001). *Applied business research: Qualitative and quantitative methods*. Milton, Qld: John Wiley & Sons.
- Chan, C. C. A., McBey, K., Basset, M., O'Donnell, M. & Winter, R. (2004). Nursing crisis: retention strategies for hospital administrators. *Research and Practice in Human Resource Management*, 12(2), 31-56.
- Chaudhry, A., Javed, H., & Sabir, M. (2012). The Impact of transformational and transactional leadership styles on the motivation of employees in Pakistan. *Pakistan Economic and Social Review*, 50(2), 223-231.
- Chen, J., Silverthorne, C., & Hung, J. (2006), Organization communication, job stress, organizational commitment, and job performance of accounting professionals in Taiwan and America. *Leadership & Organization Development Journal*, 27(4), 242-249.
- Chughtai, A.A., & Zafar, S. (2006), Antecedents and consequences of organizational commitment among Pakistani university teachers. *Applied HRM Research*, 11(1).
- Clinebell, S., Skudiene, V. & Trijonyte, R. (2013). Impact of leadership styles on employee organizational commitment. *Journal of Service Science*. 6(1).
- Cooper, R. D., & Schindler, P. S. (2011). *Business Research Methods* (11th ed.). New Delhi: Tata McGraw-Hill Edition.
- Cray, D., Inglis, L., & Freeman, S. (2007). Managing the arts: Leadership and decision making under dual rationalities. *The Journal of Arts Management, Law, And Society*, 36(4), 295-313.
- Dahiru, T., Aliyu, A., & Kene, T. S. (2006). Statistics in medical research: Misuse of sampling and sample size determination. *Annals of African Medicine*, 5(3), 158-161
- Dariush, L., Choobdar, G., Valadkhani, P., & Mehrali, E. (2016). Leader facilitating organizational commitment of employees (Tehran). *International journal of economics, commerce and management*, 4(5). 640-655
- Department of Statistics Malaysia Official Portal. (2016). *Dosm.gov.my*. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=159&bul_id=RkljVmZBQnVUbit1SVpXeEFvOVRtQT09&menu_id=TE5CRUZCbHh4ZTZMODZlbnk2aWRQT09#
- Dumdum, U., Lowe, K., & Avolio, B. (2002). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension, in Bruce J. Avolio, Francis J. Yammarino (ed.) *transformational and charismatic leadership: The road ahead 10th anniversary edition*. Monographs in leadership and management. *Emerald Group Publishing Limited*, 5, 39-70.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Erkutlu, H. (2008). The impact of transformational leadership on organizational and leadership effectiveness. *Journal of Management Development*, 27(7), 708- 726.
- Fang, C. H., Chang, S. T., & Chen, G. L. (2009). Applying structural equation model to study of the relationship model among leadership style, satisfaction, organization commitment and performance in hospital industry. *International Conference on E-Business and Information System Security*. 1-5.
- Fasola, O.S., Adeyemi, M.A., & Olowe, F.T. (2013). Exploring the relationship between transformational, transactional leadership style and organizational commitment among Nigerian Banks employees. *International Journal of Academic Research in Economics and Management Sciences*. 2(6). ISSN: 2226-3624.
- Fasola, O.S., Adeyemi, M.A., & Olowe, F.T. (2013). Exploring the relationship between transformational, transactional leadership style and organizational commitment among Nigerian Banks employees. *International Journal of Academic Research in Economics and Management Sciences*. 2(6). ISSN: 2226-3624.
- Garg, A., & Ramjee, D. (2013). The relationship between leadership styles and employee commitment at a Parastatal company in South Africa. *International Business & Economics Research Journal (IBER)*, 12(11), 1411.
- Garg, A., & Ramjee, D. (2013). The relationship between leadership styles and employee commitment at a Parastatal company in South Africa. *International Business & Economics Research Journal (IBER)*, 12(11), 1411.
- Gliner, J. A., & Morgan, G. A. (2000). *Research methods in applied settings: An integrated approach to design and analysis*. Mahwah, N.J.: Lawrence Erlbaum. Mostafa.
- Grabowski, R. (2016). Food prices and the development of manufacturing in India. *Asia-Pacific Development Journal*, 23(1), 57-78.
- Grabowski, R. (2016). Food prices and the development of manufacturing in India. *Asia-Pacific Development Journal*, 23(1), 57-78.
- Gulluce, A., Kaygin, E., Kafadar, S., & Atay, M. (2016). The relationship between transformational leadership and organizational commitment: A study on the bank employees. *Journal of Service Science and Management*, 9(03), 263-275.
- Gunto & Alias. (2013). 'SMEs development in Malaysia: Lessons for Libya', (Proceedings) PERKEM Viii, 3, 1521-1530.
- Hersey, P., & Blanchard, K. (1988). *Management of organizational behavior* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.
- Hinkin, T. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988.
- Hoelter, J. W. (1983). The analysis of covariance structures: Goodness-of-fit indices. *Sociological Methods and Research*, 11, 325-344,
- Hofstede, G. (2017). Geert-hofstede.com. Retrieved from <https://geerthofstede.com/malaysia.html>
- Hughes, T. A. (2014). *Idealized, inspirational, and intellectual leaders in the social sector: Transformational leadership and the Kravis Prize*. (Unpublished CMC Senior thesis). Claremont McKenna College.
- Ismail, A., Mohamed, H. A., Sulaiman, A. Z., Mohamad, M. H., & Yusuf, M. H. (2011). An empirical study of the relationship between transformational leadership, empowerment

- and organizational commitment. *Business and Economics Research Journal*, 2(1), 89-107.
- Iverson, R. D., & Buttigieg, D. M. (1999). Affective, normative and continuance commitment: Can the right kind of commitment be managed?. *Journal of management studies*, 36(3), 307-333.
- Iverson, R. D., & Buttigieg, D. M. (1999). Affective, normative and continuance commitment: Can the right kind of commitment be managed?. *Journal of management studies*, 36(3), 307-333.
- James, K., & Collins, J. (2008), *Leadership perspectives: Knowledge into action*. London: Palgrave Macmillan.
- Kanter, R. M. (1982). *The middle manager as innovator*. Harvard Business School Press. 95-105.
- Keskes, I. (2014). Relationship between leadership styles and dimensions of employee organizational commitment: A critical review and discussion of future directions. *Intangible Capital*, 10(1), 26-51.
- Khasawneh, S., Omari, A., & Abu-Tineh, A. (2012). The relationship between transformational leadership and organizational commitment: The case for vocational teachers in Jordan. *Educational Management Administration & Leadership*, 40(4), 494-508.
- Lee, J (2005). Effects of leadership and leader-member exchange on commitment. *Leadership & Organization Development Journal*, 26(8), 655-672.
- Lewin, K., Lippit, R., & White, R. K. (1939). Patterns of aggressive behaviour in experimentally created social climates. *Journal of Social Psychology*, 10, 271-301.
- Lo, M. C., Ramayah, T., Min, H. W., & Songan, P. (2010). The relationship between leadership styles and organizational commitment in Malaysia: Role of leader-member exchange. *Asia Pacific Business Review*, 16(2), 79-103.
- Lo, M., Ramayah, T., & Min, H, W. (2009). Leadership styles and organizational commitment: A test on Malaysia manufacturing industry. *African Journal of Marketing Management*, 1(6), 133-139.
- Mahmood, A. (2015). Effects of leadership styles on organizational commitment in public and private sectors of Pakistan. Retrieved from <https://brage.bibsys.no/xmlui/bitstream/handle/11250/2380123/BE-501%20-%20Amna%20Mahmood.pdf?sequence=1>
- Malemuna, E., & Phiri, W. (2016). The impact of leadership model on employee commitment within small-medium enterprises in Ndola, Zambia. *International Journal of Multidisciplinary Research and Development*, 3(3), 197.
- Marmaya, N. H., Hitam, M., Torsiman, M. N. & Balakrishnan, B. K. (2010). Employees' perceptions of Malaysian managers' leadership styles and organizational commitment. *African Journal of Business Management*. 5(5), 1584-1588.
- McLaggan, E., Bezuidenhout, A., & Botha, C. (2013). Leadership style and organisational commitment in the mining industry in Mpumalanga. *SA Journal of Human Resource Management*, 11(1).
- Mesu, J., Sanders, K., & Riemsdijk, M. V. (2015), Transformational leadership and organisational commitment in manufacturing and service small to medium-sized enterprises the moderating effects of directive and participative leadership. *Emerald insight*, 44(6), 970 – 990

- Meyer, J. P., & Allen, N. J. (1991), "A three-component conceptualization of organizational commitment". *Human Resource Management Review*, 1(2), 61-89.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002), Affective, continuance, and normative commitment to the organization: a meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61(1), 20-52.
- Meyer, P., Prodromou, C., Liao, C.Y., Hu, B., Roe, S.M., Vaughan, C.K., Vlastic, I., Panaretou, B., Piper, P.W., and Pearl, L.H. (2004). Structural basis for recruitment of the ATPase activator Aha1 to the Hsp90 chaperone machinery. *The EMBO Journal*, 23(3), 511-519.
- Mguqulwa, N. (2008). *The relationship between organizational commitment and work performance in an agricultural company*. Dissertation, University of South Africa
- Morgan, R., & Hunt, S. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20.
- Munyeka, W., & Ngirande, H. (2014). The impact of leadership styles on employee organisational commitment in Higher Learning Institutions. *Mediterranean Journal of Social Sciences*. 5(4).
- Necati, C., Ferudun, S., & Ali, Ç. K. (2012). Examining the relationships between school principals' transformational and transactional leadership styles and teachers' organizational commitment. *The Online Journal of New Horizons in Education*. 2(2).
- Ngechu, M. (2004). Understanding the research process and methods. An introduction. *Starbright Services, Nairobi*.
- Njoroge, D. I., Wanjala, J. W., & Mathews, B. G. (2017). Laissez-faire leadership style and organizational commitment: The moderating effect of employee participation. *International Journal of Research in Commerce, IT and Management*. 7 (1).
- Njoroge, D. I., Wanjala, J. W., & Mathews, B. G. (2017). Laissez-faire leadership style and organizational commitment: The moderating effect of employee participation. *International Journal of Research in Commerce, IT and Management*. 7 (1).
- Noraazian & Khalip (2016). The impact of transformational leadership and teacher commitment in Malaysian public schools. *International Journal of Academic Research in Business and Social Sciences*. 6(11).
- Obasan Kehinde, A. & Hassan Banjo, A. (2014). A test of the impact of leadership styles on employee performance: A study of department of petroleum resources. *International Journal of Management Sciences*, 2(3), 149–160.
- Oso, W. Y., & Onen, D. (2009). A general guide to writing research proposal and report. *Jomo Kenyatta Foundation*.
- Pavett, C., Lau, A. (1983). Managerial work: The influence of hierarchical level and functional specialty. *Academic Management Journal*, 26, 170-177.
- Porter, J. (2015). The relationship between transformational leadership and organizational commitment in non-profit long term care organizations: The direct care worker perspective. *Creighton Journal of Interdisciplinary Leadership*, 1(2), 68. <http://dx.doi.org/10.17062/cjil.v1i2.13>
- Powell, D.M., & Meyer, J.P. (2004), "Side-bet theory and the three-component model of organizational commitment", *Journal of Vocational Behaviour*, 65(1), 157-177.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Rehman, S., Shareef, A., Mahmood, A., & Ishaque, A. (2012). Perceived leadership styles and organizational commitment. *Interdisciplinary Journal of Contemporary Research in Business*, 4(1), 617-621.
- Saeed, S., Gelaidan, H., & Ahmad, F. (2013). New leadership style and lecturers' commitment in Yemen higher education institutions. *World Applied Sciences Journal*, 21(10), 1463-1465.
- Samarin, T.H., and Sahranavard, A. (2015). The review of the relationship between leadership styles and organizational commitment of employees in petrochemical complexes of 'Asalūyeh in Bushehr Province, Iran. *Journal of Applied Environmental and Biological Sciences*. 5(9S), 213-21.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach* (7th ed.). Chichester, West Sussex: John Wiley & Sons, Inc.
- Senthamil Raja, A., & Palanichamy, P. (n.d). Leadership styles and its impact on organizational commitment. *The Journal of Commerce*. 3(4).
- Shin, Y. (2013). The relationship between leadership styles, organizational commitment, and organizational outcome in Oklahoma's volunteer fire departments. Unpublished master degrees of thesis, University Suwon, Korea.
- Shurbagi, A. (2014). The relationship between transformational leadership style job satisfaction and the effect of organizational commitment. *International Business Research*, 7(11).
- Silva, D.A.C.S., and Mendis, B.A.K.M. (2017). Relationship between transformational, transaction and laissez-faire leadership styles and employee commitment. *European Journal of Business and Management*. 9(7).
- SME Corporation Malaysia - SME Definition. Smecorp.gov.my. Retrieved February 5, 2017, from <http://www.smecorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-definition>
- Smit, C. (2012). Power Distance Index; High Power Distance Culture; Low Power Distance. Culturematters.com. Retrieved April 26, 2012, from <https://culturematters.com/power-distance-index-examples/>
- Southiseng, N. & Walsh, J. (2010). Competition and management issues of SME entrepreneurs in Laos: Evidence from empirical studies in Vientiane municipality, Savannakhet and Luang Prabang. *Asian Journal of Business Management*, 2 (3), 57-72.
- Teshome, F. Y. (n.d). *The relationship between leadership styles and organizational commitment at Defense University* (Unpublished Master thesis). Addis Ababa University.
- Teshome, F. Y. (n.d). *The relationship between leadership styles and organizational commitment at Defense University* (Unpublished Master thesis). Addis Ababa University.
- Trottier, T., Van Wart, M., & Wang, X. (2008). Examining the nature and significance of leadership in government organizations. *Public Administration Review*, 319-333.
- Tustin, D., Ligthelm, A. A. & Martins, J. H. (2005). *Marketing research in practice* (1st ed.). Pretoria: Unisa Press.
- Voon, M. L., Lo, M. C., Ngui, K. S. & Ayob, N. B. (2011). The influence of leadership styles on employees' job satisfaction in public sector organizations in Malaysia. *International Journal of Business, Management and Social Sciences*, 2(1), 24-32.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Vugt, M. V., Jepson, S., Hart, C., & De Cremer, D. (2004). Autocratic leadership in social dilemmas: A threat to group stability. *Journal of Experimental Social Psychology*, 40(1), 1-13.
- Wimmer, R. D., & Dominick, J. R. (2003). *Mass media research: An introduction* (7th ed.). Australia: Wadsworth.
- Yahaya, R., & Ebrahim, F. (2016). Leadership styles and organizational commitment: Literature review. *Journal of Management Development*, 35(2), 190-216.
- Yahaya, R., & Ebrahim, F. (2016). Leadership styles and organizational commitment: Literature review. *Journal of Management Development*, 35(2), 190-216.
- Yousef, D.A. (2000). Organizational commitment: A mediator of the relationships of leadership behaviour with job satisfaction and performance in a non-western country. *Journal of Managerial Psychology*, 15 (1), 6-28.
- Yunus, N., & Ibrahim, W. (2015). Employees' organizational commitment: the effect of leaders' transformational leadership and leader-member exchange as moderator. *International Journal of Arts and Commerce*, 4(2), 123-131.
- Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2010). *Business research methods* (8th ed.). New York: South-Western Cengage Learning.

Agile Project Management: An Overview

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Abstract

Effective project management is key to realizing an organization's strategy. Over the years delivering these projects has been challenging, as evidenced in many surveys. The average success rate for projects in the market appears to be around one in three. As the volatility of business environment increases, organizations are looking at ways to respond to these changes more effectively. One of the responses has been the introduction of agile project delivery methods. This approach is deemed more suitable to uncertainty and changing circumstances than the traditional waterfall approaches. It is claimed that agile radically improves the success rate of projects. On the other hand, adoption does not always seem easy and agile is probably not a silver bullet. The agile approach also has an impact in the area of project management, making it a topic for both IT and business. This paper aims to overview the agile project management from the perspectives of history, manifesto, favorable conditions, operating, methodologies, diffusion, key benefits and challenges, and blending with traditional waterfall project management.

Keywords: Agile, waterfall, project management

INTRODUCTION

To be competitive in today's marketplace, in any industry or organizations must deliver an exceptional customer experience. Speed, quality, prioritization, discipline and adaptability are all key qualities that will engage customers and other stakeholders to use products or services and build lasting relationships. Traditional project management methodologies, especially in today's fast-paced digital world, are no longer as effective in being responsive to a customer's changing needs. To succeed in an environment with shifting demands, a business needs to be adaptive and agile (PwC, 2017).

Over the years delivering these projects has been challenging, as evidenced in many surveys. The average success rate for projects in the market appears to be around one in three. As the volatility of business environment increases, organisations are looking at ways to respond to these changes more effectively. One of the responses has been the introduction of agile project delivery methods. This approach is deemed more suitable to uncertainty and changing circumstances than the traditional waterfall approaches. It is claimed that agile radically improves the success rate of projects (KPMG, 2017).

Agile innovation methods have revolutionized information technology. Over the past 25 to 30 years they have greatly increased success rates in software development, improved quality and speed to market, and boosted the motivation and productivity of IT teams. Now agile methodologies which involve new values, principles, practices, and benefits and are a radical alternative to command-and-control-style management are spreading across a broad range of industries and functions and even into the C-suite. Innovation is what agile is all about. Although the method is less useful in routine operations and processes, these days most companies operate in highly dynamic environments. They need not just new products and services but also innovation in functional processes, particularly given the rapid spread of new software tools. Companies that create an environment in which agile flourishes find that teams can churn out innovations faster in both those categories (Rigby, Sutherland & Takeuchi, 2016b).

LITERATURE REVIEW

The Emergence of Agile

Traditionally, the so-called Waterfall or heavyweight process dominated project, product or software development. Work flowed down through organizational silos in sequential style. The resulting project flowed first to design, then to development, then to testing and integration, and finally to deployment (Rigby, Berez, Caimi & Noble, 2016a). The Waterfall approach relied heavily on predictive planning, extensive documentation, tight controls and ultimate delivery of a product that followed strictly to original specifications. The process was slow, troubled with waste and depressing to developers (Table 1). In the early 1990s, a developer named Jeff Sutherland began collaborating with software expert Ken Schwaber and others to create a better system. One major encouragement was a 1986 Harvard Business Review article called "The New New Product Development Game," written by Hirotaka Takeuchi and Ikujiro Nonaka. The authors contrasted conventional waterfall "relay race" methods of product development with a holistic or "rugby" approach, "where a team tries to go the distance as a unit, passing the ball back and forth". Sutherland and Schwaber named their newly created system Scrum to tribute to the rugby metaphor. (Rigby et al., 2016a). In 2001, Sutherland, Schwaber and 15 other software revolutionaries gathered in Snowbird, Utah, to share their insights and discuss common characteristics of success. Although they disagreed on much, they eventually forged a consensus on a name for their approach, Agile, and a call to arms that spelled out essential values and operating principles. Hereafter, development frameworks that aligned with these values and principles would be known as Agile techniques. Scrum and its derivatives are used at least 10 times as often as any other form of Agile, therefore occasionally default to its methodologies when illustrating Agile practices (Rigby et al., 2016a).

Table 1: A Comparison between Waterfall and Agile Approaches



Team	Large, functional teams	Small, cross-functional teams
Customer and business involvement	Heavy at the beginning and end	Constant collaboration
Design	Predict and design all features up front with exhaustive documentation	Modularize and prioritize design features; welcome changes to undeveloped modules
Development	Build all features at once to exact specifications	Iterative; build only what is proving valuable
Testing and integration	Integrate and test when development in complete	Continuous, real-time testing and integration
Delivery	Large, infrequent releases	Rapid, frequent increments

(Source: Rigby et al., 2016a)

The Agile Manifesto

In February 2001, 17 software developers met at the Snowbird resort in Utah to discuss lightweight development methods. They published the Manifesto for Agile Software Development (Beck et al., 2001). According to Beck et al. (2001), the Manifesto for Agile Software Development sets the four core values (Table 2) (Tarne, 2007):

“We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

- *Individuals and interactions over processes and tools*
- *Working software over comprehensive documentation*
- *Customer collaboration over contract negotiation*
- *Responding to change over following a plan*

Table 2: Brief Description of Four Values of Agile Manifesto

Four Values of Agile Manifesto	Brief Description
Individuals and interactions over processes and tools	Projects should be built around motivated individuals who are given the support they need and trusted to get the job done. Teams should abandon the assembly-line mentality in favor of a fun, creative environment for problem solving, and should maintain a sustainable pace. Employees should talk face-to-face and suggest ways to improve their work environment. Management should remove impediments to easier, more fruitful collaboration.
Working software over comprehensive documentation	Innovators who can see their results in real market conditions will learn faster, be happier, stay longer, and do more-valuable work. Teams should experiment on small parts of the product with a few customers for short periods, and if customers like them, keep them. If customers don't like them, teams should figure out fixes or move on to the next thing. Team members should resolve arguments with experiments rather than endless debates or appeals to authority.
Customer collaboration over contract negotiation	Most detailed predictions and plans of conventional project management are a waste of time and money. Although teams should create a vision and plan, they should plan only those tasks that won't have changed by the time they get to them. And people should be happy to learn things that alter their direction, even late in the development process. That will put them closer to the customer and make for better results.
Responding to change over following a plan	Time to market and cost are paramount, and specifications should evolve throughout the project, because customers can seldom predict what they will actually want. Rapid prototyping, frequent market tests, and constant collaboration keep work focused on what they will ultimately value.

(Source: Rigby et al., 2016b)

That is, while there is value in the items on the right, we value the items on the left more” and, twelve principles (Straçusser, 2015):

- *Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.*
- *Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.*
- *Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.*
- *Business people and developers must work together daily throughout the project.*
- *Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.*
- *The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.*
- *Working software is the primary measure of progress.*
- *Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.*
- *Continuous attention to technical excellence and good design enhances agility.*
- *Simplicity—the art of maximizing the amount of work not done—is essential.*
- *The best architectures, requirements, and designs emerge from self-organizing teams.*
- *At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.*

The Agile Working Conditions

Experienced agilists discover that its methodologies are proving better in a growing range of applications, not only because the conditions preferring Agile are increasing so quickly but also because it can be adapted to fit so many situations (Table 3). For example, Agile finds to avoid excessive documentation, but if documentation is necessary, Agile can increase documentation as simply as Waterfall can, although with fewer initial benefits (Rigby et al., 2016b).

Table 3: Conditions favourable to Agile versus Traditional Approaches

Condition	Favorable to Agile	Favorable to Traditional
Market environment	Customer preferences and solution options change frequently.	Market conditions are stable and predictable.
Customer involvement	Close collaboration and rapid feedback are feasible.	Requirements are clear at the outset and will remain stable.
	Customers know better what they want as the process progresses.	Customers are unavailable for constant collaboration.
Innovation type	Problems are complex, solutions are unknown, and the scope isn't clearly defined. Product specifications may change. Creative breakthroughs and time to market are important.	Similar work has been done before, and innovators believe the solutions are clear. Detailed specifications and work plans can be forecast with confidence and should be adhered to. Problems can be solved

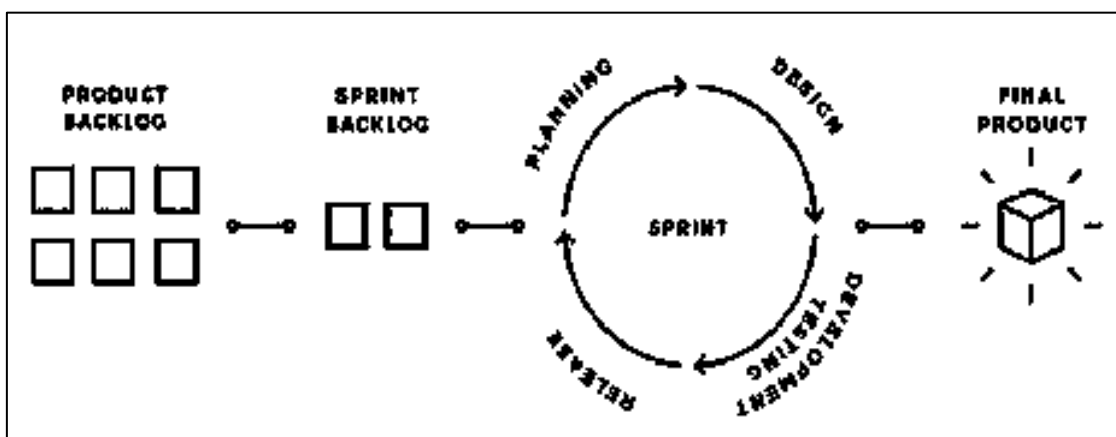
		sequentially in functional silos.
	Cross-functional collaboration is vital.	
Modularity of work	Incremental developments have value, and customers can use them. Work can be broken into parts and conducted in rapid, iterative cycles.	Customers cannot start testing parts of the product until everything is complete. Late changes are expensive or impossible.
	Late changes are manageable.	
Impact of interim mistakes	They provide valuable learning.	They may be catastrophic.
Corporate culture	The culture is team-oriented, collaborative, innovative and eager to delegate; employee turnover is relatively low	The culture relies on top-down direction and functional specialization; employee turnover is high, and mutual trust is low

(Source: Rigby et al., 2016a; Rigby et al., 2016b)

The Operating of Agile

Agile projects consist of a number of smaller cycles - sprints. Each one of them is a project in miniature: it has a backlog and consists of design, implementation, testing and deployment stages within the pre-defined scope of work. At the end of each sprint, a potentially shippable product increment is delivered (Table 4). Thus, with every iteration new features are added to the product, which results in the gradual project growth. With the features being validated so early in the development, the chances of delivering a potentially failed product are significantly lower (AltexSoft, 2016).

Figure 1: Agile Development Cycle



(Source: AltexSoft, 2016)

Agile Methodologies

Agile is an umbrella term for a vast range of methodologies and techniques (Table 5), sharing the principles and values but differ in their emphases, areas of use and distinctive features (AltexSoft, 2016). There are three most popular forms and the contexts in which each

works best (Table 6). They include *scrum*, which emphasizes creative and adaptive teamwork in solving complex problems; *lean development*, which focuses on the continual elimination of waste; and *kanban*, which concentrates on reducing lead times and the amount of work in process (Rigby et al., 2016b).

Table 5: The Most Well-known Agile Methods and Approaches

Term	Brief description
ASD (Adaptive Software Development)	(IT only). Iterative development process (Highsmith, 2000).
Crystal	(IT only). Iterative development method (Cockburn, 2001).
DAD (Disciplined Agile Delivery)	(IT only). An enterprise-wide scalable process framework described as 'a process decision framework that is a people-first, learning-oriented hybrid agile approach to IT solution delivery', that has 'a risk-value delivery lifecycle, is goal-driven, is enterprise aware and is scalable.'
DevOps	(IT only). A collaborative approach between development and operations aimed at creating a product or service where the two types of work and even the teams merge as much as possible.
DSDM (Dynamic Systems Development Method)/AgilePM	An agile project framework that focuses on the iterative delivery of business systems through the use of timeboxing and continual business involvement. It has a defined process and corresponding set of products, a set of roles that operate at all levels of a project, eight guiding principles and a collection of key techniques that can be used throughout a project.
FDD (feature-driven development)	(IT only). Iterative software development process focusing on features.
Kanban	A way to improve flow and provoke system improvement through visualization and controlling work in progress.
Lean	An approach that focuses on improving processes by maximizing value through eliminating waste (such as wasted time and wasted effort).

Lean Startup	Originally an approach to creating and managing start-up companies, but now applied to any business, to help them deliver products to customers quickly.
SAFe (Scaled Agile Framework)	(IT only). Large-scale application of agile across an organization. PRINCE2 and PRINCE2 Agile could be used in SAFe where a piece of work is of a sufficient size or level of difficulty that it should be run as a project.
Scrum	An iterative timeboxed approach to product delivery that is described as ‘a framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value’.
XP (eXtreme Programming)	(IT only). Iterative software engineering practice that can be used on its own but often exists in tandem with Scrum or Kanban, where XP covers the creation of the software and Scrum or Kanban is used as an overarching framework to control the work.

(Source: AXELOS®, 2015)

Table 6: A Comparison of the Main Forms of the Agile Approach

	Scrum	Kanban	Lean
Guiding Principles	Empower creative, cross-functional teams	Visualize workflows and limit work in process	Eliminate waste from the system as a whole
Favorable Conditions for Adoption	Creative cultures with high levels of trust and collaboration, or Radical innovation teams that want to change their working environment	Process-oriented cultures that prefer evolutionary improvements with few prescribed practices	Process-oriented cultures that prefer evolutionary improvements with overarching values but no prescribed practices
Prescribed Roles	Initiative owners responsible for rank ordering team priorities and delivering value to	None	None

customers and the
business

Process facilitators who
guide the work process

Small, cross-functional,
innovation teams

**Prescribed Work
Rules**

Five events:

Sprint planning to
prepare for the next
round of work

Start with what you do
now

Done

Visualize workflows and
stages

Fixed time sprints of
consistent duration (1–4
weeks) to create a
potentially releasable
product increment

Limit the work in
process at each
development stage

Daily stand-ups of 15
minutes to review
progress and surface
impediments

Measure and improve
cycle times

Sprint reviews that
inspect the new working
increment

Sprint retrospectives for
the team to inspect and
improve itself

**Three deliverables (or
“artifacts”):**

Portfolio backlog, a fluid
and rank-ordered list of
potential innovation
features

	Sprint backlog, the subset of portfolio backlog items selected for completion in the next sprint		
	Releasable working increments		
Approach to Cultural Change	Quickly adopt minimally prescribed practices, even if they differ substantially from those in the rest of the organization	Respect current structures and processes	Respect current structures and processes
	Master prescribed practices and then adapt them through experimentation	Increase visibility into workflows	Stress agile values throughout the organization while minimizing organizational resistance
		Encourage gradual, collaborative changes	
Advantages	Facilitates radical breakthroughs while (unlike skunkworks) retaining the benefits of operating as part of the parent organization	Avoids clashes with the parent organization's culture	Optimizes the system as a whole and engages the entire organization
	Delivers the most valuable innovations earliest	Maximizes the contributions of team members through flexible team structures and work cycles	Provides the ultimate flexibility in customizing work practices
	Rapidly increases team happiness	Facilitates rapid responses to urgent issues through flexible work cycles	
	Builds general management skills		
Challenges	Leaders may struggle to prioritize initiatives and relinquish control to self-	Practitioners must figure out how best to apply most agile values and	Novices trying to change behaviors may find the lack of

managing teams	principles	prescriptive methodologies frustrating
New matrix-management skills are required to coordinate dozens or hundreds of multi-disciplinary teams	Wide variation in practices can complicate the prioritization of initiatives and coordination among teams	Evolutionary improvements can make radical breakthroughs less likely and major improvements less rapid
Fixed iteration times may not be suitable for some problems (especially those that arise on a daily basis)	When initiatives don't succeed, it can be hard to determine whether teams selected the wrong tools or used the right tools in the wrong ways	Leaders need to make the grind of continuously eliminating waste feel inspirational and fun
Some team members may be underutilized in certain sprint cycles		

(Source: Rigby et al., 2016b)

The Growth of Agile

Agile has been around in explicit form since 2001, when the Agile Manifesto was hatched by software engineers at a ski resort in Utah. Now, 16 years later, Agile and Scrum practices have gained a strong foothold in the global marketplace (Scrum Alliance®, 2017). The State of Agile™ Report is the largest, longest running, mostly widely cited agile survey in the world (VersionOne®, 2017). The survey has captured the views of thousands of professionals practicing agile over the past eleven years. The 11th annual State of Agile™ survey (2017) found that enterprise agility is increasing throughout organizations and across almost all industries at an accelerated rate. While the largest percentage (23%) of respondents still worked for software companies, however the percentage from non-software companies grew significantly in 2016 including financial services (14%), professional services (12%), insurance (6%), healthcare (6%), government (5%), telecom (4%), transportation (4%), manufacturing (4%), education (3%), internet services (3%), retail (3%), media and entertainment (3%), utilities (2%), consumer products (2%), and public services (1%). According to the survey, the top five Agile methodologies used are Scrum (58%), Scrum/XP Hybrid (10%), Custom Hybrid (8%), Scrumban (8%) and Kanban (5%) (VersionOne®, 2017).

The 2016 State of Scrum survey results indicated that while the majority of respondents work in IT or software development, other departments are using it as well. In fact, 21% of all Scrum projects are run by departments outside of IT. 45% of respondents with projects outside of IT reported that operations or production constitute the primary non-IT area using Scrum for projects. While research and development ranked second (39%), then followed by sales and marketing (31%), financial or accounting (20%), human resources (20%), consulting (18%), and content development (1%). According to the survey, respondents reported high usage of Scrum in industries such as information technology and hardware and software development (28%), but it's also making inroads in other industries, including finance/banking (13%), healthcare (7%), consulting (6%), insurance (5%), government (5%), telecommunications (5%), education

(3%), media and entertainment (3%), manufacturing (3%), retail (3%), research and development (2%), travel and hospitality (2%). The survey shows that more than three-quarters (78%) of Scrum Alliance respondents live in North America and Europe, with Asia ranking a distant third at 11%. Most respondents (89%) reported that Scrum specifically is the Agile approach or at least one of the Agile approaches used in their organization. Kanban (43%) is the second most common, followed by a hybrid approach, (23%) then traditional Waterfall (19%) and Lean (17%) (Scrum Alliance®, 2017).

Key Benefits and Challenges to Agile Implementation

Compared with traditional management approaches, agile offers a number of major benefits, all of which have been studied and documented. It increases team productivity and employee satisfaction. It minimizes the waste inherent in redundant meetings, repetitive planning, excessive documentation, quality defects, and low-value product features. By improving visibility and continually adapting to customers' changing priorities, agile improves customer engagement and satisfaction, brings the most valuable products and features to market faster and more predictably, and reduces risk. By engaging team members from multiple disciplines as collaborative peers, it broadens organizational experience and builds mutual trust and respect. Finally, by dramatically reducing the time squandered on micromanaging functional projects, it allows senior managers to devote themselves more fully to higher-value work that only they can do: creating and adjusting the corporate vision; prioritizing strategic initiatives; simplifying and focusing work; assigning the right people to tasks; increasing cross-functional collaboration; and removing impediments to progress (Rigby et al., 2016b).

According to the 11th State of Agile™ survey, the benefits of adopting Agile methods and practices are ability to manage changing priorities (88%), project visibility (83%), increased team productivity (83%), delivery speed/time to market (81%), team morale (81%), business/IT alignment (76%), software quality (75%), project predictability (75%), project risk reduction (74%), engineering discipline (68%), software maintainability (64%), managing distributed teams (61%), and project cost reduction (56%). While the vast majority of respondents and their organizations have realized success from adopting agile practices, they recognize that there are challenges to scaling agile. The challenges cited are company philosophy or culture at odds with core agile values (63%), lack of experience with agile methods (47%), lack of management support (45%), general organization resistance to change (43%), lack of business/customer/product owner (41%), insufficient training (34%), pervasiveness of traditional development (34%), inconsistent agile practices and process (31%), fragmented tooling, data, and measurements (20%), ineffective collaboration (19%), regulatory compliance and governance (15%) (VersionOne®, 2017).

However the results of Scrum Alliance (2016) survey indicated that respondents reported that fulfilling customer satisfaction (29%) and improving time to market / reducing cycle time (24%) are the most important business priorities for Scrum projects. Then followed by meeting budget, time, and scope constraint (17%), completing projects that will drive innovation and market share (12%), adding new features and functionality (10%), and improved quality (6%). The challenges with Agile Scrum are organizational design and culture made it difficult to adopt and further scale Scrum (52%), difficult to transition from a traditional Waterfall-based method to one driven by Scrum practices (43%), Alignment with other projects in the portfolio (42%), did not have clearly identified metrics to identify and measure the success of Scrum projects and delivery (41%), Lack of trust (36%), Desire for perceived predictability (34%), Product owners and teams were just not willing and/or enthusiastic about following Scrum best practices (32%), Fear of transparency (29%), to convince our clients it was the right approach (23%), did not get sponsorship and support from senior management (18%) (Scrum Alliance®, 2017).

Blending Agile and Traditional Project Management

Agile project management and software development have become hot topics in recent years. To date though, the emphasis seems to have been on how to move from a traditional approach to Agile, abandoning the traditional approach completely. While Agile might be the best approach for some projects, other projects still require the rigor of a more traditional approach. How should an organization decide which approach to take? Does an organization have to use just one approach? Can the approach be modified in the middle of the project?

(Tarne, 2007) The project practitioners tend to compare agile projects to bad waterfall approaches and continue with this misconception, therefore no questions asked: you are “agile”, then you are cool, young, flexible, adaptive, and disruptive; you are “waterfall”, the you are old, failed, dictatorial, bureaucratic, and out of time (Rodov & Teixidó, 2016). According to Rodov & Teixidó (2016), projects will use a combination of agile practices, with a traditional approach, usually associated with waterfall projects in the future. This should become the dominant successful methodology, even despite the pressure for quick deliveries and the unstoppable growth of agile philosophy. In fact the idea already spread throughout the industries, and a good example is the disciplined agile delivery framework for software development developed by Scott Ambler and Mark Lines in 2012. The authors suggested with specific recommendations on how to blend agile and waterfall approaches in aspects of scope, schedule, communication, teams and others.

The blending of waterfall and agile should occur at the beginning of the project, when, for example, in the Scrum methodologies, a product backlog must be prepared. Even though this product backlog may not be fixed in stone, our experience shows that most successful projects used the frequent delivery approach of agile (two weeks, four-week sprints) but with a robust preliminary definition of what would be the final product, or “customer experience.” The project enjoyed the agile approach by having product backlog deliveries every three weeks, and changes to that initial backlog were implemented easily, but just because the initial documents were thorough and as we sustain, we applied “waterfall attitude” to the initial stages (Rodov & Teixidó, 2016). There is a number of unjust criticisms against the waterfall or “traditional” approach; in one of the best books about agile planning, Mike Cohn (2006, pp. 15–17) states that:

“A critical problem with traditional approaches to planning is that they focus on the completion of activities rather than on delivery of features....another reason why traditional planning fails to lead consistently to high value products are because the work described by the plan is not prioritized by its value to the users...”

No one prevents you to develop a waterfall plan with a properly deliverables-oriented work breakdown structure (WBS) and schedule. When addressing the first activity in an agile project, putting a strong effort in defining an itemized product backlog such as ID, Product feature/User story, Business purpose, Priority, Sprint no., Activity/Deliverable no., Supporting document ID, and so on. The difference with waterfall is that a change control procedure may not exist; but then, no hard deadlines and low budget constraints can exist either. Again, you may change as much as you like in this backlog requirements table, but don't impose hard milestones for the whole scope, since, as we said before “flexibility goes both ways.” (Rodov & Teixidó, 2016).

Customers have not patience. In today's competitive world, time to market is a key factor for success. So don't be naïve, they want the speed of agile, combined with the predictability of a thorough and traditional project schedule, (but make sure you don't call it waterfall) that eases their anxiety in launching new products and services to an increasingly demanding customer base. The competent project manager should collaborate with the product owner in helping prioritize (for example, with the 1980s KANO technique) the project deliverables with the ScrumMaster in building sprints and the forecast of releases, but also needs to spend some significant time building a long term project schedule that anticipates potential slippage. Due to the nature of agile projects, project buffers must be applied here almost with no exception; otherwise the whole project may fail. If, for example, the business intent is to launch a product or service for customers very quickly, the agile project manager must build a very robust schedule to deliver the minimum viable product (MVP) to market in that time frame, and be very strict with new “must haves” that may arise through the sprints making the business and sponsor aware of the potential slippage of the MVP launch (Rodov & Teixidó, 2016).

Young people prefer interaction and “test-driven development” to documents, in general, and in particular, the Agile Manifesto (2001) made it clear:

“The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.”

An approach that was already used in waterfall projects, and that combined with the product backlog covered before helps this interaction is the use of prototypes. Young agile teams love to have conversation over prototypes, mockups of what the product owner wants to receive. Young agile project teams are more image-oriented than text-oriented. They are more visual than conversational. Therefore, the project manager has to bring good drawing, sketching, and visual thinking skills into the agile project. We can't really substitute bulky waterfall documents by conversations and interactions only, and use of visual transfer of knowledge (i.e., requirements) is highly advisable (Rodov & Teixidó, 2016). A hybrid approach includes all the principles and elements identified in both agile and formal approaches in the right measure and prioritizes the critical ones. There is no cookbook, there are principles and guidelines which can be combined in the right measures to create a balanced approach that when applied fit the needs of the situation at hand. This makes it the responsibility of organizations and project managers to create a hybrid approach, or multiple approaches, to suit the needs of their project (Pitagorsky, 2016).

CONCLUSION AND DISCUSSION

In cases where all requirements are fully known upfront (and will not change) and tried and trusted technology is used, traditional waterfall methods will probably beat agile methods. Traditional methods are all about sequentially defining what you want and then delivering just that. Changing things at a later stage in a project often proves difficult and/or costly. Agile methods, on the other hand, are geared towards change and uncertainty. They support the discovery process by starting with a concept and then building something that works, testing it and adapting from there. This might not be the shortest route from A to B, but if you don't know exactly where B is, it will get you there eventually (KPMG, 2017). Given these different characteristics, it is not surprising that agile works really well for organizations in the more volatile domains of online platforms. For a traditional organization however it is important to look very diligently at which areas would be most suitable for agile, as applying it in domains with a lot of uncertainty would provide the highest business value and therefore also make it easier to get the buy-in of all stakeholders. It may be more difficult to demonstrate the business value of applying agile in more stable domains, which could lead to agile being viewed as an IT hobby. In this case there would be no incentive for the business to change the way it approaches projects and portfolio management (KPMG, 2017).

Also, it is important to remember that agile is not a silver bullet for solving challenges that your organization encounters in the area of project delivery. Organizations can often improve through better use of traditional project management methods. And, when implementing agile be sure to take the time to tailor it to your organization and expect and allow it to evolve over time.

ACKNOWLEDGMENT

The writers gratefully acknowledge that this paper is generated from the UTAR Research Fund (UTARRF) with Project Account No.: IPSR/RMC/UTARRF/2016-C1/T10.

REFERENCES

- AltexSoft. (2016). *The agile project management: best practices and methodologies*. Carlsbad, CA: AltexSoft. Retrieved from: <https://www.altexsoft.com/whitepapers/agile-project-management-best-practices-and-methodologies/>
- AXELOS®. (2015). *PRINCE2 Agile® Guidance*. London: AXELOS®
- Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R.C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). Manifesto for agile software development. Retrieved from <http://agilemanifesto.org/>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- KPMG. (2017). *Agile project delivery: how to increase project success in a hybrid world?* Retrieved from: <https://assets.kpmg.com/content/dam/kpmg/nl/pdf/2017/advisory/Agile-project-delivery.pdf>
- Pitagorsky, G. (2016). *Blending agile and formal project management*. Retrieved from: <https://www.projecttimes.com/george-pitagorsky/blending-agile-and-formal-project-management.html>
- PwC. (2017). *Agile project delivery: Mitigate project risks and deliver value to your business*. Retrieved from: <https://www.pwc.com/gx/en/services/audit-assurance/risk-assurance/game-changers/transformation-confidence/agile-project-delivery-confidence.html>
- Rigby, D. K., Berez, S., Caimi, G., & Noble, A. (2016a). Agile innovation. Retrieved from <http://www.bain.com/publications/articles/agile-innovation.aspx>
- Rigby, D. K., Sutherland, J., & Takeuchi, H. (2016b). Embracing agile. *Harvard Business Review*, 94(5), 40-50. Retrieved from <https://hbr.org/2016/05/embracing-agile>
- Rodov, A. & Teixidó, J. (2016). Blending agile and waterfall: the keys to a successful implementation. Paper presented at *PMI® Global Congress 2016—EMEA*, Barcelona, Spain. Newtown Square, PA: Project Management Institute.
- Scrum Alliance®. (2017). *The state of scrum report: how the world is successfully applying the most popular agile approach to projects*. Retrieved from: <https://www.scrumalliance.org/why-scrum/state-of-scrum-report/2017-state-of-scrum>
- Straçusser, G. (2015). Agile project management concepts applied to construction and other non-IT fields. Paper presented at *PMI® Global Congress 2015—North America*, Orlando, FL. Newtown Square, PA: Project Management Institute.
- Tarne, B. (2007). Don't throw the baby out with the bathwater: how to combine and use both agile and traditional project management approaches. Paper presented at *PMI® Global Congress 2007—North America*, Atlanta, GA. Newtown Square, PA: Project Management Institute.
- VersionOne®. (2017). *The 11th annual state of agile™ Report*. Retrieved from: <http://stateofagile.versionone.com/>

Internal and External Influences on Pro-Environmental Behaviours Among University Students

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Abstract

Various environmental problems such as global warming, urban air pollution, water shortage, environmental noise, and loss of biodiversity pose a hazard to environmental sustainability. Environmental sustainability strongly depends on human behaviours, and recent studies have revealed the importance of pro-environmental behaviours in addressing the environmental problems. Hence, it is essential to understand the pro-environmental behaviours and the factors that determine them. University plays an important role in encouraging the adoption of pro-environmental behaviours as it trains professionals who have an important role in protecting the environment in the future. However, studies were conducted in Western developed countries in understanding the pro-environmental behaviours among university students, very few studies conducted in emerging countries. This paper proposes a conceptual framework on how internal factor (environmental knowledge) and external factors (economic and social) in promoting pro-environmental behaviours among university students.

Keywords: Pro-environmental behaviours, environmental knowledge, peer influence, cost, university students

INTRODUCTION

Background of the study

The global climate changes have posed a threat to the environment and inhabitants due to its unpredictable effects on the extreme weather conditions, farming and livelihood productions as well as the food supplies. Besides that, the rapid urbanization and aggressive human economic activities have caused the environmental degradation and worsened the environmental sustainability. Various environmental problems such as global warming, urban air pollution, water shortage, environmental noise, and loss of biodiversity pose a hazard to environmental sustainability. Future generations have to face even more severe environmental problems which could harm their health and livings if the current environmental conditions are not improved. Environmental issues always occur in the progress of the transformation of a developing country into a developed country because the depletion of natural resources is the trade-off of national development. Same as other developing countries, the main environmental issues in Malaysia are the environmental degradation issues which include the air and water pollution, soil erosion, deforestation and species endangering (Mokthsim & Saleh, 2014). Since the introduction of National Economic Policy (NEP), extensive agricultural, industrialization and socialization activities have been carried out to move the country to prosperity by exploiting the natural resources (Mokthsim & Saleh, 2014).

However, Malaysia is working on the protection of *environment by setting the* environmental legislation. Since 1980s, Malaysia has strengthened the environmental policies and legislations, and finds ways to *prevent or reduce the pollutions* (Aiyub, Gerreard & Martin, 2006). Besides that, several environmental awareness programmes have been launched by government such as “Recycle for Nature” by Malaysian Nature Society and “Towards Smart Energy Culture” by Energy Commission Malaysia in the sake of achieving environmental sustainability (Mei, Wai & Ahamad, 2016).

Problem Statement

Human behaviours are the root of these worsening environmental conditions. Since the environmental problems are in large part *caused by human behaviours*, it is argued that the

changes in human behaviours have to be properly assessed. Hence, understanding pro-environmental behaviours is becoming important in addressing the environmental issues. Pro-environmental behaviours are the human activities which can strengthen the positive impact and minimize the negative impact on the environment (Kollmuss & Agyeman, 2002). In the case of Malaysia, a research conducted by Mei, Wai and Ahamad (2016) on the environmental behaviours of Malaysian towards environmental issues showed that the environmental behaviours of Malaysians are not strong enough even though they have high level of environmental awareness. Moreover, they found that environmental behaviours of Malaysians were affected by other possible factors because Malaysians reacted differently towards the problem of water pollution, air pollution, waste management and climate change. Based on their research, it is essential to understand the pro-environmental behaviours and the factors that determine them.

Previous studies have revealed that pro-environmental behaviours are affected by both internal and external factors (Clark, Kotchen & Moore, 2003; Kollmuss & Agyeman, 2002). Researchers found that internal factor such as environmental knowledge is an important determinant that affects pro-environmental behaviours because highly educated individuals are more likely to translate their environmental knowledge into their behaviours (Lozano, 2006; Olli, Grendstad & Wollebaek, 2001; Schlegelmilch, Bohlen & Diamantopoulos, 1996). However, other studies reported that there is no *evidence of a positive relationship between* environmental knowledge and environmental behaviours (Bartiaux, 2008; Laroche, Bergeron, & Barbaro-Forleo, 2001). *External factors such as* social factor and economic factor found to have a direct effect on pro-environmental behaviours. Peer influence has been considered as one of the social factor that affects human behaviours (Villacorta, Koestner & Leke, 2003). Berkowitz & Perkins (1986) reported that human behaviour is greatly affected by *peer influence rather than other social factors such as family, religion and a person's personality*. However, existing literatures offer *limited* understanding on the relationship between peer influence and pro-environmental behaviours.

From the perspective of economics, people tend to make a choice based on the perceived cost and benefit. It implies that human tends to carry out certain behaviours when the perceived benefit outweighs the perceived cost. Mei *et al.*, (2016) found that the environmental intentional behaviours of Malaysians are affected by economic factor rather than environmental awareness. In the case of Malaysia, Mei *et al.* (2016) highlighted that Malaysians are more willing to conduct conservation action towards water pollution rather than air pollution, waste management and climate change because the cost savings for water are directly imposed to themselves. This study mainly focuses on the pro-environmental behaviours of university students as university plays an important role in encouraging the adoption of pro-environmental behaviours as it trains professionals who have an important role in protecting the environment in the future. In addition, university students are the future leaders, policymakers and decision makers in many areas who can make the changes towards environmental sustainability and create a better future (Oguz & Kavas, 2010; Adomssent, Godemann & Michelsen, 2007 ; Bradley, Waliczek & Zajicek, 1999). However, studies were conducted in Western developed countries in understanding the pro-environmental behaviours among university students, there is a lack of studies that examining the pro-environmental behaviours among university students in emerging countries. Hence, this paper proposes a conceptual framework to analyse the internal and external factors that influence the pro-environmental behaviours among university students in Malaysia.

Research Questions

The aims of this research are to provide answers to the following research questions:

- (a) Is there a significant relationship between environmental knowledge and pro-environmental behaviours among Malaysian university students?
- (b) Is there a significant relationship between peer influence and pro-environmental behaviours among Malaysian university students?
- (a) Is there a significant relationship between economic factors and pro-environmental behaviours among Malaysian university students?

Significance of study

The review on the studies concerning the factors that influence pro-environmental behaviours among university students can provide insights to the universities and government on the methods of fostering pro-environmental behaviours at the campus level. University plays an important role in promoting pro-environmental behaviours because it is a place that nurtures responsible, knowledgeable and skillful individuals who can contribute to the environmental sustainability and national development (Adomssent, 2013; Lozano, Lukman, Lozano, Huisingh & Lambrechts, 2013; Corcoran & Wals, 2004). Besides that, the current university students are the future parents. They can become the role models to their children in fostering and practising the pro-environmental behaviours which could make the environmental sustainability practical and achievable from generation to generation. By conducting the research on pro-environmental behaviours among university students in Malaysia, it is able to fill up the existing research gaps in the context of variables and sample region. It provides a reference in linking the internal and external factors that affecting the pro-environmental behaviours and demonstrates the interactions and relationships between these variables. Furthermore, researchers can have a better understanding on the behaviours of Asian university students in embracing the pro-environmental actions in which could be different from Western countries university students due to different cultural background and social norms.

LITERATURE REVIEW

Pro-environmental behaviour

Pro-environmental behaviours can be defined as the human actions that could enhance positive effect and minimize negative effect on the environment (Kollmuss & Agyeman, 2002). Moreover, pro-environmental behaviours can be considered as a kind of pro-social behaviours because these behaviours are future oriented and do not benefit the person who performing the behaviour directly but benefit other citizen, the society and the country (Elgaaied, 2012; Staats, Harland & Wilke, 2004). Personal pro-environmental behaviours can be described as the actions of purchasing, using and selling of consumer goods that have minimal or no harm upon environment and these behaviours can be divided into consumption behaviours and non-consumption behaviours (Stern, 2005). Consumption behaviours are the actions of purchasing goods and services which involve green production and environmental friendly usage meanwhile non-consumption behaviours refers to other actions that have positive environmental impact such as household waste recycling, car pool and energy savings.

Environmental Knowledge

Environmental knowledge can be defined as the concepts and behavioural patterns of an individual that are linked to the environmental protection (Laroche, Bergeron, & Barbaro-Forleo, 2001). Based on the previous studies, it is found that environmental knowledge was strongly connected with pro-environmental behaviours. For instance, Oguz and Kavas (2010) reported that university students in Ankara with better knowledge on environmental problems poses a positive behaviour towards the environment. Michalos, Creech, McDonald and Hatch Kahlke (2009) also found that the environmental knowledge has played a significant role in pro-environmental behaviour among Canadian students aged 10-18. Asunta (2004) found the positive relationship between the number of sources used by students to gather information about the environment and students' class grade. Other researchers argued that a deeper knowledge of environmental issues increases the likelihood of individual to behave in a pro-environmental way (Mobley, Vagias, & DeWard, 2010; Kaiser & Fuhrer, 2003; Kollmuss & Agyeman, 2002). While other researchers reveal that a lack of appropriate knowledge or an excess of self-perceived knowledge might limit pro-environmental behaviours (Kaiser & Fuhrer, 2003; Kollmuss & Agyeman, 2002). Although environmental knowledge seems to play a significant role in pro-environmental behaviours, some studies find no empirical evidence between these two variables (Bartiaux, 2008; Laroche *et al.*, 2001).

Social factor (Peer influence)

Peer influence is considered as a social factor because the role of peer socialization has been identified as an important aspect among students (Villacorta, Koestner & Leke, 2003). According to Berkowitz and Perkins (1986), peer influences are measured by the perceptions of peer behaviours or attitudes, beliefs and values. A person's value is most

influenced by the immediate social net, namely family, neighbours and peer-groups (Fuhrer, Kaiser, Seiler, & Maggi, 1995). However, Berkowitz and Perkins (1986) argued that peer influences are highly related to individual beliefs and behaviours rather than other factors such as family, culture, community, teachers, religion, and a person's biology and personality. Many studies have shown that students' interpersonal relationships with their peers can affect student behaviours. For instance, Astin (1993), Pavel and Padilla (1993) and Terenzini and Pascarella (1991) stated that there is positive relationship between peer influences, student interaction and attitude development in college students. Besides, other studies have shown that students' behaviours are affected by their perceptions of how their peers think and act (Berkowitz, 2010; Brown & Messman-Moore, 2009; Fabiano, Perkins, Berkowitz, Linkenback, & Stark, 2003). Based on the previous studies, it is essential to examine the effect of peer influences on pro-environmental attitudes and behaviours among university students since the perception of peer behaviours may affect the decision-making on how they choose to respond to environmental issues.

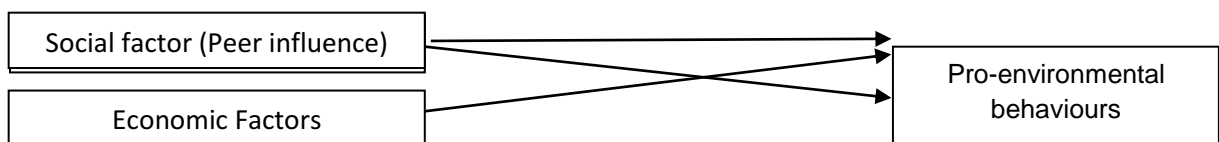
Economic Factors

The economic factors that make an individual behave pro-environmentally include the perceived economic benefits and costs associated with the behaviours. By comparing these two components, researches focus more on cost in the studies of pro-environmental behaviours because engaging in pro-environmental behaviours often cost more (Bockarjova & Steg, 2014). According to Stern (1992), people's knowledge about the monetary costs is considered as one of the important factors that affect the pro-environmental behaviours. This argument is consistent with the suggestions of Diekmann and Preisendörfer (2003) under the Low-Cost-Hypothesis. Besides that, consumers with low price sensitivity are tends to buy the green products (Eze & Ndubisi, 2013; Lea & Worsley, 2008). Furthermore, the cost savings determine the acting of pro-environmental behaviours in different places by an individual (Greaves, Zibarras & Stride, 2013). For instance, people will behave more pro-environmentally at home compare to their workplace because the cost of the waste disposal and energy consumption is directly imposed on the households. On the other hand, norm activation theory stated that the psychological barriers tend to erected if the perceived costs of behaviours is higher (Schwartz, 1977). For example, even the pro-environmental behaviours are beneficial to the society but the perceived costs of these behaviours are higher, people tend to deny their personal responsibilities in protecting the environment.

PROPOSED CONCEPTUAL FRAMEWORK

Based on the discussion presented in the literature review, this paper proposes a conceptual framework on the relationship between internal and external factors, and pro-environmental behaviours among Malaysian university students. Internal factor comprises environmental knowledge, while external factors consist of social factor (peer influence) and economic factor. From the review of the past literatures, internal factor such as environmental knowledge, external factors such as economic factors and social factor (peer influence) are expected to promote pro-environmental behaviours among Malaysian university students. Figure 1 indicates the proposed conceptual framework for this paper.

Figure 1 Proposed Conceptual Framework of the Present Paper



HYPOTHESIS DEVELOPMENT

A few hypotheses are developed in the present study:

Hypothesis 1:

Environmental knowledge is significantly related to the pro-environmental behaviours.

Hypothesis 2:

Peer influence is significantly related to the pro-environmental behaviours.

Hypothesis 3:

Economic factors are significantly related to the pro-environmental behaviours.

CONCLUSION

This study is a review of existing literatures on the determinants of pro-environmental behaviours among university students. Past studies have shown that the pro-environmental behaviours are affected by internal and external factors and there are limited studies in the context of Asian university students. In this paper, environmental knowledge, social factor (peer influence) and economic factors are proposed as the determinants of pro-environmental behaviours among Malaysian university students. By having a clear understanding on the pro-environmental behaviours of Malaysian university students, universities and government can have a reference on getting an effective way to foster an environmental friendly campus.

REFERENCES

- Adomssent, M. (2013). Exploring universities' transformative potential for sustainability-bound learning in changing landscapes of knowledge communication. *Journal of Cleaner Production*, 49, 11-24.
- Adomssent, M., Godemann, J., & Michelsen, G. (2007). Transferability of approaches to sustainable development at universities as a challenge. *International Journal of Sustainability in Higher Education*, 8(4), 385-402.
- Aiyub, K., Gerrar, S., & Martin, A. (2006). Globalisation of Environmental Protection: Future Challenges for Malaysian Businesses. *Malaysian Journal of Environmental Management* 7, 3 – 18.
- Asmuni, S., Khalili, J. M., & Zain, Z. M. (2012). Sustainable consumption practices of University students in Selangor, Malaysia. *Journal of Asian Behavioural Studies*, 2(6), 73-82.
- Astin, A. W. (1993). What matters in College? Four critical years.revisited. *San Francisco,CA: Jossey-Bass*.
- Asunta, T. (2004). Knowledge sources, attitudes and self-reported behavior of secondary-level science students concerning environmental topics. In: Laine, A., Lavonen, J., Meisalo, V. (Eds.), *Current Research on Mathematics and Science Education. University of Helsinki. Research Report 253*.
- Bartiaux, F. (2008). Does environmental information overcome practice compartmentalization and change consumers' behaviours? *Journal of Cleaner Production*, 16(11), 1170-1180.
- Berkowitz, A. D. (2010). Fostering healthy norms to prevent violence and abuse: The social norms approach. In K. Kaufman (Ed.), *The prevention of sexual violence: A practitioner's sourcebook* (pp. 147-172). Fitchburg, MA: NEARI Press.
- Berkowitz, AD & Perkins, HW (1986). Problem Drinking Among College Students: A Review of Recent Research. *Journal of American College Health*, 35, 21-28.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bleda, M., & Valente, M. (2009). Graded eco-labels: a demand-oriented approach to reduce pollution. *Technological Forecasting and Social Change*, 76(4), 512-524.
- Bockarjova, M., & Steg, L. (2014). Can Protection Motivation Theory predict pro-environmental behavior? Explaining the adoption of electric vehicles in the Netherlands. *Global environmental change*, 28, 276-288.
- Bradley, J. C., Waliczek, T. M., & Zajicek, J. M. (1999). Relationship between environmental knowledge and environmental attitude of high school students. *The Journal of Environmental Education*, 30(3), 17-21.
- Brown, A. L., & Messman-Moore, T. L. (2009). Personal and perceived peer attitudes supporting sexual aggression as predictors of male college students' willingness to intervene against sexual aggression. *Journal of Interpersonal Violence*, 25, 503-517.
- Clark, C. F., Kotchen, M. J., & Moore, M. R. (2003). Internal and external influences on pro-environmental behavior: Participation in a green electricity program. *Journal of environmental psychology*, 23(3), 237-246.
- Corcoran, P. B., & Wals, A. E. (2004). *Higher education and the challenge of sustainability*. Dordrecht: Kluwer Academic Publishers.
- Cordano, M., Welcomer, S., Scherer, R., Pradenas, L., & Parada, V. (2010). Understanding cultural differences in the antecedents of pro-environmental behavior: A comparative analysis of business students in the United States and Chile. *The Journal of Environmental Education*, 41(4), 224-238.
- Diamantopoulos, A., Schlegelmilch, B. B., Sinkovics, R. R., & Bohlen, G. M. (2003). Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business research*, 56(6), 465-480.
- Diekmann, A., & Preisendörfer, P. (2003). Green and greenback: The behavioral effects of environmental attitudes in low-cost and high-cost situations. *Rationality and Society*, 15(4), 441-472.
- Elgaaied, L. (2012). Exploring the role of anticipated guilt on pro-environmental behavior—a suggested typology of residents in France based on their recycling patterns. *Journal of Consumer Marketing*, 29(5), 369-377.
- Eze, U. C., & Ndubisi, N. O. (2013). Green buyer behavior: Evidence from Asia consumers. *Journal of Asian and African Studies*, 48(4), 413-426.
- Fabiano, P. M., Perkins, H. W., Berkowitz, A. D., Linkenback, J., & Stark, C. (2003). Engaging men as social justice allies in ending violence against women: Evidence for a social norms approach. *Journal of American College Health*, 52, 105-112.
- Fuhrer, U., Kaiser, F.G., Seiler, J. & Maggi, M. (1995). From social representations to environmental concern: the influence of face to face versus mediated communication. In *Ökologisches Handeln als sozialer Prozess* (pp. 61-75). Birkhauser Basel.
- Greaves, M., Zibarras, L. D., & Stride, C. (2013). Using the theory of planned behavior to explore environmental behavioral intentions in the workplace. *Journal of Environmental Psychology*, 34, 109-120.
- International Monetary Fund.(2012).*World Economic Outlook April 2012. Series: World Economic and Financial Surveys*.IMF Publication Services, Washington.
- Kaiser, F.G., & Fuhrer, U. (2003). Ecological Behavior's Dependency on Different Forms of Knowledge. *Applied Psychology: An International Review*, 52(4), 598-613.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239-260.
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6), 503-520.
- Lea, E., & Worsley, A. (2008). Australian consumers' food-related environmental beliefs and behaviours. *Appetite*, 50(2), 207-214.
- Lozano, R. (2006). Incorporation and institutionalization of SD into universities: Breaking through barriers to change. *Journal of cleaner production*, 14(9), 787-796.
- Lozano, R., Lukman, R., Lozano, F. J., Huisingh, D., & Lambrechts, W. (2013). Declarations for sustainability in higher education: Becoming better leaders, through addressing the university system. *Journal of Cleaner Production*, 48, 10-19.
- Mei, N. S., Wai, C. W., & Ahamad, R. (2016). Environmental awareness and behavior index for Malaysia. *Procedia-Social and Behavioral Sciences*, 222, 668-675.
- Michalos, A.C., Creech, H., McDonald, C., & Hatch Kahlke, P.M. (2009). Measuring Knowledge, Attitudes and Behaviours towards Sustainable Development: Two Exploratory Studies. *International Institute for Sustainable Development, Manitoba*.
- Mobley, C., Vagias, W.M., & DeWard, S.L. (2010). Exploring additional determinants of environmentally responsible behavior: The influence of environmental literature and environmental attitudes. *Environment and Behavior*, 42(4), 420-447.
- Mokhtsim, N., & Salleh, K. O. (2014). Malaysia's Efforts toward Achieving a Sustainable Development: Issues, Challenges and Prospects. *Procedia-Social and Behavioral Sciences*, 120, 299-307.
- Oguz, D., & Kavas, S. (2010). Environmental awareness of university students in Ankara. *African Journal of Agricultural Research*, 5(19) 2629-2636.
- Olli, E., Grendstad, G., & Wollebaek, D. (2001). Correlates of environmental behaviors: Bringing back social context. *Environment and behavior*, 33(2), 181-208.
- Pavel, D. M, & Padilla, R. V. (1993). American Indian and Alaska Native postsecondary departure: An example of assessing a mainstream model using national longitudinal data. *Journal of American Indian Education*, 32(2), 1-23.
- Schlegelmilch, B. B., Bohlen, G. M., & Diamantopoulos, A. (1996). The link between green purchasing decisions and measures of environmental consciousness. *European journal of marketing*, 30(5), 35-55.
- Schwartz, S. H. (1977). Normative influences on altruism. *Advances in experimental social psychology*, 10, 221-279.
- Scott, D., & Willits, F. K. (1994). Environmental attitudes and behavior: A Pennsylvania survey. *Environment and behavior*, 26(2), 239-260.
- Staats, H., Harland, P., & Wilke, H. A. (2004). Effecting durable change: A team approach to improve environmental behavior in the household. *Environment and Behavior*, 36(3), 341-367.
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of environmental psychology*, 29(3), 309-317.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Stern, P. C. (1992). Psychological dimensions of global environmental change. *Annual review of psychology*, 43(1), 269-302.
- Stern, P. C. (2005). Understanding individuals' environmentally significant behavior. *Environmental law reporter news and analysis*, 35(11), 10785.
- Terenzini, P. T., & Pascarella, E. T. (1991). Twenty years of research on college students: Lessons for future research. *Research in Higher Education*, 32(1), 83-92.
- Villacorta, M., Koestner, R., Lokes, N. (2003). Further validation of the motivation toward the environment scale. *Environment and Behavior*, 35(4), 486-505. DOI: 10.1177/0013916502250753
- White, K., MacDonnell, R., & Ellard, J. H. (2012). Belief in a just world: Consumer intentions and behaviors toward ethical products. *Journal of Marketing*, 76(1), 103-118.
- Yu, T. Y., Yu, T. K., & Chao, C. M. (2017). Understanding Taiwanese undergraduate students' pro-environmental behavioral intention towards green products in the fight against climate change. *Journal of Cleaner Production*, 161, 390-402.

S-commerce: Ratings and Reviews, and Recommendations of Buyers Towards Intention to Purchase Online

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Abstract

Social commerce (S-commerce) known as a subset of e-commerce. The emergence of social network in Malaysia has been raised rapidly and indirectly increases the popularity of s-commerce among social media users in Malaysia. The social media users use social network to create content and to communicate with members of social media. Through advancements of social media platforms, the value of s-commerce has been increased. At present, the social media consumers are allowed to rate, review, and recommend on the products online. Thus, this study is developed to understand how ratings and reviews, and recommendations effect consumers' intention to purchase through s-commerce. Data will be collected through self-administered questionnaire that using convenience sampling among social media users who had experienced using s-commerce. The data will be analyzed using SPSS for MLR. The findings are expected to discuss some practical and theoretical values and contributions, limitations and recommended future research directions.

Keywords: s-commerce, e-commerce, ratings & reviews, recommendations, Malaysia.

INTRODUCTION

Web 2.0 is a latest technology that enable social media platform. It offers communication, sharing, learning, searching information channel via Internet. Due to this rapid development and popularity of social technologies, online shopping becomes significant to modern lifestyle (Fagerström and Ghinea, 2010; Liang & Turban, 2011). Consumers are allowed to share their experience and knowledge online through Internet (Pitta and Fowler, 2005). To date, Facebook, Twitter, Instagram for instance are perceived as a new forms of social interaction. Social interaction of consumers indirectly influences a user's s-commerce intention of their social behaviour (Hajli, 2014b; Liang et al., 2011). Statistics shows that eight of ten internet users which are around 80% visited social media sites and most of them claimed that they owned Facebook account and access the account on daily basis. (Malaysian Communications and Multimedia Commission, 2016).

Even though traditional e-commerce which is includes online chats and email campaigns are still important for the success of any company, the s-commerce is also growing tremendously fast that allows current sellers to reach potential consumers and track the types of consumers responding to the social media marketing better. This has evolved s-commerce into higher level where users able to interact with one another, rate and review, and recommend products and services (Füller, Mühlbacher, Matzler, Jaweck, 2009). Proven, some companies earned more income from supportive recommendations made by existing customers to engage new potential buyers. Kim (2011) claimed more than 300 registered s-commerce companies in Korea yield around \$300-500 million in sales. In sum, this interactive way, such as reviews are capable of influencing the other consumers' purchase intention of a product.

Through social media, consumers are given opportunities to share their experience using the products, ratings and reviews, and recommend the products to others. However, it is sometimes it can be misused and difficult for consumers to rely on the rate and review, and recommendation on s-commerce. This is because sellers or other buyers might provide

inaccurate descriptions of fake comments (Kim, Song, 2005). Providentially, this constraint may be improved using social network shopping platforms, as users in social network such as Facebook, Instagram, Twitters and etc are friends or indirect acquaintances. They will share and communicate their purchasing and consumption experiences to obtain relatively real and accurate product information.

To date, numerous prior studies have been discussed on s-commerce in term of its technology adoption and consumer behavior perspective worldwide (Chong, Chan & Ooi, 2012; Shin, 2013; Hajli, 2013; Ng, 2013; Mohd&Rosli, 2015; Hajli, 2015; Isa, Salleh& Aziz, 2016; Lee, Kim, Chung, Ahn, Lee, Baron & Baron, 2016; Hashim, Nor, and Janor, 2016; Mohamed Razi, MohdTamrin&Hussin, 2017). Yet, there are limited studies of s-commerce focusing on consumer intention to purchase recorded in Malaysian perspectives. More specifically on how good is the ratings, reviews and recommendation will have an impact to the buyer's intention to purchase. These seem crucial because in social media, users share their knowledge and experience on goods and service and may possibly influence others.

LITERATURE REVIEW

S-commerce

Social commerce (S-commerce) is a subset of e-commerce (Hajli, 2014a). It's an invention of technological advancement that introduce a new type of online business models. S-commerce emergence from the increasing popularity of social media platform such as Facebook, Whatsapp, Instagram, WeChat, Twitter or web blogs. At the earlier stage of the introduction of online shopping, consumers primarily relies on the use of traditional online shopping such as web sites to reviews, purchase or subscribes the products and services offered. Contradict with traditional online shopping, the current trends however showed that there are billions of people engaging to social networking sites (Hashim, Nor, Janor, 2016) and it has increase the popularity of s-commerce. Social media platform not only allowed people to communicate with other people but also allowed people publicize their personal evaluation of purchased products (Hashim, Nor, Janor, 2016) such as reviews, rate and recommend the products and services to their social media friends (Fuller, Muhlbacher, Matzler&Jawecki, 2009; Hajli, 2015).

S-commerce are defined very broadly by prior researchers in numbers of studies. One of it are refers to the delivery of e-commerce via social media platform (Liang, Ho, Li & Turban, 2011) which based on more personal, interactive and social relation (Marden & Chaney, 2012). Yadav, Valck, Hennig-Thurau, Hoffman and Span (2013) later provides a more comprehensive definition by defining s-commerce as an exchange-related activities that occur in, or are influenced by an individual's social network in computer-mediated social environment, where the activities correspond to the need recognition, pre-purchase, purchase, and post-purchase stages of a focal exchange. As numerous definition has been given by various researchers, this study adopting the definition by Ng (2013) that defines s-commerce as the online transaction activities initiated through social media channel (such as Facebook, Twitter, WhatsApp, You Tube, Instagram, Online forum, Web blogs etc.), which entails business transactions through either social media or other e-commerce sites.

At present s-commerce is a promising phenomenon (Hajli, 2015; Hashim, Nor, and Janor, 2016) and has growing tremendously in practice (Wang & Zhang, 2012). According to MCMC Quarter 2 2015, Malaysia has over 21,056,126 internet users with 20,650,133 users on top social network sites. Additionally, majority of internet users used social media as their preferred source of information with 86.9% internet users obtained information from the social media (MCMC statistics, 2016). This is then justifiable by the study of Hashim, Nor, and Janor (2016) that claimed the emergence of s-commerce in Malaysia are largely caused by the increase use of social media. This is due to users who are browsing the social media platform are expose more to the products and services advertisements and information blended with video, images and communication platform for them to communicate with the sellers (Hensel & Deis, 2010; Hashim, Nor, and Janor, 2016). It is estimated that digital revenue from social media advertising are increasing from 2016 to 2017 by RM 1,336.85 million to RM 1,523.19

million respectively (Malaysia Digital Association, 2016). With this estimated revenue from social media, it is predicted that the use of s-commerce will be growth over time.

S-commerce Features

In the nature of online shopping, consumers are facing barriers to experience the products. Thus comments, reviews and ratings become vital supports for other potential customers (Do-Hyung, Jumin & Ingoo, 2007). The advancement shape of s-commerce has facilitate consumers' ratings and reviews, and recommendation on the products and services offered on the social media (Hajli, 2015). S-commerce enable consumers to access to the ratings and reviews and recommendation of other social media users. This function has significantly influence consumers in the decision making process of buying. The theoretical foundation framework was grounded by the study of Hajli (2013). Hajli (2013) identified that consumers' ratings and reviews, and recommendation are part of the s-commerce features to be important in understanding and explaining consumers' intention to purchases.

Ratings and Reviews

In the era of web 2.0 technologies, consumers are able to express their opinions and feelings towards products and services through ratings and reviews features provided by s-commerce applications (Hajli, 2014b; Chen, Xu &Whinston, 2011). This features enabled social interactions between customers and allow them to obtain more information about the product that they are interested to buy. In addition, support them in their online shopping decision (Hajli, 2014a). According to Do Hyung, Jumin, &Ingoo (2007), consumers like to publish their knowledge and experiences they gained from online purchasing.

Moreover, many potential customers would prefer to read the comments and feedbacks posted by previous buyer before proceed with the online purchasing in order to build their confidence and trust about the products and to avoid the risk of fraud (Lee, Cheung, Sia, & Lim, 2006). However, research shows that consumers are having difficulties to believe the reviews given by unknown members or outsider. They prefer to rely only on information written by their friends and family-members (Sinha & Swearingen, 2001). This is because of the existence of fabricated information produced by third-parties (Chris, Anindya, &Batia, 2008). Furthermore, it is argued that the ratings and reviews produced in the social media reduced the demand of products advertising (Yubo & Jinhong, 2005). Hence, ratings and reviews are capable of giving useful information to consumers (Hajli, 2014a).

Hajli & Sims (2015) found that ratings and reviews generated by other consumers give a positive impact to other online shoppers and increase their intention to buy. Besides, Purnawiran, De Pelsmacker& Dens (2012) considered these features are very helpful in convincing consumer's decision to purchase a product based on the opinion and influence created by previous users. Thus, these user-generated content provided in social media have turn into valuable source of online shopping decision making (Hajli, & Sims, 2015) and can help consumers to make an appropriate purchasing decision (Huang, & Benyoucef, 2013).

Recommendations

Recommendation is one of the most crucial elements in s-commerce (Hajli, 2015). Sinha and Swearingen (2001) earlier has found that consumers more prefer to believe others recommendation. According to Wang & Zhang 2012, rcommendation is used by one or many users to facilitate the personalized contents to another users in online social network. Generally, two approaches have been used to provide personalized contents in order to receive users' preferences: implicit and explicit (Li, Wu & Lai, 2013). The implicit approach use to gathered users' behaviors to generalize their choices (Choi, Yoo, Kim & Suh, 2012), while explicit approach used to analyze others users' feedback to derive users' specifications (Schafer, Konstan & Riedl, 2013).

Purchasing using s-commerce limits users from experienced the products itself. Contradict from traditional business model, customers are able to touch, feel and easily obtain the information from designated staff. Hence, due to this constraint, potential s-commerce customer should rely more on other consumers' experiences such product recommendation (Senecal & Nantel, 2012). This is in line with prior study by Hajli (2014a), recommendations are said to be another instrument to gather information about the products. Past studies shown that

potential consumers are more interested in other users' recommendations rather than just vendor-generated product information (Ridings & Gefen, 2004).

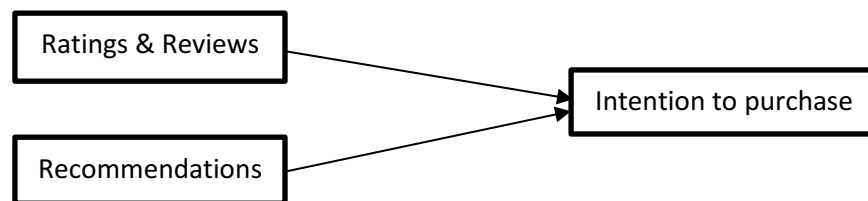
The electronic decision-making aids such as recommender systems were developed to fulfil this needs. The fundamental aimed of this system is to help and provide impersonal information sources to s-commerce consumers (Ansari, Essegai, & Kohli, 2000). Bossenbroek and Gringhuis (2013) believes that the recommender system is proven to be giving impact to financial performance as well as the intensity of the dialogue with customer in 3 ways: turning the browsing into buying, increasing cross-selling, and building loyalty. The recommender systems also can help users identify the items that suit their needs or preferences in an effective way (Li *et al*, 2013). This is proven that recommendation is essential tool in influencing consumers' purchase intention.

Intention to Purchase

Online purchasing intention has been subject to extensive research (Zarrad & Debabi, 2012). It is believed that, the growth of s-commerce has increased the intention to purchase products and services through social media. Ajzen (1991) proposed that intentions are presumed to be an indicator of to what extent people willing to approach certain behavior and how many attempts they are trying in order to perform certain behavior. Meanwhile, in the perspective of online shopping, online purchasing intention is the context to which a customer shows readiness to undertake an online transaction (Ling, Chai, & Piew, 2010). Brown, Pope and Voges (2003) define purchase intention in social media context as consumers' attentions to purchase a product which they have seen on a social media sites. Ng (2013) later defined purchase intention in details views as the perceptions and intentions to accept information on social network and friends' product recommendation or review when purchasing a products based on the information on an e-commerce sites. For the purpose of this study, researchers adopted definition of intention to purchase by the study of Hajli (2015) that outline intention to buy as customers' intention to engage in online buying in social networking sites.

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework.



RESEARCH METHODOLOGY

This study attempts to determine the effect of s-commerce features on consumers' intention to purchase. Thus the empirical study were conducted. Research design, data collection method, measurements and respondents are describe in this section.

This study has developed based on three constructs: ratings and reviews, recommendations and intention to purchase. Questionnaire based on the prior studies were developed to measure the constructs. The items used to measure the constructs were adapted from the prior studies by Lu and Hsiao (2010), Han and Windsor (2011), Mikalef, Giannakos and Pateli (2013), Hajli (015). All the items in this study have been used and validate in the prior studies. Minor changes were made in the items to ensure the items are fit the current research context and target respondents. Based on the items, respondents were asked to indicate their level of agreements using 5-point Likert scale ranging from "strongly disagree" and "strongly agree". The questionnaire was divided into two sections. Sections A designed to gather

respondents' demographic profiles, meanwhile in section B, gather the level of respondents agreements on the constructs items.

The data was distributed and collected through self-administered to 350 social media users that have at least used to purchase through social media before using convenience sampling technique. Using this technique means members of the population who are conveniently available to participate in the study are chosen, as there is no information about the specific population of s-commerce users can be accessed. The questionnaire was pilot tested by 30 lecturer in the different area including accounting, information system, finance, business and management to ensure that the questionnaire were clearly understood by the respondents.

DATA ANALYSIS

Data were collected from 350 social media users. In order to ensure to have a reliable results, the respondents must at least perform one purchasing through social media platform. A total 330 responses were returned. 13 questionnaire were dropped due to incomplete respond. Hence, only 317 questionnaire usable to determine the results. Data were analyses using SPSS version 2.3.

Table 1: Descriptive Analysis (demographic profiles, n=317)

	Frequency	Percentage %
Gender		
Male	108	34.1
Female	209	65.9
Age		
< 30 years old	174	54.9
30 to 35 years	91	28.7
36 to 40 years	31	9.8
41 and above	21	6.6
Frequency		
Several times a week	19	6.0
Several times a month	78	24.6
Once a month	65	20.5
Less than once a month	155	48.9
Never	0	0

The total valid respondents included 108 males and 209 females. The respondent's age range was from below 30 years old with more than 50% of respondents. Meanwhile, age range from 30 to 35 years old with 28.7%, 36 to 40 years old with 9.8% and 41 years old and above with 6.6%. The respondents also were asked about their frequency of purchase through s-commerce. Majority of respondents purchase products through s-commerce less than once a

month with approximately 48.9%, followed by several times a month, once a month and several times a week with 24.6%, 20.5% and 6.0% respectively.

Table 2: Reliability Test

Constructs	Cronbach's alpha	No. of items
Recommendations	0.803	7
Ratings and reviews	0.860	8
Intention to purchase	0.898	6

Internal reliability was verified with all composite reliability value was exceed 0.70 threshold. Table 2 disclose all items in each constructs have a good internal consistency with the value of Cronbach's alpha of 0.80 and above. According to Cronbach (1951), the higher alpha is better. Tavakol and Dennick (2011), also stated that Cronbach's alpha that ranging in between 0.70 - 0.95 is acceptable by most researchers.

Table 3: Pearson Correlation Analysis

		Recommendation	Ratings & Reviews	Intention to purchase
Recommendation	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	317		
Ratings & Reviews	Pearson Correlation	.844**	1	
	Sig. (2-tailed)	.000		
	N	317	317	
Intention to purchase	Pearson Correlation	.553**	.552**	1
	Sig. (2-tailed)	.000	.000	
	N	317	317	317

** . Correlation is significant at the 0.01 level (2-tailed).
N= 317

Pearson correlation as shown above represent that the correlation exist between every pair of construct as the p-value is not more than a significance level of 0.05. Meanwhile, the R-value are not more than 0.90. This concluded that there is no multicollinearity discovered.

Table 4: Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Sig.
		B	Std. Error	
1	(Constant)	.761	.219	.001
	Recommendation	.370	.106	.001
	Ratings & reviews	.354	.102	.001

**Dependent variable = Intention to purchase
N= 317**

The results from table 4 prove recommendations and ratings and reviews have a positive relationship on intention to purchase through s-commerce. Both independent variables p-value is less than 0.05. Recommendations have the strongest impact on intention to purchase as it has the largest β value compared to ratings and reviews.

CONCLUSION AND DISCUSSION

In the present environment, s-commerce has create a new trend of online business model. Social interaction through Internet has shaped a new forms of inter-connectivity and relationship among social media members (Hajli, 2015). The advancement of social media platform add value for both firms and customers. For instance potential customers can easily access to their friends' recommendations, ratings and reviews before make any decision on online purchasing. Prior studies highlighted communities will become a main factor to attract new customers as potential customers are more interested in others people recommendation rather than the product information itself (Ridings & Gefen, 2004). Do-Hyung et.al. (2007) added customer reviews surely do influence purchasing intention. This empirical study findings has confirm the prior studies hypotheses by reveals the recommendation and ratings and reviews have a significant relationship on intention to purchase in the context of s-commerce. To date recommendations and ratings and reviews not only give comprehensive information about products (Hajli, 2015) but also has transform as medium of communication between potential customers with customers and also between customers and business. It becomes a new channel of customer relationship management (Hajli, 2013). Customer are allowed to give their feedback on the products and services and online seller also will be able to give their responses and interact with their customers.

Developed an online store that socially rich is a major challenges to the businesses (Kumar, Novak, Tomkins, 2010). The main contribution of this empirical study is as an added value for business and marketers to attract more s-commerce customers. The results are expected to help o improve s-commerce marketing strategies (Liang & Turban, 2011). As s-commerce continues in gaining popularity and demand, businesses need a strong foundation to strengthen their strategic decision on how to engage and influence their customers (Hoffman & Novak, 2012) through social network at the same time act as a booster for brand loyalty and enhances the communication channel. This study is only focus on two s-commerce constructs suggest by Hajli (2013) and practically applying convenience sampling technique. As an outcome, the results generated from this study may be biased and not represent the hold idea of intention to purchase among s-commerce users. In sense of future improvement, this study is expected to motivate future research to discover more area of s-commerce constructs for different perspectives.

REFERENCES

- Ajzen I (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes* 50, 179-211.
- Ansari, A., Essegai, S. & Kohli, R. (2000). Internet recommendation systems JMR, *Journal of Marketing Research*; Aug 2000; 37, 3; ABI/INFORM Global pg. 363
- Bossenbroek H., Gringhuis H., (2013). Recommendation in e-commerce. *Luminis recommendation services*. pp. 1-5.
- Brown, M. Pope, N. & Voges, K. (2003) "Buying or browsing? An exploration of shopping orientations and online purchase intention", *European Journal of Marketing*, Vol. 37 Iss: 11/12, pp.1666 – 1684
- Chen, J., Xu, H., &Whinston, A.B. (2011) Moderated online communities and quality of user-generated content. *Journal of Management Information Systems*, 28(2), 237-268.
- Choi, K., Yoo, D., Kim, G., and Suh, Y. (2012). A hybrid online-product recommendation system: combining implicit rating-based collaborative filtering and sequential pattern analysis, *Electronic Commerce Research and Applications* 11 (4) 309–317.
- Chong, A. Y.-L., Chan, F. T., & Ooi, K.-B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support Systems*, 53(1), 34-43.

- Chris, F., Anindya, G., & Batia, W. (2008) Examining the relationship between reviews and sales: The role of viewer identity disclosure in electronic markets. *Information System Research*, 19(3), 291-313
- Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297-334.
- Do-Hyung, E, Jumin, L. & Ingoo, H. (2007). The effect of on-line consumer reviews on consumer purchasing intention: the moderating role of involvement. *International Journal of Electronic Commerce*, 11, 4, pp. 125-148.
- Fagerstrøm, A., & Ghinea, G. (2010). Web 2.0's marketing impact on low-involvement consumers. *Journal of Interactive Advertising*, 10(2), 67-71.
- Füller, J., Mühlbacher, H., Matzler, K. & Jawecki, G. (2009) Consumer empowerment through internet-based co-creation. *Journal of Management Information Systems*, 26, 3, pp. 71-102.
- Gefen, D. (2000). E-commerce: the roles of familiarity and trust. *Omega*, 28, 725-737.
- Hajli, N. (2013) "A research framework for social commerce adoption", *Information Management & Computer Security*, Vol. 21 Issue: 3, pp.144-154, <https://doi.org/10.1108/IMCS-04-2012-0024>.
- Hajli, N. (2014a). The role of social support on relationship quality and social commerce. *Technological Forecasting and Social Change*, 87, 17-27.
- Hajli, N. (2014b). A study of the impact of social media on consumers. *International Journal of Market Research*, 56(3), 388-404.
- Hajli, N. (2015). Social commerce constructs and consumer's intention to buy. *International Journal of Information Management*, 35(2), 183-191.
- Hajli, N., Julian Sims (2015) Social commerce: The transfer of power from sellers to buyers. *Technological Forecasting and Social Change*, 94, 350-358.
- Han, B.O. & Windsor, J. (2011) Users' willingness to pay on social network sites. *Journal of Computer Information Systems*, 51, 4, pp. 31-40.
- Hashim, N. A., Nor, S. M., & Janor, H. (2016). Riding the waves of social commerce: An empirical study of Malaysian entrepreneurs. *Malaysian Journal of Society and Space*, 12(2), 83-94.
- Hensel, K. & Deis, M.H. (2010) Using Social Media to Increase Advertising and Improve Marketing. *The Entrepreneurial Executive* 15, 87-97.
- Hoffman DF, Novak TP (2012) Why Do People Use Social Media? Empirical Findings and a New Theoretical Framework for Social Media Goal Pursuit. Available from: SSRN: <http://ssrn.com/abstract=1989586> or <http://dx.doi.org/10.2139/ssrn.1989586>.
- Huang, Z., Benyoucef, M. (2013). From e-commerce to social commerce: A close look at design features. *Electronic Commerce Research and Applications*.
- Huang, Z., Benyoucef, M. (2013) User-centered investigation of social commerce design, 287-295.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Isa, N. F., Salleh, N. A. M., & Aziz, A. A. (2016). Determinants and Impact of Online Social Interac-tion on Online Buying Behaviour. *Procedia-Social and Behavioral Sciences*, 219, 352-358.
- Kim, D. J., & Song, Y. I. (2005). A multidimensional trust formation model in b-to-c e-commerce: A conceptual framework and content analyses of academia/practitioner perspectives. *Decision Support Systems*, 40(2), 143–154.
- Kim, Y. H. (2011). Market analysis and issues of social commerce in Korea, *KISDI*, 23 (11), 41-63
- Kumar, R., Novak, J. and Tomkins, A. (2010), "Structure and evolution of online social networks",in Yu, P.S.S., Han, J. and Faloutsos, C. (Eds), *Link Mining: Models, Algorithms, andApplications*, Springer, New York, NY.
- Lee, Y.-K., Kim, S. Y., Chung, N., Ahn, K., Lee, J.-W., Baron, S., & Baron, S. (2016). When social media met commerce: a model of perceived customer value in group-buying. *Journal of Services Marketing*, 30(4).
- Li Y-M, Wu C-T, Lai C-Y (2013). A social recommender mechanism for e-commerce: Combining similarity, trust and relationship. pp. 1-10.
- Liang, T., & Turban, E. (2011). Introduction to the special issue social commerce: A research framework for social commerce. *International Journal of Electronic Commerce*, 2(16), 5–13.
- Liang, T.-P. & Turban, E. (2011) Introduction to the special issue social commerce: a research framework for social commerce. *International Journal of Electronic Commerce*, 16, 2, pp. 5-14.
- Liang, T.-P., Ho, Y.-T., Li, Y.-W. Sc Turban, E. (2011) What drives social commerce: the role of social support and relationship quality. *International Journal of Electronic Commerce*, 16, 2, pp. 69-90.
- Ling K.C, Chai L.T & Piew T.H (2010).The Effects of Shopping Orientations, Online Trust and Prior Online Purchase Experience toward Customers' Online Purchase Intention. *International Business Research* 2010; 3(3): 63-76.
- Lu, H.-P & Hsiao, K.-L. (2010) The influence of extro/introversion on the intention to pay for social networking sites. *Information & Management*, 47, 3, pp. 150-157.
- Luca Salvatori, Fausto Marcantoni (2015) Social commerce: A Literature Review. *Science and Information Conference* (257-262).
- M. K. Lee, C. Cheung, C. L. Sia& K. H. Lim (2006) How positive informational social influence affects consumers decision of internet shopping?
- Marsden, P.&Chaney, P. (2012) *The social commerce handbook: 20 secrets for turning social media into social sales*, McGraw-Hill, New York, NY, New York, NY, 2012.
- Mikalef, P., Giannakos, M. &Pateli, A. (2013). Shopping and Word-of-Mouth Intentions on Social Media. *Journal of Theoretical and Applied Electronic Commerce Research*. 8(1): 17-34. DOI: 10.4067/S0718-18762013000100003.
- Mohamed Razi,MJ.,MohdTamrin,MI.,&Hussin, H. (2017). Social commerce behavior among university students in Malaysia in Zulikha, J. & N. H. Zakaria (Eds.), *Proceedings of the 6th International Conference of Computing & Informatics* (pp 350-355). Sintok: School of Computing.

- Mohana.S.,Shiwen, S., Asra, A., Farzad, K., (2016) The applications of social commerce constructs. *International Journal of Information Management*, 36, 425-432.
- Mohd, F. &Rosli, M.H. (2015). Social Commerce (S-Commerce): Towards The Future Of Retailing Market Industry. *I J A B E R*, Vol. 13, No. 7 : 5977-5985
- Ng, C. S.-P. (2013). Intention to purchase on social commerce websites across cultures: A cross-regional study. *Information & Management*, 50(8), 609-620.
- Pitta, D.A., Fowler, D., 2005. Online consumer communities and their value to new product developers. *J. Prod. Brand. Manag.* 14 (4/5), 283–291
- Purnawirawan, N., De Pelsmacker, P., & Dens, N. (2012) Balance and sequence in online reviews; how perceived usefulness affects attitudes and intentions. *Journal of Interactive marketing*, 26, 4, 244-255.
- Ridings, C.M. and Gefen, D. (2004), "Virtual community attraction: why people hang out online", *Journal of Computer-Mediated Communication*, Vol. 10.
- Schafer, J.B., Konstan, J.A., Riedl, J. (2001) E-commerce recommendation applications. *Data Mining and Knowledge Discovery* 5 (1–2) 115–153.
- Senecal, S., & Nantel, J. (2004) The influence of online product recommendation on consumer's online choices. *Journal of Retailing*, 80(2), 159-169.
- Sinha, R. & Swearingen, K. (2001) Comparing recommendations made by online systems and friends. In *Proceedings of the DELOS-VSF Workshop on Personalization and Recommender Systems in Digital Libraries*.
- Shin, D.-H. (2013). User experience in social commerce: In friends we trust. *Behaviour & Information Technology*, 32(1), 52–67.
- Tavakol, M., &Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, 2, 53.
- Wang C., & Zhang P (2012) The Evolution of Social Commerce: The People, Management, Technology and Information Dimensions. *Communications of the Association for Information Systems* 31(5), 105-127.
- Yadav, M.S., Valck K.D., Hennig-Thurau T., Hoffman D.L., Span M. (2013) *Journal of Interactive Marketing*, 27, 311-323.
- Yung-Ming Li, Chung-Te Wu, Cheng-Yang Lai (2013) A Social Recommender mechanism for E-Commerce: Combining Similarity, Trust, and Relationship, 1-3.
- Yubo, C., &Jinhong, X. (2005) Third party product review and firm marketing strategy, *Marketing Science*, 24(2), 218-240.
- Zarrad, H., &Debabi, M. (2012). Online Purchasing Intention: Factors and Effects. *International Business and Management*, 4(1), 37-47. Available from: URL: <http://www.cscanada.net/index.php/ibm/article/view/j.ibm.1923842820120401.2115>

Mechanism to Develop Employee Engagement in a Business Organisation: Evidence from Business Organisation in Penang, Malaysia

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Abstract

Business entity either small and medium scale enterprises (SME) or manufacturing based entity play a big role towards economic growth in Malaysia, and in order to continue to sustain and elevate the economic growth, every business entities need to continue to sustain their larger asset in organisation, which is human capital. The focus of this paper to study on the relationship of four independent variables, mainly employees trust in management, perception on job security, elements of essential reward, and positive work environment towards developing employee engagement in a business entity towards achieving organisation objectives. A stronger employee engagement will bring a positive financial bottom-line, cohesive operational integration and sustainable business environment for an organization that would motivate employees to perform at effectively. This resulted in elevate higher organizational standards in entity performance. Social Exchange Theory and Motivation Theory are applied as reflection of employee engagement formulation. Empirical studies were conducted with data collected from employees from two business entity in Penang, Malaysia. Participant in the research was ranging from non-executives, executives and management level. Though this study, researcher found that elements of employees trust to their management, existence of elements of essential reward, and positive job environment contribute towards engaged employee for their business entity. This result gives suggestion for corporate captain on mechanism to develop the successful employee engagement.

Keywords: Employee engagement, Social Exchange Theory, Motivation Theory;

INTRODUCTION

Malaysia's economic performance recorded an average 5.3 percent or USD 315 billion in GDP for economic growth in the past 5 years from year 2011 to 2015. Asia Development Bank projected Malaysia's GDP will be 4.4 percent in 2017, the number is relatively low as compared to other South East Asia countries. World Bank recognised Malaysia as the highly open, upper middle economy, the near term economic outlook remains favourable due to well-diversified economical portfolio. Malaysia's goal is to become a high income nation, increase in quality of human capital and create more competition in the economy. These goals are critical to ensure Malaysia is on target to achieve continuous economic growth year on year.

Malaysia economic performances are highly dependent to business entities which consist of Small Medium Enterprise (SMEs) as well as manufacturing-based and service oriented-based to support and sustain economic growth. Business entities are the locomotive to power the substantial economic activities in the country. Malaysia SME Corporation, a governance agency formed to support and sustain Malaysia SMEs growth, has shown that SMEs contributed over 30% to Malaysia GDP, and the contribution was seen growing from year 2010 to year 2014. Concurrently, services and manufacturing industry contributed to 90% to overall economic growth. In view of employment capacity, more than half of the Malaysian working population are employed by business entities especially SMEs, and in year 2014 the number had increased to 65 percent. Contribution from SMEs should not be ignored especially Malaysia target to be high income nation by year 2020. One of the key factors to achieve the target is to have the high quality workforces that able to increase the productivities.

As most of the human resources related researches were focus on the big enterprise due to their corporate structure, establishment and ease to access to data, business entity in the SMEs sector was the area largely ignored by the researchers despite their contribution are equalise or larger than the big enterprises (Hayton, 2004). Malaysia recorded 6 percent for involuntary turnover and 9.5 percent in employee voluntary turnover in year 2015 which was second highest and third highest respectively among South East Asia countries. These data indicated that Malaysian workforce turnover is relatively high compare to its ASEAN neighbouring countries and the top three reasons contributed to these changes were: better external opportunity, further studies and work life balance. The total cost of losing one employee is higher than what most of business owner has expected. The total opportunity cost included cost of hiring new employee, cost of on boarding, lost productivity, lost engagement, training cost and cultural impact, these cost add up to be a lump sum as much as twice of annual salary of the employee left the organisation (Bersin, 2013). Most of the new employees are the cost to organisation and over time with right talent management approaches, the investment on the employees start to generate positive return to the businesses. Current best practise should consider employee as business entity investment where it should be known as human capital development rather than human resources management (Bersin, 2013; Muthuveloo, 2013). Therefore, losing those valuable human capital assets without the right retention is not only harmful to the organisation businesses, but also harmful to Malaysian economic performance especially Malaysian talents moving out to other countries.

Role of human resources managers in a business entity began to evolve from being a mere implementer towards more strategic business partner as it should part for organisation business formulation strategy. It leads to selecting right manpower for business entity resources whom able to implement company mission, vision and corporate strategy. Employee engagement exists when an employee has clear understanding of organization goal and motivated as well committed to help organization achieving its goal (Muthuveloo, 2013; Azhar, 2017). Developing employee engagement, business entity management need to create organizational goals and values that are readily accepted by the employees, motivate its employees towards achieving the goals via the set business values. This can be achieved by providing a conducive and harmonious working environment. Within the context of this paper, the authors attempt to analyse the approach to develop employee engagement elements in business entity by comparing two companies. The human resources elements that would be studied include elements of employees trust to their organizational management, their perception on job security, existence of elements of essential reward, and positive job environment. The authors are looking for practical mechanism in maintaining employee in their business organization in the long term basis with intention to achieve the organization goal.

Objective is to study employee engagement towards embracing organizational change in SME business entity with its relations the following independent variables i.e. level of trust in management, employee's job security, intrinsic rewards and the overall job environment. These three elements are considered to contribute high employee engagement in a business entity. The authors are finding an answer for following questions; does trust in management in business entity organization effect employee engagement, could perception on job security give impact to employee engagement, possibility on elements essential rewards in contribute in developing employee engagement and lastly on does job environment in effect employee engagement in the Malaysian business organisation towards achieving their organisational goal. Reflecting in prism of two theoretical concepts consist of Social Exchange Theory (SET), and motivational theory which believe to contribute to high level of workforce engagement as it highly discussed in employee engagement literature.

There is lacking of human resources related research in business entities such as SMEs whereby a good number of publications about SMEs but mostly were focusing on finance, marketing and operational management. The SMEs generally being perceived as autocracy and lack of resources of time, money and people to utilise the advance management strategies Recent research has shown a good positive linked of organisation culture important to boost employee's confidence, self-esteem and work performance, as the culture instil and stimulate share beliefs, values and assumption that guide and provide meaning to employees (Adrian, 1999; Kinnie, et. el., 1999; Reis et. al., 2016). Insufficient researches about the workforce engagement in SMEs throughout our research from various sources, and the linkage

for SMEs organisation embracing organisational change to enhance employee engagement in Malaysia context were totally out of sight.

LITERATURE REVIEW

Encouraging the employee to voluntarily engage to company's business goals are some challenges faces in human capital management. High engagement from employee will resulted to high productivity and lead to achieving business goals as well as strengthening market positioning. Employees who are committed to company values will perform in their abilities to meet customer demands effectively, delivering superior customer services, leading to customer satisfaction and increasing sales returns. Indirectly these employees are organizations resources giving the firm competitive advantage (Kumar & Pansari, 2016; Lightle, et al., 2015; Eldor & Gadot, 2016)

Theory applied in relation to employee engagement.

Towards the proposed research, the author intention would be more focusing on engagement of employees in SME's. The research focused more on the service oriented SMEs and these two main theories – Social Exchange Theory (SET) and Motivational Theory – are been assimilate in evaluating the engagement of their employees. Our belief based on assumptions that engaged workforce eventually lead to betterment of business financial performance (Leghtle, et al., 2015; Kumar & Pansari, 2016; Eldor & Gadot, 2016) as these engaged employees entice greater consumer satisfaction leading to higher participation to the company products or services. Such employee engagement becomes critical driver of today's business success especially in competitive and uncertain market conditions. These two main theories shall be discussed further.

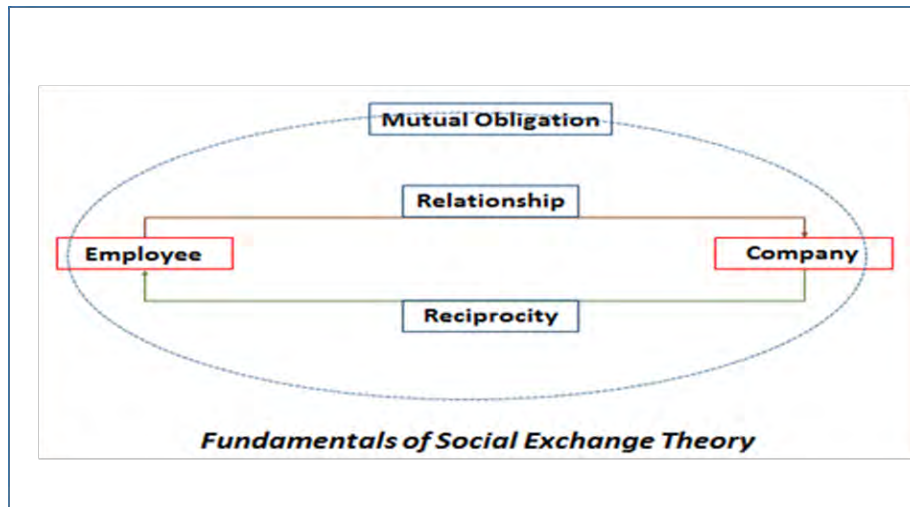
Motivational Theory

Employee compensation on their contributions to firms is parallel with motivational theory. It argued compensation and rewards reinforce motivation for improved individual performance. Those whom been rewarded and recognise by their firm are expected to repeat positive behaviours. In summary, business firms' uses compensations and rewards as mechanism to elicit, enhance and maintain desired sharing behaviours among their employees (Chee et al., 2011). Motivation plays vital role for individual role to achieve success and motivated employees can become great benefits to business firms. Individual feel more motivated if they were treated fairly without discrimination within their organizations. Career development planning, flexible welfare policy and employee engagement may positively motivate employee engagement (Bhatti et al., 2016; Jian et al, 2015). Achievement of organizational goal requires a person to allocate his or her time or energy across behavior of tasks, including evaluating and prioritising action. Goal directed motivational processes stimulate employee engagement in generating and implementing new and use full ideas. Once employee began to visualize their goal, then it will be translated into their behavioral guides and motivators with the critical functions of providing a sense of purpose and direction as well as supporting behavior that are oriented towards achieving the goals (Odoardi, 2014).

Social Exchange Theory

Employee to be engaged into their work roles, he or she will be devoting greater amount of cognitive, emotional and physical resources as reaction method towards organization's action. When employee received certain resources (in terms of cognitive, emotional, physical and financial) from their business organization's leaders, this will make them feel obligated to repay the organizations with greater level of engagement. Therefore, employees received rewards and recognitions from their organizations will make the employee feel obligated to respond with higher level of engagement. It shown that when both parties – employee and management – abide these exchange rules, such results will lead to more trusting and loyalty relationship and mutual commitments (Saks, 2006).

Figure 1: The fundamentals of SET



Fundamental aspects of SET consist of three main elements as shown in Figure 1 which consist of these three main elements (Elder and Gadot, 2016) are;

- (i) Relationship - the employee – organization relationship where one party bestowing a benefit of the other,
- (ii) Reciprocity - the employer reciprocates (ie. repay) with benefit, and
- (iii) Exchange - Benefit of exchange occurs creating mutual obligations.

In relation towards employee engagement view; it shown that engaged employee has high level of energy, these employees are proactive and able to take such responsibility. They are also shown enthusiastic and enjoying such connection with their work. Business managers must understand important of SET by providing employees with resources and benefits. Such reciprocity will oblige employee to much higher engagement (Saks, 2006; Eldor & Gadot 2016). Management supports added with co-worker's supportive culture ensure the entire organizations employee high level of involvement, creating innovative in work and a healthy work atmosphere will be created with good interpersonal harmony among fellow employees in the same organizations resulting to positive work culture (Prieto & Santana, 2012; Anitha, 2013). When positive perception of practices perceived lead to high level of engagement is the result form mutual obligations between both parties based on foundation of trust and inclusion. High employee engagement leads to high customer's engagement and this situation is much favourable business firm's as profit will be much higher compare to those firm with low engagement (Downey et al., 2015; Kumar & Pansari, 2016).

In summary, researcher argue that SET and Motivational Theory be applied in our proposed research. These theories are spectrum that reflects employee engagement in participating their business firm goal. Harnessing positivity as firm internal culture with recognitions from management will make their employee to be much engaged, mutual obligations arise and it will positions firm at competitive advantages against other competitors.

Trust in Management

The elements of employee trust to their management is important as it contribute to success of organizational itself. One of the argument arise on which question in a neither organization nor public sector that the trust among employee to employer very important to be successful corporation and to achieve the organizations goal. That is the reason there is an increasing of the number of studies that involving the trust management nether individual or worldwide organization, and the authors observed that the employee trust is one of the moderate variable to the positive relationship in organization (Paliszkievicz, 2011; Brown, 2014).

Existence of trust management is a mechanism which help employers or managements to have more engage with employees and increase their work efficiency. Trust in the organization itself is also help in human capital management development which can be achieved with a great team work among the employee and clear communications to each other

especially from management to the operation line. Such trust to the management will help management teams to have better investment strategy as existence of trust from the employees to employers lead to better decision making. Therefore, employees will have less resist to management decision change if they are well trust with their employment which always shared the information and trust to employees, and the employees will increase the level of their job satisfaction (Paliszkievicz, 2011; Sanders, 2012).

Trusting the management become a precious commodity for an organization to have as employees will feel more comfortable, well working and less likely to leave the organization and joint the competitors. Once such elements of trust is loss, employees began to feel of loss in term of their job security, salary and benefits. Matter could become worst when organizational employees began to close any means communication with their management (Sanders, 2012; Komodromos, 2014). Some of strategic mechanism to develop trust from both parties could be achieved through regular sharing of business updates between management team and employees, developing a platform for employees to channel their ideas for management decision making, empowerment of trust by management to employees team in implementing solutions and began to train line managers to lead based in trust not enforcement or micromanagement (Sanders, 2012). The following hypothesis has been proposed:

H1 – Trust with company management creates POSITIVE affects to employee engagement in achieving organisation goal.

Job Security

Job security is important to incite employee to be engaged at with their organization. The challenges faces by Human Resources Manager is not just to retain talented employees, but also identify mechanism to encourage employee to be engaged with their organizational, capturing their minds and hearts at each stage of their work lives. Positive turnover rate may sometimes able to move an organization to a greater level of success at the same time increase organizational establish cost. On the other hand, Job security become one of important elements that will give impact to organizational as employee satisfaction to their work will increase their commitment and work harder once known that termination form organization is a strenuous process (Berry et al., 2008; Imran et al., 2015). Negative perception on certain changes in organizational goal which affect their work to be powerless may lead them to disengage with the organization (Jeon, 2009). Increase employee engagement required employer to inform employee on their job security status. Organizational productivity will increase as employee feel their have secure job with satisfaction to their work. Attitudes in workplace such as encouraging work satisfaction by employer, resulted to employees whom are willing to contribute great effort to their assign task. It is recommended that the employee perception on their job security level and affectively level has to be addressed in obtaining better health (Bosman, 2005; Imran et al., 2015). The following hypothesis is proposed:

H2 – Employee job security creates POSITIVE affects to employee engagement in achieving organisation goal.

Job environment

Employees spend many hours at workplace which will influences their personal behaviour. There are times when employee started to consider their stay at company would be worthwhile. Any employee decided to stay despite everything is bad around them but the rewards that they see outnumbered the risk for quitting a settle job but those who choose to quit shall quit even they have benefits of higher value (Yukl, 1981; Rafaeli & Sutton, 1987). Job environment as composition of three major sub-environments which include the technical environment, the human environment and the organisational environment. Technical environment refers to tools, equipment, technological infrastructure and other physical or technical elements of the workplace. Human environment includes the peers, others with whom employees relate, team and work groups, interactional issues, the leadership and management, it is also a formal and informal networking among colleagues, teams and boss-subordinate relationship within the organisations. Organisational environment refers to the immediate task and national environment where an organization draws its inputs, processes it and returns the outputs in form of products or services for public consumption (Oludeyi, 2015). Three types of job environments can categorise into two basic types, based on the influence they exert on the

people at work namely conducive and toxic environments. Conducive workplace environments provide good experiences to the employees and able to help them to actualize personality profile dimension and needs, however toxic workplace environments is another way that give stressful experiences and discourage employees' behavior. Positive job environment enable employee to contribute in achieving their business organisation goal. The following hypothesis is proposed:

H3 – Job environment create POSITIVE affect employee engagement in achieving organisation goal.

Essential Rewards

Satisfaction related to accomplishment of work is one of rewards make employees satisfied. These rewards could be either tangible or intangible in nature. An employee whom being transferred to a less interesting, less autonomous and less challenging task, would be creating a negative of changes in their work engagement compared to those who expect no change. Employees' well-being depends greatly on their ability to satisfy intrinsic needs such as the need for autonomy and self-determination (Oreg, 2006). Their essential and intrinsic values create engagement performance which has significant impact on business customers and their performance, basically resulted from outcome accomplished from such scope of work – keeping up with the plan while aiming for the result. It is important towards delivering customers satisfactions as it is more profitable to retain existing customers than to attract new one (Kumar & Pansari, 201; Anitha, J, 2013). Those who have higher sense of accomplishment will engage more towards the company direction. Employee identification been seen as “psychological state wherein and individual perceived themselves with their organizations are intertwined with success and failure of the organization brand and thus, employees are committed to the organization. Once employees feel that they are part of essential such as influencing over decision making process, it create sense of inclusion. Employee perception of inclusions found to strongly to strongly predict commitment and performance (Kumar & Pansari, 2016; Downey et al., 2015). Once, an employee will engage their energy, time and commitment to their work as they received high recognitions from management.

Positivity in employee's attitudes and perception directly related to high intrinsic valued which they treasured from their organizations. Positive pressure in stirring on employees to thrive for better performance required better knowledge sharing among these employees and their compensations much related towards management goals. Positive organizational culture in engagement process due to the fact that a positive workplace supports its employees. Building employee engagement call for many aspect of positivity in organization (Fong et al., 2011; Lightie et al., 2015; Parent & Lovelace, 2015). Positive contribution from employee to their organizations could be done though cultivating positive organizational culture and employee need to have positivity in their perception towards their organizations. Support from top line supervisors able to develop sense of engagement among the employees. Such support is result from trust by management to their employees. Trust is essential elements of any positive exchange relationship, and necessary prerequisite for interaction in the face of uncertainty and vulnerability. Management that instituting trust in their employees allows these employees to become fully dedicated and not to worry about their undesired actions. With high trust and integrative approach of Human Resources Management practices will increase employee satisfaction and commitment which consequently lead to remarkable organisational performance (Amin, et al., 2014; Downey et. al., 2015). The following hypothesis is proposed:

H4 – Intrinsic rewards create POSITIVE effects to employee engagement in achieving organisation goal.

Employee Engagement

In order to know the characteristics of organization, some necessary tools should be applied by employees to involve in the job and organization. This is known as an engagement. Employee engagement is necessary for a healthy organisation so there is lot of issues that needs to be discussed such as aspects of culture in employee engagement. In an organization most important part is change that will trigger the overall mood of an employee. These include the processes that are used in order to speed up the timings and frequency of change. In terms of an organizational work environment and culture will play an important part in order to

generate emotions in the process of change. The change of organization is terms as assumptions and belief (Jones, 1991; Schein, 2010). These changes deem crucial for organizational to achieve their strategic goals especially in uncertain global economic environment.

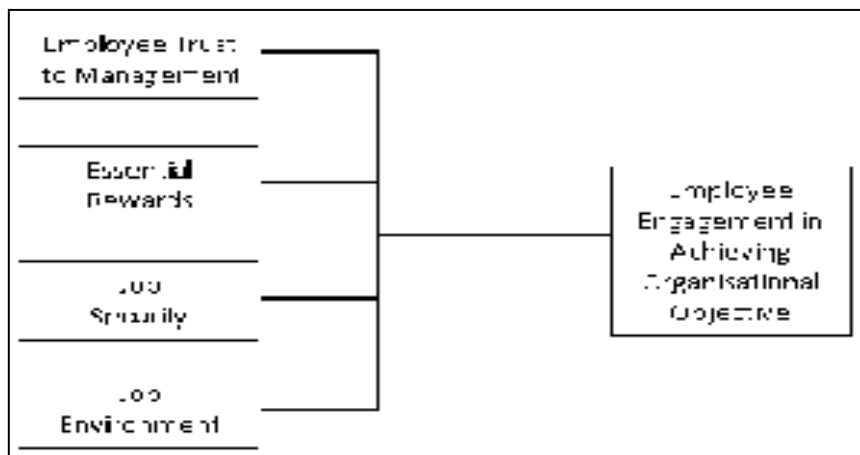
Engagement of employee towards their organizational objectives represents co-creation, interaction, solution development and so on, which all depends on the attitude driven the behaviours of customers and employees towards the business entity. It is represent the attitude, behaviour and level of connectedness (i) among customers, (ii) between employee and customers, and (iii) customers and employees within a firm. More positive the attitude and behaviour of employee will lead to a higher level of connectedness, the higher level of engagement. The employee feel obligated to bring themselves more deeply into their role performance as repayment for the resources which they received from the organisation. Once organizational fails to provide these resources, employee are more likely to withdraw and become disengage from their job assigned (Saks, 2006; Kumar and Pansari, 2016).

Therefore, employee engagement becomes critical business driver of today business organizational success in stay relevant and competitive in the market. It is definite factor in organizational success. Engaged employee are organizational builders. They will use their talents, develop productive relationships, and multiply their effectiveness through those relationships. These engaged employee performance is consistence and will drive innovation and move their organizational forwards. (Jian et al, 2015; Parent and Lovelace, 2015). Once the employee becomes more engaged, their work environment shall promote psychological safety, meaningfulness and availability. This will lead towards superior customer service, high quality work and increased productivity and innovative contribution resulted to increase customer satisfaction. This will increase sales and earnings and ultimately shareholders returns. In other words, employee engagement will boost organizational bottom line by positioning the firm at its competitive advantage from other industry player (Downey et al., 2015; Anitha, 2013; Eldor and Vigoda Gadot, 2016).

RESEARCH FRAMEWORK

Researcher would like to investigate the effects of the elements in independent variables on the employee engagement towards achieving organisational goal. As discuss earlier, the elements of independent variable consist of employee trust to management, essential rewards, job security, job environment. The research focuses on business organisational with small and medium size status as these organizational required being competitive and sustaining in uncertain global economic environment. The figure 2 show research framework.

Figure 2: Research framework on employee engagement in achieving organizational objective.



METHODOLOGY

The questionnaire questions have been design utilising 5 point Likert-scale for each questions. There are four question related to employee trust to management, six questions related to essential rewards, five questions on job security, ten questions on job environment and fifteen question related to employee engagement. Questionnaire itself has dual language as each question been design in English with translation in Bahasa Malaysia. Reason for providing dual language is to ensure respondents able to understand the question and provide their respond accurately as some of respondent unable to comprehend English language. Each question has been checked with expert in both languages to ensure complete translation as well as convey same meanings.

Data collection period started from November 2016 until January 2017 in two business organisations located in Penang Island, Malaysia. These two organisation has similarity in their employee composition and profit oriented based. One of the companies will be known as Walrus which is located at Bayan Lepas Free Trade Zone, Penang. Walrus has been operated for 20 years with more than 500 employees and involved in manufacturing of computer processing chips for major computer companies. Respondent from Walrus consist of 38 employees from various rank and departments. Another company is called Tiger which begin as supplier of foreign workers to manufacturing companies in year 2010 and currently starting to diversify in hotel business, properties and transport services. About 69 employees from Tiger participate in this survey whom ranging from various ranks in the organisation. Even though both organizational has different demographic in term of number of employee, industry background and formation of business entity, similarity arise as both business organizational top management team is planning new direction in their strategic planning. This strategic direction is crucial as both companies begin experiencing shrinking financial bottom line. Top management is proposing new business goal to their employees through various medium of communication to ensure high employee participation.

Figure 3: Value of Cronbach Alpha for Walrus and Tiger.

	<u>Walrus</u>	<u>Tiger</u>
<i>Employee trust to management</i>	0.729	0.627
<i>Essential rewards</i>	0.772	0.721
<i>Job security</i>	0.85	0.52
<i>Positive job environment</i>	0.83	0.703
<i>Employee engagement</i>	0.838	0.658

After collection of data, researcher began to perform analysis using Statistical Package for Social Science (SPSS). Result of data has been evaluated in answering the question of the research. Researcher found that questionnaire has valid respond as Cronbach Alpha test shown the result as in Figure 3. It makes the researcher believe that the question in the questionnaire is reliable and valid.

DATA ANALYSIS

Researcher objective is to evaluate on elements of employee engagement into their organizational goals. Similarity in data between both organisation has been compared such as value of means, standard deviation and correlation coefficient analysis. Result from analysis from both organizational is shown an interesting outcome which is shown in Figure 4. Comparing value of means and standard deviation, both values has shown central tendency which provide general overview of data without necessary inundating one with each of observation in data set. Correlation coefficient provide information related to relationship between elements of determinants and indication of dependent variable, which is employee engagement to achieve organisational goal; which value 0 indicate no existence of internal consistency and value 1 shown high level of consistency (Cavana et al., 2001; Brymen & Bell, 2011). Means value from both organisation has similarity in value but slight difference in the elements of job security which research still accept as differences is insignificant. Means value

on elements of employee trust towards their management has shown value of 15.24 for Walrus whereas 16.42 for Tiger. Whereby on elements of essential rewards has mean value of 24.92 and 26.32, job security has mean value of 18.34 and 20.67, positive job environment resulted with value of mean of 40.42 and 40.55 and employee engagement between Walrus and Tiger shown mean value of 53.33 and 56.22.

Observing the Pearson's Correlation Coefficient result, researcher found there are moderate level of consistency between each element. Relationship between employee trusts to management with their level of employee engagement shown value of .612 and .448 between Walrus and Tiger. Observing element of essential rewards towards employee engagement has shown moderate value of .398 and .604 for Walrus and Tiger. As for relationship between job security and employee engagement shown correlation value of .439 and .363 between Walrus and Tiger indicating weak positive relationship between both elements. Whereas, when evaluating relationship between positive job environment with employee engagement resulted to moderate positive relationship between both elements as value between Walrus and Tiger are .413 and .503 respectively. Though these results has made researcher to believe that elements of employee trust to management, essential rewards and positive job environment has moderate relationship with employee engagement. However, elements of job security has weak positive relationship with employee engagement. It seem logical as trust, rewards and good work environment are motivating factors that keep a person to contribute for their organisations.

CONCLUSION AND DISCUSSION

Success of business corporation depends on the high engagement of their employee towards jobs assigned. Achieving high level of employee engagement required commitment from employee but importantly commitment from top management team to value their employees. Once management team promise to provide good benefit to their employee once their business objectives has been achieved, their employees begin to provide mutual obligations towards their job and value their organisation as part of their own interest. Motivating each employee is an art where each manager must know how to trigger elements of mutual obligation which both parties could has agreement. Through the research conducted it has shown that elements of employee trust to their management, essential rewards given to employees, believing in continuity of their business organisation to survive and creating positive, nurturing vibe in organizational work environment have the ability to create high employee engagement between employee to their organisation towards achieving organisational goal.

The research given new perspective in Social Exchange Theory and Motivational Theory as monetary and financial rewards could be substituted with other elements in developing employee engagement. During period of economic slowdown which effecting corporation growth, financial reward mostly are the neglecting choices top management chosen to rewards their employees. These are crucial times for business corporation to survive and remain competitive. Management team could implement these methodologies towards motivating their employee during harsh time such as through informing their employee regarding top management strategy to develop proposal to maintain business continuity and ensuring their organisation will survive to provide them with job security. Such actions require both parties to give high commitment to achieve their organisational goal. Trust between both management and employees become is utmost important for business corporation to continue during these hard times.

Our research result has shown similar outcome from Mohd, et. al. (2016) which conducted quantitative survey from 250 employees in one telecommunication companies in Kuala Lumpur. Based on their result indicating factors influencing employee engagement are rewards, work environment and work-life balance. The work environment has great impact on employee engagement which makes employees feeling committed and passionate towards their jobs and company. Differences in this research is that it focuses on mechanism to achieve organisational goal though employee engagement. Furthermore, HR Asia Awards Singapore in year 2016 suggested achieving employee engagement require three main elements consisting – heart, mind and soul. Interesting finding indicated 90.6% of Singaporean workforce are willing to go extra miles for their organisation which valued their contribution and 85.5% believe

amicable relationship among work colleague create successful motivated employee. Companies like Robert Bosch South East Asia Pte Ltd, TWG Tea Company Pte Ltd and Sysmex Asia Pacific Pte Ltd were winners of 2016 HR Asia Award Singapore. As for Robert Bosch (SEA) Pte Ltd, employee engagement has been developed by two-way communication between employee and management. Once an organisation create two-ways communication it shown management has create trust with their employee and developing a positive job environment. The TWG Tea Company Pte Ltd implement mentoring program where senior manager are invited to participate in an intensive week long Train The Trainer which give managers the right tool to mentor their subordinate and impart knowledge and skills useful for daily task. The company provides reward for any of their TWG Tea Salon & Salon Boutique that achieved sales target for festive occasion such as Mid-Autumn Festival and Christmas with a bonus and team dinner. Each year, a Dinner & Dance is organized to celebrate company achievement as well as for employee to have fun and to recognise employee effort towards successful building TWG Tea's brand. Sysmex Asia Pacific Pte Ltd is a Japanese leading manufacturer of in-vitro-diagnostic medical equipment believes in the value of their staff with retention of staff is important and company philosophy stresses on creating bond between company and employee. It is a mix between unique Japanese corporate culture with Asian values of family relationship and Western mechanism for talent development. Each year 10 staff from company "Social Club" which regularly overseas company team building and corporate social responsibility (CSR) were platform for employees to connect as well as improve communication within company and society. Company values their employee with their "The Sysmex Way" philosophy as trust become prominent features (HR Asia, 2017). As for Malaysian based small and medium enterprises could mimic and adapt elements implementation by these Singaporean based organisation.

As for future research, there is a need to investigate relationship of existing factor creating engagement especially on mechanism in developing trust, rewards and positive work environment though in depth study from an award winning company. This give insignificant knowledge of employee engagement mechanism in the company. Another potential future research is to study on implementation of employee engagement to their organisation based on two period of economic conditions – during prosperous and recession time. What is the best mechanism could be implemented by management team in developing their employees toward achieving their organisational goal.

REFERENCES

- Albu, O.B. & Wehmeier, S. (2014), "Organizational transparency and sense-making: the case of Northern rock", *Journal of Public Relations Research*, 26(2), 117-133.
- Adler, N. J., & Gunderson, A. (2007). *International dimensions of organizational behaviour: 5th Edition*, Thomson South-Western, Ohio.
- Akhtar, S., Ding, D. Z., & Ge, G. L.,(2008), "Strategic HRM practices and their impact on company performance in Chinese enterprise", *Human Resource Management*, 47(1), 15-32.
- Amin, M., Ismail, W. K. W., Rasid, S. Z. A., & Selemani, R. D. A., (2013), "The impact of human resource management practises on performance", *The TQM Journal*, 26(2), 125-142.
- Anitha J., (2013), "Determinants of employee engagement and their impact on employee performance", *International Journal of Productivity and Performance Management*, 63(3), 308 – 323.
- Azim, M. T., (2016), "Corporate Social Responsibility and Employee Behaviour: Mediating Role of Organizational Commitment", *Review of Business Management*, 18(60), 207-225.
- Azhar, M. (2017), "The constant case of employee engagement," *HR Asia*, 28, 20 – 22.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bersin, Josh (2013), "Employee Retention Now a Big Issue: Why the Tide has Turned" available at <https://www.linkedin.com/pulse/20130816200159-131079-employee-retention-now-a-big-issue-why-the-tide-has-turned>
- Bhatti, O. K., Aslam, U. S., Hassan, A., & Sulaiman, M., (2016), "Employee motivation an Islamic perspective", *Humanomics*, 32(1), 33-47.
- Bosman, J., Rothmann, S., & Buitendach, J.H, (2005). "Job Insecurity, Burnout and Work Engagement: The Impact of Positive and Negative Affectivity", *South Africa Journal of Industrial Psychology*, 31(4), 48-56.
- Bryman, B., & Bell, E., (2011), *Business Research Methods: 3rd Edition*, Oxford University Press, Oxford.
- Brown, S., Gray, D., McHardy, J., & Taylor, K., (2014). "Employee Trust and Workplace Performance", *Journal of Economic Behaviour and Organization*, 6, 361 -378. .
- Cabrera, A. M. G., & Hernández, F. G. B., (2014), "Differentiating the three components of resistance to change: The moderating effect of organization-based self-esteem on the employee involvement-resistance relation." *Human Resource Development Quarterly*, 25 (4), 441 – 469.
- Ceschi, A., Dorofeeva, K., Sartori, R., (2014),"Studying teamwork and team climate by using a business simulation: How communication and innovation can improve group learning and decision-making performance", *European Journal of Training and Development*, 38(3), 211 – 230.
- Chatman, J. A., (1989), "Improving interactional organizational research: A model of person-organization fit", *Academy of management Review*, 14(3), 333-349.
- Chatman, J. A., & Jehn, K. A., (1994), "Assessing the relationship between industry characteristics and organizational culture: how different can you be," *Academy of Management Journal*, 37(3), 522-553.
- Chen, C. J., & Huang, J. W., (2009), "Strategic human resources practices and innovation performance – The mediating role of knowledge management capacity", *Journal of Business Research*, 62, 104-114.
- Clayton, M., (2016), "Resistance to change", *Training Journal*, June, 16-19.
- Crescenzo, S. (2011), "Internal employee communications media", in Gillis, T. (Ed.), *The IABC Handbook of Organizational Communication*, 2nd ed., Jossey-Bass, San Francisco, CA, 219-230.
- Dodgson, M., (1993), "Organizational learning: a review of some literatures," *Organization studies*, 14(3), 375-394.
- Downey, S. N., Werff, L. V. D., Thomas, K. M., & Plaut, V. C., (2015), "The Role of Diversity Practices and Inclusion in Promoting Trust and Employee Engagement", *Journal of Applied Social Psychology*, 45, 35-44.
- Eldor, L., & Vigoda-Gadot, E., (2016), "The Nature of Employee Engagement: Rethinking the Employee-Organisation Relationship", *The International Journal of Human Recourse Management*, 1-27.
- Faeth, M.A., (2004), "Power, Authority and Influence: A Comparative Study of the Behavioral Influence Tactics Used by Lay and Ordained Leaders in the Episcopal Church", *Doctoral Dissertation*, Faculty of the Virginia Polytechnic Institute and State University.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Fong, C. Y., Ooi, K. B., Tan, B. I., Lee, V. H., & Chong, Y. L., (2011), "HRM Practices and Knowledge Sharing: An Empirical Study", *International Journal of Manpower*, Vol. 32, No.5/6, Emerald Publishing, pp. 704-723.
- Furnham, A., (2005), *The psychology of behaviour at work: The individual in the organization*. Psychology Press, Oxon.
- Gilbert, C., De Winne, S., & Sels, L., (2011), "Antecedents of front-line managers' perceptions of HR role stressors", *Personnel Review*, 40(5), 549-569.
- Harter, J.K., Schmidt, F.L. and Hayes, T.L. (2002), "Business-unit level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis", *Journal of Applied Psychology*, 87 (2), 268-279.
- Hayton, J. C., (2003), "Strategic Human Capital Management in SMEs: An Empirical Study of Entrepreneurial Performance", *Human Resources Management*, 42(4), 375-391.
- HR Asia, (2017), "HR Asia Awards Singapore," *HR Asia*, 28, 48 -50.
- Imran, R., Majeed, M., & Ayub, A., (2015). "Impact of Organizational Justice, Job Security and Job Satisfaction on Organizational Productivity", *Journal of Economics, Business and Management*, 3(9), 840-845. .
- Jangle, A., (2016), "5C strategy to manage workforce diversity", *Human Capital*, February 2016, 60-61.
- Jian, M. L., Shipan, T., & Chi, F., L., (2015), "An analysis of the factors affecting the new generation employee engagement in the manufacturing industry in China", *International Journal of Business and Management*, 15(10), 19-25.
- Jill Bowman John P. Wilson, (2008), "Different roles, different perspectives: perceptions about the purpose of training needs analysis", *Industrial and Commercial Training*, 40(1), 38 – 41.
- Johnson, A., Nguyen, H., Groth, M., Wang, K., & Ng, J. L., (2016), "Time to change: A review of organisational culture change in health care organisations", *Journal of Organizational Effectiveness: People and Performance*, 3(3), 265-288.
- Jones, T. M. (1991). "Ethical decision making by individuals in organizations: An issue-contingent model," *Academy of Management Review*, 16(2), 366-395.
- Kehinde, A. O., (2012), "Organizational Culture and Its Corporate Image: A Model Juxtaposition," *Business and Management Research*, 1(1), 121-132.
- Kinnie, N., Purcell, J., Hutchinson, S., Terry, M., Collinson, M., & Scarbrough, H., (1999), "Employment relations in SMEs: Market-driven or customer-shaped," *Employee Relations*, 21(3), 218-236.
- Komodromos, M., (2014), "Employees' Perceptions of Trust, Fairness, and the Management of Change in Three Private Universities in Cyprus," *Journal of Human Resources Management and Labor Studies*, June (2), 35-54. .
- Kumar, V., & Pansari, A., (2016), "Competitive Advantage Through Engagement", *Journal of Marketing Research*, Vol. LIII (August 2016), 497-514.
- Levitt, B., & March, J. G., (1988), "Organizational Learning," *Annual Review of Sociology*, 14, 319-340.
- Lightle, S. S, Castellano, J., Baker, B., & Sweeney, R. J., (2015), "The role of corporate boards in employee engagement", *IUP Journal of Corporate Governance*, XIV(4), 7-13.

- Lok, P. & Crawford, J., (2001), "Antecedents of organizational commitment and the mediating role of job satisfaction," *Journal of Managerial Psychology*, 16(8), 594–613.
- Malmelin, N., (2007),"Communication capital: Modelling Corporate Communication as Organisation Assets," *Corporate Communications: An International Journal*, 12(3), 298 – 310.
- Markos, S., and Sridevi, M.S., (2010), "Employee Engagement: The Key to Improving Performance," *International Journal of Business Management*, 5, 89-96.
- Muthuveloo, R., (2013), *Swimming in the Business World: Sustainability through corporate strategy*, Pearson, Kuala Lumpur.
- Mohd, I. H., Mohd Shah, M and Zailan, N. S., (2016), "How Work Environment Affect The Employee Engagement in a Telecommunication Company", *The European Proceedings of Social & Behavioural Science*, 21 -23 September, 418-426.
- Nonaka, I., (1994), "A dynamic theory of organizational knowledge creation," *Organization Science*, 5(1), 14-37.
- Norman, S.M., Avolio, B.J., and Luthans, F., (2010), "The impact of positivity and transparency on trust in leaders and their perceived effectiveness", *The Leadership Quarterly*, 21(3), 350-364.
- Odoardi, C., (2014), "The relationship between proactive goal generation and innovative behaviour at work", *Journal of Management Development*, 34(5), 553-565.
- Oreg, S., (2006), "Personality, context, and resistance to organizational change", *European Journal of Work and Organizational Psychology*, 15(1), 73-101.
- Parent, J. D., & Lovelace, K. J., (2015), "The Impact of Employee Engagement and a Positive Organizational Culture on an Individual's Ability to Adapt to Organizational Change", *2015 Eastern Academy of Management Proceedings: Organization Behaviour and Theory Track*, Merrimack College, 1-20.
- Prieto, I. M., & Perez-Santana, M. P., (2014), "Managing Innovative Work Behaviour: The Role of Human Resource Practices", *Personnel Review*, 43(2), 184-208.
- Paliszkiwicz, J.O., (2011), "Trust Management: Literature Review," *Management*, 6(4), 315-331.
- Rafaeli, A., & Sutton, R. I., (1987), "Expression of emotion as part of the work role". *Academy of Management Review*, 12(1), 23-37.
- Raineri, N., & Paille, P., (2015), "Linking Corporate Policy and Supervisory Support with Environmental Citizenship Behaviours: The Role of Employee Environmental Beliefs and Commitment," *Journal of Business Ethics*, 137, 129 – 148.
- Rich, B. L., Lepine, J. A., & Crawford, E. R., (2010), "Job engagement: Antecedents and effects on job performance," *Academy of Management Journal*, 53(3), 617-635.
- Linjuan R. M., & Chun-ju F. H. B., (2015),"Engaging employees in China: The impact of communication channels, organizational transparency, and authenticity", *Corporate Communications: An International Journal*, 20(4), 448 – 467.
- Rousseau, D. M., & McLean Parks, J., (1993), "The contracts of individuals and organizations", *Research in Organizational Behavior*, 15, 1-43.

- Reio, T. G., & Callahan, J. L., (2000), "Affect, curiosity, and socialization-related learning: A path analysis of antecedents to job performance", *Creating Knowledge in the 21st Century: Insights from multiple perspective*, Annual Meetings of the American Educational Research Association, April 24th, 1-16.
- Reis, G., Trullen, J., & Story, J., (2016), "Perceived organizational culture and engagement: the mediating role of authenticity,". *Journal of Managerial Psychology*, 31(6), 1091-1105.
- Saks, A. M., (2006), "Antecedents and Consequences of Employee Engagement", *Journal of Managerial Psychology*, 21(7), 600-619.
- Schalkwyk, S.V., Danie, H.T., Bothma, A.S, Rothmann, S., (2010). "Job Insecurity, Leadership Empowerment Behaviour, Employee Engagement and Intention to Leave in a Petrochemical Laboratory", *South Africa Journal of Human Resource Management*, 8(1), 1-7.
- Schein, E. H. (2010). *Organizational Culture and Leadership*, John Wiley & Sons, New Jersey.
- Shukla, S. R., & Kumar, G., (2016), "Employee-friendly policies: A way out to attrition (With special reference to study of software firms in Pune)", *Journal of Commerce & Management Thought*, 7(2), 269-277.
- Stanley, D. J., Meyer, J. P., & Topolnytsky, L., (2005), "Employee Cynicism and Resistance to Organizational Change", *Journal of Business and Psychology*, 19(4), 429 – 600.
- Tan, M. K., & Kareem, O. A., (2016), "Teacher attitudes towards change: A comparison between high – and mediocre – performing secondary schools in Malaysia," *International Studies in Educational Administration*, 44(1), 105 – 127.
- Taylor, C. (1991), *The Ethics of Authenticity*, Harvard University Press, Cambridge, MA.
- Torelli, C.J., Shavitt, S., (2010), "Culture and Power of Concepts", *Journal of Personality and Social Psychology*, 99(4), 703-723.
- Thompson, K. R., Lemmon, G., & Walter, T. J, (2015), "Employee Engagement and Positive Psychological Capital", *Organizational Dynamics*, 44, 185-195.
- Tomsic, N., Bojnec, S., & Simcic, B., (2015), "Corporate Sustainability and Economic Performance in Small and Medium Sized Enterprise", *Journal of Cleaner Production*, 603-612.
- Ugheoke, S. O., Mohd Isa, M. F., and Wan Mohd Noor, W. S., (2015), "Antecedents of strategic human resource management practices on intangible firm performance: Analytical Investigation of SMEs", *Asian Social Science*, 11(13), 33-44.
- Vlachos, I.P., (2009), "The Effects of Human Resource Practices on Firm Growth", *Int. Journal of Business Science and Applied Management*, 4(2), 17-34.
- Warren C., Thompson, D., Wai-ming, M., & Lo., K.L., (1999), "Re-thinking training needs analysis", *Personnel Review*, 28(1/2), 77 – 90.
- Welch, M. (2012), "Appropriateness and acceptability: employee perspectives of internal communication", *Public Relations Review*, 38(2), 246-254.
- Wickramasinghe, V., (2011), "Influence of total quality management on human resource management practices: An exploratory study", *International Journal of Quality & Reliability Management*, 29(8), 836-850.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Wright, P. M., & McMahan, G. C., (2011), "Exploring human capital: putting human back into strategic human resource management", *Human Resource Management Journal*, 21(2), 93-104.
- Ya, Hui Ling & Bih, Shiaw Jaw, (2011), "Entrepreneurial leadership, human capital management, and global competitiveness", *Journal of Chinese Human Resources Management*, 2(2), 117 – 135.
- Yukl, G. A., (1981), *Leadership in Organizations*, Pearson Education, New Jersey.
- Zhu, W., Chew, K. H. I., and Spangler, W. D., (2005), "CEO transformational leadership and organisational outcome: The mediating role of human-capital-enhancing human resource management," *The Leadership Quarterly*, 39-52.

Does Social Health Insurance Help Micro and Small Firms Cope With Family Hardships? Evidence from Indonesia

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Abstract

This paper examines whether *Askeskin*, the social health insurance in Indonesia introduced in 2005 for the poor and the informal sector, protects owners of micro and small firms against family hardships. Specifically, we investigate how being an *Askeskin* recipient, through its interaction with family hardships, affects total assets and net profits of micro and small firms in non-farm businesses. Using the fourth wave of the Indonesian Family Life Survey (IFLS-4), we construct measures of firm performance and a few sets of control variables, which we use in regression-control strategy to estimate the causal effects of *Askeskin* on firm performance. We find some evidence that *Askeskin* reduces the adverse effects of deaths in the family in the previous year and outpatient care on firm performance, but we do not find *Askeskin* helps owners of micro and small firms withstand adverse shocks from inpatient care. We find *Askeskin* correlates with firm performance, but firms owned by *Askeskin* households seem to have smaller total assets and net profits. We find the evidence that outpatient care reduces firms' total assets and net profits, but other measures of family hardships do not seem to affect firm performance.

Keywords: micro and small firms, social health insurance, *Askeskin*, family hardships, firm performance

INTRODUCTION

Many developing countries have introduced social health insurance to improve healthcare access and health outcomes – the *Askeskin* programme in Indonesia that the government of Indonesia introduced in 2005 is an example of one of them.² The *Askeskin* programme, whose premium was fully funded by the government, targeted the poor and the informal sector and provided comprehensive insurance coverage for public healthcare. In 2011, the programme covered over 48 percent of poor households and 70 million of Indonesians (Cotlear *et al.*, 2015). Whether social health insurance matters for micro and small firm's growth is a question remains unanswered in the literature.³ Most analyses of the impact of expanding social health insurance focus on direct benefits of the insurance such as improved healthcare access and utilisation, better health outcomes, and reduced financial hardship (Acharya *et al.*, 2013; Bellows, Bellows, & Warren, 2011; Cotlear *et al.*, 2015; Ekman, 2004; Lagarde & Palmer, 2011; Meyer C, 2011; Spaan *et al.*, 2012). Very few papers discuss whether social health insurance affects the welfare of recipient households or the performance of micro and small firms they own, which is important to policymakers to evaluate the costs and benefits of the programmes.

We examine the effects of social health insurance on the performance of micro and small firms owned by households whose members are recipients of social health insurance. Social health insurance may improve the performance of micro and small firms through two mechanisms. One, by improving the health of recipients and the access to formal healthcare, social health insurance could improve micro and small firms' worker productivity and human

² *Askeskin* stands for *Asuransi Kesehatan untuk Masyarakat Miskin*, Health Insurance for the Poor.

³ Babiarz *et al.* (2010) and Yip, Wang, and Hsiao (2008) are the papers, among the very few, that study about indirect effects of social health insurance. Babiarz *et al.* (2012) discuss the effects of social health insurance on clinic outcomes such as weekly patient flow, average monthly income of clinics, and the proportion of monthly gross income from medicine sales; Yip, Wang, and Hsiao (2008) relate social health insurance to the probability of village visits in China.

capital. Healthier workers are more productive and less likely to be absent from work. Two, by reducing healthcare expenses of recipient households, social health insurance could alleviate financial hardship that owners of micro and small firms may experience; the owners of the firms could allocate the funds on investment to grow the firms.

We investigate how being an *Askeskin* recipient, through its interaction with family hardships, affects the growth of micro and small firms (non-farm businesses) in Indonesia. We use the fourth wave of the Indonesian Family Life Survey (IFLS-4), a longitudinal socioeconomic and health survey that the RAND Corporation did in 2007, which covered about 83% of Indonesian population living in 13 of the 26 provinces in the country (Strauss *et al.*, 2009). The survey includes firm-level and household-level information, which allow us to examine multiple measures of firm performance and various regression specifications.

We use regression-control strategy to estimate the causal effects of *Askeskin* on firm performance by controlling observed characteristics of firms and households that may correlate with firm performance and whether household has member who are *Askeskin* recipients. We find the evidence that *Askeskin* partly help micro and small firms cope with the owners' experience of family hardships better. We find some evidence that *Askeskin* reduces the adverse effects of having deaths in the family in the previous year and outpatient care on firms' net profits, but not on total assets. The estimates of *Askeskin*, however, are negative in most specifications on total assets and net profit, which indicates negative correlations between *Askeskin* and firms' total assets and net profit. We do not find evidence that family hardships reduce firms' total assets and net profit except for outpatient care.

We contribute to the literature in two ways. One, we complement the empirical literature of social health insurance that focuses on the effects of social health insurance on healthcare expenditure and healthcare utilisation of households across income groups (see e.g., Amponsah, 2015; Sparrow, Suryahadi, & Widyanti, 2013; and Wagstaff & Pradhan, 2006). We focus on, in particular, the households that own a micro and small firm, which may also represent the informal sector in the economy. Our findings show whether the social health insurance affects the performance of firms owned by households of *Askeskin* recipients, which helps policymakers to evaluate social health insurance. Two, we contribute to the empirical literature on financial constraints. Some papers in financial constraint literature that investigate the links between internal finance and investment show that internal funds increase firms' growth (see, e.g., Angelini & Generale, 2008; Carpenter & Petersen, 2002a; Pál and Kozhan, 2009). We study whether social health insurance helps the owners of micro and small firms to withstand family hardships that could hamper firm growth: We find some evidence that it does.

This paper proceeds as follows: section 2 summarises the empirical literature; section 3 presents the conceptual framework; section 4 describes the *Askeskin* programme; section 5 presents the empirical strategy and the data; section 6 discusses the results and robustness checks; and section 7 concludes.

LITERATURE REVIEW

Firms' Growth and Internal Funds

Why are internal funds important to micro and small firms? Some studies find that internal funds are the primary source of finance for small firms, and the availability of internal funds is one of the determinants of firm growth (Beck, Demirgüç-Kunt, Laeven, & Maksimovic, 2006; Beck, Demirgüç-Kunt, & Maksimovic, 2008; Daskalakis, Jarvis, & Schizas, 2013). Carpenter and Petersen (2002) find a significant and slightly greater than a dollar-for-dollar relationship between small firms' growth and internal finance, which corroborates internal finance theory of growth. Pál and Kozhan (2009) find similar results but a weaker relationship in Europe: small firms generate less than a euro of income from a euro increase in internal funds, and the effect from a euro of short-term credits is larger. A number of papers also find the evidence that internal finance fosters the growth of small firms; financially constrained small firms appear to grow slower than their unconstrained counterparts do (Angelini & Generale, 2008; Beck & Demirgüç-Kunt, 2006; Hutchinson & Xavier, 2006; Mateev & Anastasov, 2010; Musso & Schiavo, 2008; Rein, 2003; Vargas, 2012). Internal funds are the first preference for

small firms because agency costs and capital market imperfections make raising external funds relatively costly and difficult to small firms (Gertler, 1988; Gertler & Hubbard, 1988; Hubbard & Kashyap, 1992; Myers, 1984).⁴ In addition, other external financial constraints include difficulties dealing with banks, collateral requirements, high interest rates, and lack of money in the banking system (Beck, Demirgüç-Kunt, and Maksimovic, 2005; Demirgüç-Kunt and Klapper, 2012). Many small firms find it difficult to raise external funds and thus retained earnings are a primary determinant of growth (Carpenter, Fazzari, & Petersen, 1994; Carpenter & Guariglia, 2008; Guariglia, 2008; Mercer & Morgan, 1972; Rahaman, 2011).

There are several pathways for micro and small firms to secure their growth from the effects of financial constraints. Some papers highlight the role of public policies in alleviating external financial constraints. For example, good institutional development such as financial intermediary development, stock market development, legal system efficiency, and elimination of corruption can improve the access to external funding (Audretsch and Elston, 2002; Beck, Demirgüç-Kunt, & Maksimovic, 2005; Beck, Demirgüç-Kunt, Laeven, & Maksimovic, 2006; Beck, Demirgüç-Kunt, & Maksimovic, 2008). Providing direct financial aids to small firms is another mechanism the government can reduce financial constraints for micro and small firms (Hyytinen & Toivanen, 2005). On the other hand, others argue, even in the presence of external financing constraints, small firms may generate funds internally through global engagement (Bridges & Guariglia, 2008), productivity enhancement (Guariglia, Liu, & Song, 2011), and cost minimisation (Musso & Schiavo, 2008).

The Impacts of Family Hardships

Family hardships such as deaths of family members or illnesses can adversely affect households in several ways. A number of studies find family hardships reduce the labour supply and the income of affected households (Bedi & Sparrow, 2015; Karan, Engelgau, & Mahal, 2014; Lindelow & Wagstaff, 2005; Zhang *et al.*, 2014). Medical payments incurred, which reduce financial resources, are another negative effects associated with family hardships. Khan, Bedi, and Sparrow (2015) and Powell-Jackson and Hoque (2012) find, in Bangladesh, morbidity and maternal illness result in a large reduction in household resources, driven almost entirely by spending on healthcare. Studies that find similar results (for various family hardships) include Alam and Mahal (2012a) for South Asia, Bales (2013) and Mitra *et al.* (2015) for Vietnam, Karan, Engelgau, and Mahal (2014) for India, Lindelow and Wagstaff (2005) for China, Mahal *et al.* (2008) for Nigeria, Murphy *et al.* (2013) for Ukraine, and Wagstaff and Lindelow (2014) for Laos. In addition to household income or financial resources, family hardships may influence households in other ways. Affected households may cut their consumption (Beegle, De Weerd, & Dercon, 2007), reduce their expenditure (Wagstaff, 2007), sell productive assets (Alam & Mahal, 2014a), reduce schooling for children (Mitra *et al.*, 2015), deplete their savings (Wagstaff & Lindelow, 2014), or borrow money (Khan, Bedi, & Sparrow, 2015) to cope with family hardships.⁵ Some may even become more likely to engage in low risk but low return activities, hold liquid but less productive assets, and reduce their investment (Dercon, 2002). Such strategies, however, can have implications for chronic poverty and long-term welfare effects for households' ability to generate income and to cope with future hardships (De Weerd & Dercon, 2006; Gertler & Gruber, 2002).

The empirical findings show that the effects of family hardships appear to vary across subgroups and types of outcome. Financial risk of family hardships appear to be more pronounced on, for example, the poor (Bales, 2013; Dercon & Krishnan, 2000), women and female-headed households (Bridge & Lawson, 2008; Mitra *et al.*, 2015; Pohl, Neilson, & Parro, 2013), rural areas (Mitra *et al.*, 2015), groups that have lower socioeconomic status (Karan,

⁴ See also Clementi and Hopenhayn (2006) for theory of endogenous financing constraints that argues borrowing constraints arise as part of the optimal design of a lending contract under asymmetric information; Mateev, Poutziouris, and Ivanov (2013) and Myers and Majluf (1984) for the discussion of pecking-order theory that explains – due to information asymmetries in capital markets – SMEs have a “pecking order” of preferred capital sources in which retained earnings will be the first source accessed, followed by bank debt, private external equity, and the public debt or equity; Bernanke and Gertler (1989) for the effects of agency costs on premiums on external funds; and Myer (1977) and Gupta (1982) on determinants of borrowing or choosing external finance. For a recent survey of financing constraint literature, see Abdulsaleh and Worthington (2013).

⁵ See also Bachmann and Booyesen (2003); Carrin, Gray, and Almeida (1999); Dercon, Hoddinott, and Woldehanna (2005); Duraisamy *et al.* (2006); Karan, Engelgau and Mahal (2014); Leive and Xu (2008); Mahal *et al.* (2013); Mitra *et al.* (2015); Murphy *et al.* (2013); Wagstaff and van Doorslaer (2003); Wagstaff and Lindelow (2014); Yamauchi, Buthelezi, and Velia (2008); Yilma *et al.* (2014) for more examples on various household outcomes.

Engelgau, & Mahal, 2014; Shi *et al.*, 2011) and less educated individuals (Pohl, Neilson, & Parro, 2013; Rocco *et al.*, 2011). Nevertheless, some claim that the effects of family hardships are transitory (Beegle, 2003; Davies, 2010) and some report no effect of family hardships on consumption and expenditure (Bales, 2013; Beegle, 2003; Khan, Bedi, & Sparrow, 2015; Lindelow & Wagstaff, 2005; Powell-Jackson & Hoque, 2012; Townsend, 1994).

In the case of Indonesia, the evidence on welfare and economic outcomes of family hardships is mixed. Genoni (2012) reports that illness episodes reduce earnings significantly but the effects on consumption are relatively small and statistically insignificant, and there is no evidence of asset depletions. Sparrow *et al.* (2014)'s findings corroborate the results in Genoni (2012). Gertler and Gruber (2002) find a weak relationship between consumption and illnesses as the healthcare is heavily subsidised in the country. Thomas *et al.* (2006) find evidence of health has a causal effect on economic prosperity of male members, but the effect is much weaker among females.

Social Health Insurance

Most studies use healthcare utilisation as the primary outcome of whether health insurance improves access to healthcare services. Several reviews of literature report favourable outcomes of health voucher programmes, community-based health insurance, social health insurance and removal of user fees on healthcare utilisation (Bellows, Bellows, & Warren, 2011; Lagarde & Palmer, 2011; Meyer *et al.*, 2011; Spaan *et al.*, 2012). In developing countries, empirical studies find the evidence that social health insurance improve utilisation of inpatient and outpatient care (Nguyen, 2011a; Nguyen & Wang, 2013; Wagstaff & Prahlan, 2006), maternal healthcare (Ahmed & Khan, 2011; Nguyen *et al.*, 2012), and elderly healthcare (Gruber, Hendren, & Townsend, 2012; Panpiemras *et al.*, 2011). Some, however, find very weak or no effects of health insurance on the use of healthcare (Babiarz *et al.*, 2010; King *et al.*, 2009; Nguyen, 2011a; Robyn *et al.*, 2012; Wagstaff and Yu, 2007).

In addition to healthcare utilisation, the literature finds social health insurance provides financial protection to the targeted population, but the results are mixed. For instance, in Bangladesh, poor women who receive cash incentives from the voucher programme seem to incur a smaller payment for maternal services (Nguyen *et al.*, 2012). Similarly, the SKY micro-health insurance programme in Cambodia has statistically strong impacts on out-of-pocket (OOP) health spending (Levine, Polimeni, & Ramage, 2015). Rural Medical Health Care (RMHC) and New Rural Cooperative Medical Scheme (NCMS) in China, with adequate coverage of illnesses, are effective in providing financial risk protection (see, e.g., Babiarz *et al.*, 2010; Wagstaff & Yu, 2007; and Yip & Hsiao, 2009). Public health insurance in Colombia protects the poor from financial risk associated with medical cost and incidence of catastrophic health spending (Giedion & Uribe, 2009; and Miller, Pinto, & Vera-Hernández, 2009). In Vietnam, social health insurance and free healthcare reduce the financial burden for the poor (Nguyen, 2011a; Nguyen & Wang, 2013; Wagstaff, 2010; Wagstaff & Prahlan, 2006). Healthcare, however, may not always become less burdensome financially for households with health insurance. While some find health insurance increases OOP health spending due to increased healthcare utilisation and seeking care from higher-level providers (Lei and Lin, 2009; Wagstaff *et al.*, 2009; Wagstaff & Lindelow, 2008), some report no evidence of protective effects of social health insurance (Nguyen, 2011a; Levy, 2002, Palmer *et al.*, 2015; Wagstaff, 2010).

Healthier population, the empirical literature argues, is another notable outcome of social health insurance. Community-based health insurance schemes, for example, improve health status in rural China (Wang *et al.*, 2009) and reduce infant mortality rates in Brazil (Aquino, de Oliveira, & Barreto, 2008; Macinko, Guanais, & de Souza, 2006; Rocha & Soares, 2010; Rosella, Aquino, & Barreto, 2010). Similarly, the universal health coverage in Thailand improves infant mortality rate among the poor through increasing the access of healthcare (Gruber, Hendren, & Townsend, 2012). Studies on other countries find health insurance reduces delays in seeking care for children (Kraft *et al.*, 2009); reduce the number of sick days of insured individuals (Nguyen & Wang, 2013; Wagstaff & Prahlan, 2006); and improves health of children in the immediate post discharge period (Quimbo *et al.*, 2011).⁶ Nevertheless, some studies in China (Chen & Jin, 2012; Lei & Lin, 2009; Wagstaff & Yu, 2007), Burkina Faso (Fink

⁶ See also Bellows, Bellows, and Warren (2011); Miller, Pinto, and Vera-Hernández (2009); and Moreno-Serra and Smith (2012).

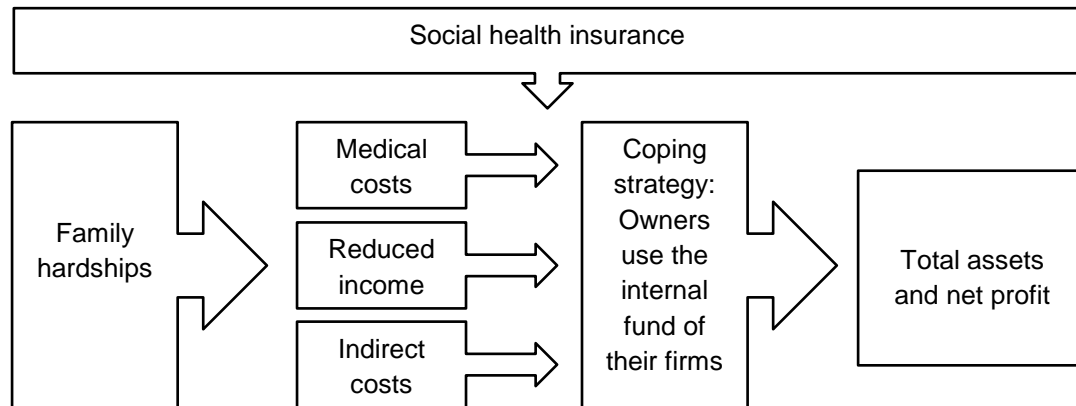
et al., 2013), and Mexico (Barros, 2008) conclude that social health insurance have no effects on health outcomes of the targeting population.

Overall, the evidence indicates that social health insurance may not always work for everything. Some find that health insurance increase use of healthcare and protect households against financial risk but have no impact on health outcomes (Barros, 2008). In some cases, health insurance provides financial protection but do not improve healthcare utilisation (Babiarz *et al.*, 2010; Nguyen, 2011b; Thornton *et al.*, 2010; Wagstaff, 2010; Wagstaff & Yu, 2007). Health insurance may induce higher use of healthcare but not reduced financial burden (Nguyen, 2011a; and Wagstaff *et al.*, 2009). The impacts of health insurance vary across illnesses (Wagstaff, 2010; and Wagstaff & Yu, 2007), utilisation of different health care services (Gnawali *et al.*, 2009; Panpiemras *et al.*, 2011), and socioeconomic status (Acharya *et al.*, 2013; Gnawali *et al.*, 2009; and Wagstaff *et al.*, 2009). Studies in Indonesia suggest a mixed picture of the effects of social health insurance on healthcare utilisation, financial protection and health status. Cuevas and Parker (2010), for example, find health insurance improves use of inpatient and outpatient cares for both adults and children, but the impacts are weaker on the incidence of health spending and health status. Sparrow, Suryahadi, and Widyandi (2013) find, using difference-in-differences estimation and propensity score matching method, the *Askeskin* programme increases the use of outpatient care among the poor, but OOP health payments increase in urban areas.

CONCEPTUAL FRAMEWORK

The empirical model we use, which is related to Carpenter and Petersen (2002a)'s internal finance theory of growth, suggests that social health insurance protect the internal funds of micro and small firms against shocks (i.e., family hardships) and increase firms' growth. Figure 1 illustrates the general framework of the causal connection between firms' growth and social health insurance.

Figure 1. Total assets, family hardships and the role of social health insurance



Social health insurance can affect the performance of micro and small firms because it helps owners of the firms to cope with family hardships. Households that experienced family hardships such as sickness and deaths in the family may incur medical costs, indirect costs (e.g., time and expenses to travel to healthcare centres), and reduced income (due to reduced working time, absence from work, or loss of a family member). Social health insurance may work through two channels to foster growth of micro and small firms. One, social health insurance may increase human capital and productivity of workers by improving the health outcomes of household members through higher utilisation of healthcare services. Two, social health insurance reduces the medical costs incurred, and households are less likely to use internal funds or resources from their business for the medical costs; the households can use the funds for more productive inputs that contribute to growth of micro and small firms.

The Social Health Insurance In Indonesia – ASKESKIN

The *Askeskin* programme was Indonesia's largest social health insurance programme, which the government introduced in 2005, for the poor and the informal sector that could not afford public or private insurance. The workers in the formal sector were covered by mandatory health insurance for civil servant (*Askes*) and private sector (*Jamsostek*), but the coverage was only around 30 percent of the Indonesian population (ILO, 2008).⁷ *Askeskin* aimed to cover up to 36.1 to 60 million Indonesians in 2005; its coverage expanded rapidly to 76.4 million people in 2007 and more than 120 million in 2014. It was renamed *Jamkesmas* (*Jaminan Kesehatan Masyarakat*, Community Health Insurance) in 2008 to include the near-poor and then *JKN* (*Jaminan Kesehatan Nasional*, National Health Insurance) in 2014 to integrate all state-owned health insurance schemes into a single scheme (EIU, 2014; WHO, 2015).

Askeskin provided generous benefits. Each beneficiary was entitled a fully subsidised premium of Rp5,000 per month (about US\$6 per year in 2005), which the government financed from the central government's budget from the energy subsidy reductions.⁸ The beneficiaries and their dependents could receive free treatment, including basic outpatient care, third-class inpatient treatment in grade A – D hospitals, obstetric service package at the public health centre (*Puskesmas*), mobile health services and special services for remote areas, immunisation programmes, and medicines (EIU, 2014; Sparrow, Suryahadi, & Widyanti, 2013; Thabrany, 2008).⁹

The targeting process of *Askeskin* was flexible and varied across districts. *Badan Pusat Statistik* (BPS, Statistics Indonesia) identified recipients using a proxy means test with 14 asset indicators, and produced a list of eligible recipients and quotas for each district. The district government, however, could conduct their own surveys and draw up their own list of recipients. The membership of *Askeskin* was individual, with each member in a poor household entitled to hold an *Askeskin* card. In the first year of the *Askeskin* programme, the *Jaring Pengaman Sosial* (JPS, Social Safety Net) health card and *Surat Keterangan Tidak Mampu* (SKTM, village poverty letters) were accepted to claim the insurance benefits (Arifianto, Marianti, Budiayati, & Tan, 2005; Harimurti, Pambudi, Pigazzini, & Tando, 2013).

The *Askeskin* programme has several shortcomings such as serious leakages to the non-poor, incomplete public information, lengthy reimbursement process, and unequal accessibility of basic primary care services. Besides, some *Askeskin* cardholders preferred not to use their cards to avoid perceived stigmatisation from health providers and longer waiting times due to additional administrative requirement. Some also perceived *Askeskin* financed care as being inferior quality to that self-paying care (Harimurti, Pambudi, Pigazzini, & Tando, 2013).¹⁰

The government has tried to improve the *Askeskin* programme. One of the actions was refining the target system, through the National Targeting System and Unified Data Base for Social Protection Programmes, to minimise targeting errors and reduce leakage and under-coverage. The efforts also include improving healthcare delivering and financing by upgrading health facilities, expanding the number of beds at hospitals, improving service quality of health providers, and improving the provision of health services in rural and remote areas. In addition, the government enacted the *Badan Penyelenggara Jaminan Sosial* (BPJS, Social Security Administrator Body) law to pool and harmonise fund disbursements and administration of all insurance schemes in Indonesia (Harimurti, Pambudi, Pigazzini, and Tando, 2013).

⁷ The *Askes* scheme covers civil servants and their families, as well as retirees of the civil service, including those from the military. All the beneficiaries contribute two percent of their base salary regardless of the number of dependants. *Jamsostek* is the health insurance for formal private sector workers. The scheme requires employers to contribute three to six percent of private sector workers salaries, depending on the marital status of the beneficiary.

⁸ The premium rate increased to Rp6,500 per person per month under *Jamkesmas* in 2007.

⁹ Type D hospitals provide basic secondary care at district level, type C hospitals cover secondary and tertiary care in larger district, type B hospitals give referral care of more advances at provincial level, and type A hospitals serve national referral care. See Thabrany (2008) for more details.

¹⁰ See also Alatas, Purnamasari, and Wai-Poi (2013), ILO (2008), Perdana (2014), Simmonds and Hort (2013), Sumarto and Bazzi (2011), and Thabrany (2008) for various challenges that the *Askeskin* programme encountered.

RESEARCH METHODOLOGY

Empirical Strategy

We use regression-control strategy, as the following, to examine the causal effects of *Askeskin* on firm performance assets:

$$Y_i = \alpha + \beta D_{ij} + \gamma H_{ij} + \pi D_{ij}H_{ij} + \delta X_{ij} + \varepsilon_i \quad (1)$$

where Y_i is total assets (or net profit) of firm i ; D_{ij} is an indicator of whether household j of firm i has at least one family member who are *Askeskin* recipients; H_{ij} is a measure of whether household j of firm i experienced deaths of family members in the previous year (family hardships); $D_{ij}H_{ij}$ is the interaction between *Askeskin* and family hardships; X_{ij} is a vector of control variables (household characteristics, firm characteristics, owner characteristics, and knowledge of health facilities that may correlate with whether an owner has *Askeskin*, whether she experienced family hardships and total assets of her firm); and ε_i is the error term. The coefficients of interest are those of β , γ , and π . The coefficient of *Askeskin*, β , captures the average causal effect of households being covered by *Askeskin* and other factors are held constant. The coefficients γ and π measure the effect of family hardships and the change in the effect of family hardships by *Askeskin* status, respectively.

To make the firms owned by *Askeskin* insured households and those owned by non-*Askeskin* households more comparable, we control for, as many as possible, all observed characteristics available in the data that correlate with *Askeskin* status and firm performance. These characteristics include household characteristics, firm characteristics, owner characteristics, and knowledge of location of health services. The control variables are those that having been fixed at the time *Askeskin* status was determined; they are not themselves caused by *Askeskin* and not themselves the outcome of the causal nexus. The household characteristics we control for are the indicators that the government considers in proxy means test for selecting *Askeskin* recipients.¹¹ The household characteristics are the quality of the household dwelling, ownership of durable goods, and whether the household receives community or government aids. Controlling for the observed characteristics, which indicate *Askeskin* eligibility, may absorb some of the effects of the unobserved household characteristics (which the government used in the proxy means test and were not made public), and reduce the bias on the estimate of *Askeskin*.

To make sure *Askeskin* status is as random as possible, we also include firm characteristics that may correlate with firm performance, the chance of getting *Askeskin*, or the likelihood of owners experienced family hardships. The number of workers, for example, may affect the value of total assets and net profit, regardless whether a household enrolls in *Askeskin* or experiences family hardships; firms that hire more workers are more likely to grow faster and to have workers who are *Askeskin* recipients; and older firms are likely to perform better than younger ones. We also control for the differences among owners of the firms and households' knowledge of health facilities. Larger households, for example, are more likely to earn more, experience deaths or sickness in their family and be *Askeskin* recipients; older household heads are more experienced, and their firms may perform better than those owned by younger household heads; and older household heads are more likely to experience family hardships such as deaths and sickness. Moreover, a household that knows the location of the nearest health facility better is more likely to have healthier members perhaps by better access to healthcare services.

We also include district dummies and a set of dummies of whether a household has other health insurance to control for differences across districts and ownership of other health insurance. *Askeskin* may be more accessible in urban areas than in rural areas; besides, the status of other health insurance may correlate with the likelihood of a household experiences family hardships or enrolls in *Askeskin*. The firms owned by *Askeskin* insured households and those owned by non-*Askeskin* households are more comparable after we control for the

¹¹ See Australian Agency for International Development (2011), Cotlear *et al.* (2015), and Grosh *et al.* (2008) for proxy means test as a targeting method of potential *Askeskin* recipients.

variables that correlate with total assets, *Askeskin* status, and family hardships. We use ordinary least square (OLS) regression to estimate the causal effect of *Askeskin* on firms' total assets and net profit, using equation (6). We estimate Huber-White robust standard errors to deal with heteroscedasticity that may bias the estimation of standard errors.

Data and Variables

We use the third round and the fourth round of the Indonesia Family Life Survey (IFLS-3 and IFLS-4) data gathered by the RAND Corporation. IFLS-3 and IFLS-4, which were done in 2000 and 2007 (to early 2008), respectively, cover about 83% of the Indonesian population living in 13 of the 26 provinces in Indonesia. The datasets include household-level information of about 10,000 households such as households' consumption, expenditure, housing characteristics, businesses, assets, and use of healthcare and health insurance; and individual-level indicators of over 40,000 individuals: education, marriage, household decision making, migration, labour market outcomes, and health outcomes.¹²

We focus on non-farm businesses, in IFLS-4, that have 6,197 firms and 4,919 households.¹³ These firms are small, about 99 percent of them have less than 10 workers. About 75 percent of the firms are in the service industries, 12 percent and 2 percent in manufacturing and agricultural industries, respectively. Restaurant, food sales, and non-food sales, which represent 70 percent of the total, are the main business types in the service industries, in addition to other activities such as transportation and communication, finance, insurance, real estate, and other services. Manufacturing industries include mainly construction, food processing, and clothing, while agricultural industries farming, forestry, fishery, mining and quarrying, electricity, and gas and water. We exclude firms owned by households that hold a health card in 2004 and earlier, those lost *Askeskin* in 2006-2008, and those enrolled in *Askeskin* 2008;¹⁴ the final sample, which has 6,000 micro and small firms, includes only households that experienced a hardship and use the insurance.¹⁵

We use total assets and net profits in the nonfarm business module (Book 2) of IFLS-4 as the dependent variable. Total assets include the values of land, building, vehicles, and other non-farm equipment. Net profits are total revenue minus total expenditure. We define the key independent variable, *Askeskin* status, from a question in the health insurance module (Book 3B) of IFLS-4 on whether an individual the policyholder or primary beneficiary of *Askeskin*. *Askeskin* status is an indicator equals one if a household has at least one *Askeskin* recipients (or health card recipients) or zero otherwise. We also use other six health insurance, which are dummies, as control variables in all specifications: *PT Askes* (Insurance Schemes of Civil Servants), *Astek Jamsostek* (Labour Social Insurance), employer provided health insurance, employer provided clinic, private insurance, and saving-related insurance.

We use three measures of family hardships: deaths in family in the previous 12 months in basic specification; and outpatient care and inpatient care in robustness checks. We construct the dummy for deaths in family in the previous year from a question on whether a family member moved from a household because of death in 2008, using household roster (Book K) of IFLS-4. We define outpatient care and inpatient care from the questions in adult information book (Book 3B) of IFLS-4: outpatient care is an indicator equals one if a family member visited a healthcare provider in the last four weeks or zero otherwise; and inpatient care is an indicator equals one if a family member visited an inpatient care in the past 12 months or zero otherwise.

The household characteristics, the first set of control variables in the regressions, are the observed characteristics the government used to determine the eligibility of *Askeskin*. We

¹² The data are available at <http://www.rand.org/labor/FLS/IFLS/html>. See Strauss *et al.* (2004), Strauss *et al.* (2009a), and Thomas *et al.* (2012) for more details.

¹³ We cannot use the aggregate of nonfarm businesses and farm businesses because the indicators for firm characteristics, which we use as control variables, are different between nonfarm and farm businesses.

¹⁴ In the first year of the *Askeskin* programme (2005), the *Jaring Pengaman Sosial* (JPS, Social Safety Net) health card was accepted to claim the insurance benefits.

¹⁵ We define micro and small firms based on the Law No. 20/2008 in Indonesia: micro firms are enterprises with net assets less than Rp50 million (land and building are excluded) or enterprises that have less than Rp300 million total annual sales; small firms are enterprises with net assets from Rp50 million-Rp500 million (land and building are excluded) or with total annual sales from Rp300 million-Rp2.5 billion (Sembiring, 2008).

use three sets of characteristics in the consumption module (Book 1) and the household characteristics module (Book 2 and Book K) of IFLS-3: the quality of household dwelling, ownership of household assets, and assistance received. The indicators for the quality of dwelling include whether a house has ceramic flooring, concrete roofing, masonry outer wall, electricity, piped water for drinking, its own toilet facilities, a proper garbage disposal system, and a proper sewage drain; the indicators equal one if a house has a facility or zero otherwise. The indicators for household assets are the ownership of durable goods such as a refrigerator, an electric or gas stove, a television, a self-occupied house, other buildings, non-agricultural land, livestock, vehicles, household appliances, savings, receivables, jewellery, and household furniture and utensils; the indicators equal one if a household owns an asset or zero otherwise. The indicators for assistances that households received, which equal one if a household receives an assistance or zero otherwise, include whether a household ever received a unconditional cash transfer and conditional cash transfer, bought rice through *Raskin* programme, purchased goods in a cheap market, utilised a *village poverty letter*, received assistance in the form of food or other goods from the government, non-government organizations, and community, and whether a house is self-owned.¹⁶

The firm characteristics we use as control variables include four dummies: whether the business a sole ownership, whether the operation of the business is fully outside home and partially outside home, and urban location. I also include a set of dummies for number of businesses, type of business, the year a business started, household members who own the business, owners outside the households who own the business, source of start-up capital, percentage of share own, and the number of workers when the business started. The data for all the indicators, except number of business, are from nonfarm business module (Book 2) of IFLS-4.¹⁷

The owner characteristics, the third set of control variables we use, are household heads' gender, marital status, and highest education; households' religion, ethnical groups, average age of household members, number of household members, and number of female household members; whether household members can read and write in Indonesian language or other language; and whether household members had self-treatment.¹⁸ The control variables, except the average age of household members, are dummies, with highest education, religion, number of household members, and number of female household members enter the equation as a set of dummies. The data are from education module (Book 3A) and household roster (Book K) of IFLS-3. Households' knowledge of health facilities, the other set of control variables we use, include whether a household head knows the location of the nearest public and private hospitals, *Puskesmas*, private clinic, private physician, midwife, nurse, traditional birth attendant, traditional practitioner, pharmacy, *Posyandu*, and village post.¹⁹ The control variables are dummies that equal one if a household knows the location of a health facility or zero otherwise; the data are from knowledge of health and family planning service module (Book 1) of IFLS-3.

RESULTS

Basic Results

First, we examine the effects of the interaction between *Askeskin* and deaths in the family in the previous year on firms' assets and net profits. Then, we test the effects of *Askeskin* by using other measures of family hardships. Finally, we examine the effects by subsample for robustness checks.

¹⁶ The *Raskin* programme means Rice for the Poor Programme. The *village poverty letter* (*Surat Keterangan Tidak Mampu*) is a certificate indicating a citizen is economically less capable, not capable, or poor. The variables are from household expenditures and knowledge of health facilities module (Book I) and household economy module (Book II) of IFLS-3.

¹⁷ We acknowledge that good controls are those variables that have been fixed at the time *Askeskin* was determined, but using the firm characteristics in IFLS-3 costs a large sample attrition by over 2,000 observations because of unmatched firm identity between the two waves of the IFLS. Since the firm characteristics I use are very unlikely to vary by *Askeskin* status, they are thus reliable control variables.

¹⁸ The effects of *Askeskin* may be confounded by whether one had self-treatment. One of the reasons of low enrolment in *Askeskin* was most of the poor prefer self-treatment to health service (World Bank, 2008).

¹⁹ *Puskesmas* stands for *Pusat Kesehatan Masyarakat*, Community Health Clinics. *Posyandu* is sub-community health clinic.

Table 1 The effects of *Askeskin* on total assets and net profits

Dependent variable (in logarithm)		(1)	(2)	(3)	(4)
A. Total assets					
<i>Askeskin</i>	(1)	-1.15*** (0.20)	-0.46** (0.21)	-0.35* (0.20)	-0.34 (0.21)
Deaths in the family	(2)	-0.80 (1.04)	-0.99 (1.07)	-0.91 (1.08)	-0.98 (1.12)
Deaths × <i>Askeskin</i>	(3)	4.16*** (1.50)	3.90** (1.62)	1.62 (1.81)	2.35 (1.87)
Observations		5,854	5,786	5,651	5,521
Adjusted- <i>R</i> ²		0.04	0.06	0.23	0.25
B. Net profits					
<i>Askeskin</i>	(4)	-0.46*** (0.09)	-0.22** (0.09)	-0.16* (0.08)	-0.18** (0.08)
Deaths in the family	(5)	-0.25 (0.36)	-0.22 (0.35)	-0.17 (0.32)	-0.22 (0.33)
Deaths × <i>Askeskin</i>	(6)	1.67*** (0.42)	1.65*** (0.47)	1.13** (0.57)	1.26** (0.63)
Observations		5,809	5,741	5,611	5,482
Adjusted- <i>R</i> ²		0.04	0.06	0.16	0.16
Control variables:					
Household characteristics		.	✓	✓	✓
Firm characteristics		.	.	✓	✓
Owner characteristics; knowledge of health facilities		.	.	.	✓

Notes: The numbers in each column are the estimates from a separate regression of total assets or net profits on *Askeskin*, deaths in the family in the previous year, and the interaction between *Askeskin* and deaths in the family. All regressions include district dummies and the dummies for other insurance held by households. The sample excludes two groups of individuals: (i) those who lost *Askeskin* in 2006, 2007, or 2008; and (ii) those who enrolled in *Askeskin* in 2008. Deaths in the family equal one if at least one family member died in the previous year or zero otherwise. Huber-White robust standard errors are in parentheses. The asterisks ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Table 1 reports the basic results for the regressions of firms' assets and net profits on *Askeskin* and deaths in the family in the previous year (family hardships). Each column is a specification of the effects of *Askeskin*, with or without the control variables (household characteristics, firm characteristics, owner characteristics, and knowledge of the location of health facilities). The estimates in Table 1 show *Askeskin* decreases the adverse effects of deaths in the family in the previous year on firms' total assets (in Panel A) and net profits (in Panel B). Column (1) of Panel A shows, in a regression without any control variables, *Askeskin* insured households have their firms cope better with the deaths in the family; the estimates of the interaction term is positive and statistically significant. Although its estimate is statistically significant, *Askeskin* is associated with smaller total assets. The estimate of deaths in the family is negative but statistically insignificant. To ensure *Askeskin* is as random as possible, we control for household characteristics in column (2); the results are similar to those in column (1): the estimate of the interaction term and *Askeskin* decrease to 3.90 and 0.46, respectively, and statistically significant, while the estimate of deaths in the family remains statistically insignificant. In column (3), we include firm characteristics as additional control variables; the estimate of the interaction term becomes statistically insignificant, while the estimate of *Askeskin* becomes marginally significant. After we control for owner characteristics and knowledge of health facilities further, none of the estimates in column (4) is statistically significant.

Panel B, which uses firms' net profits as the dependent variable, shows considerable falls in the adverse effects of deaths in the family in the previous year on firms that owned by *Askeskin* insured households. In the regression without any control variables, the estimate of the interaction term in column (1), which is statistically significant at 1 percent level, suggests *Askeskin* reduces the effects of deaths in the family on firms' net profits. The estimate of *Askeskin* is statistically significant, showing smaller net profits for firms owned by *Askeskin* insured households. We do not find deaths in the family in the previous year matter for firms' net profits; the estimate is negative though statistically insignificant. The same results hold for all the variables in columns (2)-(4) when we control for household characteristics, firm characteristics, owner characteristics, and knowledge of health facilities. In sum, we find evidence that *Askeskin* reduces the adverse effects of deaths in the family in the previous year on firms' net profits; so do on firms' total assets, but only when we do not control for firm characteristics, owner characteristics, and knowledge of health facilities. The results suggest some degrees of financial protection that *Askeskin* provides to owners of micro and small firms against family hardships.

Alternative Measures of Family Hardships

We examine whether the results are robust to the use of alternative measures of family hardships: sickness in the family. We define two dummy variables for sickness in the family: (i) whether a household had at least one family members had outpatient care in the previous month or zero otherwise, and (ii) whether a household had at least one family members had inpatient care (hospitalisation) in the previous year or zero otherwise. Table 2, which presents the regressions of total assets on alternative measures of family hardships, shows no evidence that *Askeskin* reduces the adverse effects of outpatient care and inpatient care on total assets.

Table 2 The regression of total assets on alternative measures of family hardships

Dependent variable: Total assets (in logarithm)					
		(1)	(2)	(3)	(4)
A. Outpatient care					
<i>Askeskin</i>	(7)	-1.40*** (0.26)	-0.65** (0.26)	-0.55** (0.25)	-0.52** (0.26)
Outpatient care	(8)	-0.12 (0.15)	-0.21 (0.15)	-0.37*** (0.14)	-0.45*** (0.15)
Outpatient care x <i>Askeskin</i>	(9)	0.66* (0.40)	0.52 (0.40)	0.57 (0.39)	0.55 (0.40)
Observations		5,854	5,785	5,651	5,521
B. Inpatient care					
<i>Askeskin</i>	(10)	-1.21*** (0.21)	-0.51** (0.21)	-0.41* (0.21)	-0.41* (0.22)
Inpatient care	(11)	0.03 (0.26)	-0.07 (0.26)	-0.11 (0.24)	-0.19 (0.25)
Inpatient care x <i>Askeskin</i>	(12)	0.73 (0.62)	0.67 (0.65)	0.70 (0.61)	0.88 (0.63)
Observations		5,853	5,784	5,650	5,520

Notes: The numbers in each column are the estimates from a separate regression of total assets on *Askeskin*, family hardships (outpatient care and inpatient care), and the interaction between *Askeskin* and family hardships. All regressions include district dummies and the dummies for other insurance held by households. The sample excludes two groups of individuals: (i) those who lost *Askeskin* in 2006, 2007, or 2008; and (ii) those who enrolled in *Askeskin* in 2008. In Panel A, outpatient care equals one if a household had at least one family member had outpatient care in the previous month or zero otherwise. In Panel B, inpatient care equals one if a household had at least one family member hospitalised in the previous year. The adjusted- R^2 in columns (1), (2), (3), and (4) are 0.04, 0.06, 0.18, and 0.18, respectively. Huber-White robust standard errors are in parentheses. The asterisks ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

In Panel A, using outpatient care as the measure of family hardships, we do not find evidence that *Askeskin* helps owners to cope with the adverse effects of outpatient care. Though the effect is large and positive, the estimates of the interaction term are statistically insignificant except for those in the regression without any control variables. The estimates of *Askeskin* show firms owned by *Askeskin* insured households have smaller total assets; the estimates are statistically significant. Outpatient care seems to reduce firms' total assets, by 37-45 percent, in the regressions that control for firm characteristics further. Panel B, which defines family hardships using inpatient care, shows that *Askeskin* has little power in providing protection against family hardships. None of the estimates of the interaction term is statistically significant; so do the estimates of inpatient care, as indicated by their large standard errors. The estimates of *Askeskin* show smaller total assets for firms owned by *Askeskin* insured households, but the estimates become smaller and only statistically significant at 10 percent level once we control for firm characteristics further.

Table 3, which uses net profits as the dependent variable and alternative measures of family hardships in the regressions, shows some evidence that *Askeskin* reduces the adverse effects of family hardships (i.e., outpatient care). Panel A, which uses outpatient care to define family hardships, shows a marked decrease – of about 27-32 percent – in the adverse effects of outpatient care for firms owned by *Askeskin* insured households. The estimates of the interaction term are statistically significant, even in the regressions that we control for all available observed characteristics. The estimates of *Askeskin* are also statistically significant, suggesting negative correlations between *Askeskin* and firms' net profits. I find some evidence that outpatient care reduces firms' net profit, by about 12 percent, in the regressions that control for firm characteristics. In Panel B, the regressions that use inpatient care as the measure of family hardships show little evidence that *Askeskin* helps owners to cope with the hardships. The estimates of the interaction term are positive though statistically insignificant. The estimates of *Askeskin*, which are statistically significant, suggest that *Askeskin* associates with smaller net profits. The estimates of inpatient care, which some of them are statistically significant, show a positive correlation between inpatient care and net profits.

To summarise, we find *Askeskin* only reduces the adverse effects of outpatient care on net profits, but not the effects of inpatient care; we do not find *Askeskin* secures firms' total assets against any forms of family hardships.

Table 3: The regression of net profits on alternative measures of family hardships

Dependent variable: Net profits (in logarithm)					
		(1)	(2)	(3)	(4)
A. Outpatient care					
<i>Askeskin</i>	(7)	-0.58*** (0.12)	-0.34** (0.13)	-0.28** (0.12)	-0.28** (0.12)
Outpatient care	(8)	-0.07 (0.07)	-0.10 (0.07)	-0.12* (0.06)	-0.12* (0.07)
Outpatient care x <i>Askeskin</i>	(9)	0.31* (0.17)	0.30* (0.17)	0.32** (0.15)	0.27* (0.16)
Observations		5,809	5,741	5,611	5,482
B. Inpatient care					
<i>Askeskin</i>	(10)	-0.48*** (0.09)	-0.25** (0.10)	-0.18** (0.09)	-0.20** (0.09)
Inpatient care	(11)	0.18** (0.09)	0.15 (0.09)	0.15* (0.08)	0.14 (0.09)
Inpatient care x <i>Askeskin</i>	(12)	0.20 (0.22)	0.25 (0.23)	0.16 (0.21)	0.17 (0.22)
Observations		5,808	5,740	5,610	5,481

Notes: The numbers in each column are the estimates from a separate regression of net profits on *Askeskin*, family hardships (outpatient care and inpatient care), and the interaction between *Askeskin* and family hardships. All regressions include district dummies and the dummies for other insurance held by households. The sample excludes two groups of individuals: (i) those who lost *Askeskin* in 2006, 2007, or 2008; and (ii) those who enrolled in *Askeskin* in 2008. In Panel A, outpatient care equals one if a household had at least one family member had outpatient care in the previous month or zero otherwise. In Panel B, inpatient care equals one if a household had at least one family member hospitalised in the previous year. The adjusted- R^2 in columns (1), (2), (3), and (4) are 0.04, 0.06, 0.16, and 0.16, respectively. Huber-White robust standard errors are in parentheses. The asterisks ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Subsample

Tables 4 and 5 present the robustness checks: Table 4 uses sample with firms that hire ten or fewer workers and Table 5 sample with firms whose total assets are Rp50,000 and below. Table 4 shows, in a sample includes only firms with ten or fewer workers, that *Askeskin* reduces the adverse effects of deaths in the family in the previous year on firms' total assets and net profits.

Table 4 Using firms with ten or fewer workers

Dependent variable (in logarithm)	(1)	(2)	(3)	(4)
A. Total assets				
<i>Askeskin</i>	(1) -1.13*** (0.20)	-0.46** (0.21)	-0.35* (0.20)	-0.33 (0.21)
Deaths in the family	(2) -0.80 (1.04)	-0.97 (1.07)	-0.87 (1.08)	-0.93 (1.12)
Deaths × <i>Askeskin</i>	(3) 4.14*** (1.51)	3.79** (1.62)	1.47 (1.81)	2.21 (1.87)
Observations	5,792	5,723	5,589	5,460
Adjusted- R^2	0.04	0.06	0.18	0.18
B. Net profits				
<i>Askeskin</i>	(4) -0.45*** (0.09)	-0.23** (0.09)	-0.17** (0.08)	-0.19** (0.08)
Deaths in the family	(5) -0.26 (0.35)	-0.24 (0.34)	-0.16 (0.31)	-0.22 (0.32)
Deaths × <i>Askeskin</i>	(6) 1.67*** (0.42)	1.63*** (0.47)	1.13** (0.57)	1.26** (0.63)
Observations	5,747	5,679	5,549	5,421
Adjusted- R^2	0.04	0.06	0.16	0.16
Control variables:				
Household characteristics	.	✓	✓	✓
Firm characteristics	.	.	✓	✓
Owner characteristics; knowledge of health facilities	.	.	.	✓

Notes: The numbers in each column are the estimates from a separate regression of total assets or net profits on *Askeskin*, deaths in the family in the previous year, and the interaction between *Askeskin* and deaths in the family. All regressions include district dummies and the dummies for other insurance held by households. The sample excludes two groups of individuals: (i) those who lost *Askeskin* in 2006, 2007, or 2008; and (ii) those who enrolled in *Askeskin* in 2008. Deaths in the family equal one if at least one family member died in the previous year or zero otherwise. Hubber-White robust standard errors are in parentheses. The asterisks ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

In Panel A, the effects of the interaction between *Askeskin* and deaths in the family on firms' total assets are positive and statistically significant, but only in the regressions without firm characteristics, owner characteristics, and knowledge of health facilities as the control variables. The estimates of *Askeskin* indicate a negative correlation between *Askeskin* and total assets, but the estimates become statistically insignificant once we control for owner characteristics and knowledge of health facilities further. The estimates of deaths in the family are large and negative but statistically insignificant. The estimates in Panel B show that *Askeskin* makes a difference in net profits when their owners experienced deaths in the family in the previous year. The estimates of the interaction term are large, which are between 1.13 and 1.67, and statistically significant even after we include a full set of control variables. *Askeskin* seems to reduce net profits; the estimates are negative and statistically significant. We find no effects of deaths in the family in the previous year; the estimates are statistically insignificant.

Table 5, which includes only firms whose total assets are Rp50,000 and below, shows some evidence that firms owned by *Askeskin* insured households cope better with deaths in the family in the previous year. Panels A and B, which present the estimates for total assets and net profits, respectively, show similar results. In Panel A, the estimates of the interaction term are large and statistically significant, which suggest that *Askeskin* reduces the adverse effects of deaths in the family in the previous year on firms' total assets, but the estimates become statistically insignificant once we control for firm characteristics further. The estimates of *Askeskin* are positive in the regressions with control variables though they are small and statistically insignificant. Deaths in the family in the previous year do not seem matter either; the estimates are negative but statistically insignificant, and the standard errors are large.

Table 5 Using firms whose total assets are Rp50,000 and below

Dependent variable (in logarithm)	(1)	(2)	(3)	(4)
A. Total assets				
<i>Askeskin</i>	(1) -0.12 (0.22)	0.00 (0.23)	0.10 (0.23)	0.08 (0.24)
Deaths in the family	(2) -0.41 (1.34)	-0.91 (1.32)	-0.45 (1.38)	-0.86 (1.43)
Deaths × <i>Askeskin</i>	(3) 5.01*** (1.86)	3.61* (1.91)	0.83 (2.08)	1.54 (2.19)
Observations	3,967	3,921	3,816	3,719
Adjusted- <i>R</i> ²	0.03	0.04	0.14	0.14
B. Net profits				
<i>Askeskin</i>	(4) -0.25*** (0.09)	-0.14 (0.09)	-0.16* (0.09)	-0.17* (0.09)
Deaths in the family	(5) -0.17 (0.46)	-0.04 (0.46)	0.08 (0.43)	0.03 (0.47)
Deaths × <i>Askeskin</i>	(6) 1.61*** (0.54)	1.35** (0.61)	0.64 (0.66)	0.64 (0.73)
Observations	3,935	3,890	3,786	3,690
Adjusted- <i>R</i> ²	0.03	0.04	0.13	0.13
Control variables:				
Household characteristics	.	✓	✓	✓
Firm characteristics	.	.	✓	✓
Owner characteristics; knowledge of health facilities	.	.	.	✓

Notes: The numbers in each column are the estimates from a separate regression of total assets or net profits on *Askeskin*, deaths in the family in the previous year, and the interaction between *Askeskin* and deaths in the family. All regressions include district dummies and the dummies for other insurance held by households. The sample excludes two groups of individuals: (i) those who lost *Askeskin* in 2006, 2007, or 2008; and (ii) those who enrolled in *Askeskin* in 2008. Deaths in the family equal one if at least one family member died in the previous year or zero otherwise. Huber-White robust standard errors are in parentheses. The asterisks ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

The estimates in Panel B also suggest that *Askeskin* reduces the adverse effects of deaths in the family markedly, but the estimates are statistically insignificant in the regressions that control for firm characteristics further. *Askeskin* is associated negatively with net profits, but the estimates are either marginally significant or insignificant statistically in the regressions with control variables. We do not find deaths in the family in the previous year reduces firms' net profit; the estimates are statistically insignificant. To summarise, the results by subsample are similar to the basic results. *Askeskin* seems to reduce the adverse effects of deaths in the family in the previous year on net profits in regressions without and with control variables. We get similar findings for total assets, but only if we do not control for firm characteristics, owner characteristics, and knowledge of health facilities. We find *Askeskin* matters for firms' total assets and net profits, but the correlation is negative. We do not find deaths in the family in the previous year affects firms' total assets and net profits.

CONCLUSION AND DISCUSSION

Askeskin seems to partly help micro and small firms in Indonesia coping with the owners' experience of family hardships better. *Askeskin* absorbs possible adverse effects of recent deaths in the family (in the previous year) on net profit but not on total assets though the estimates of the effects of the hardships are statistically insignificant. It reduces the adverse effects of owners having outpatient care on net profits but not on total assets: the estimates of both are large, about 30 percent and 50 percent, respectively, but those of the latter are statistically insignificant. It may help owners to withstand other types of hardships (the magnitude of most estimates of the interaction terms are large), but the estimates are statistically insignificant. Analyses by firm size are similar: *Askeskin* may reduce the adverse effects of recent deaths in the family – the estimates of the interaction term are large but most are statistically insignificant.

The findings that family hardships reduce total assets in are in line with the quantitative prediction of internal finance theory (Carpenter and Peterson, 2002; and Guariglia, Liu, and Song, 2011): disruption of internal resources constrains small firms' growth. In contrast to the findings in Parinduri (2014), we find sickness in family and recent deaths of family members reduce firms' total assets and net profits, though the estimates are statistically insignificant in some specifications. The evidence that *Askeskin* may reduce the adverse effects of family hardships on total assets is in line with the literature that examine whether public health insurance reduces the needs on costly coping strategies. Liu (2013), for example, finds insured Chinese households do not need to reduce investments in children's education, agricultural activities and durable goods to pay healthcare expenses; Wagstaff and Yu (2007) and Amponsah (2015) find health insurance reduces the incidence of catastrophic spending and impoverishment in China and Ghana, respectively.

The findings may imply that social health insurance programmes could help developing countries with large micro-and-small-firm sector. Social health insurance can be a source of protection that helps micro and small firms withstand adverse shocks. Moreover, the coverage of social health insurance is wide and it may have better outreach than other programmes whose objective is to foster the growth of micro and small firms, which contribute to job creations and economic growth in developing countries. Perhaps the government should allocate more budget to expand social health insurance programmes, not only for healthier populations, but also for some spillover benefits.

This paper has several limitations. One, the analysis relies on cross-sectional data, which remains vulnerable to heterogeneity of unobserved factors that affect total assets, whether a person enrolls in *Askeskin*, and whether she experienced family hardship. We do control for all available variables in the data and examine robustness of the estimates, but limitations remain. Two, we only measure the short-term effect of *Askeskin* from 2006 through 2008. Initial implementation of *Askeskin* experienced various shortcomings, which may affect the selection of right target group for the insurance. Three, we do not control for supply-side factors such quality of public healthcare, which may affect the decision of recipients to use *Askeskin*, but we cannot measure the extent to which the supply-side factors contributes to variation in the decision.

REFERENCES

- Abdulsaleh, A. M., & Worthington, A. C. (2013). Small and medium-sized enterprises financing: A review of literature. *International Journal of Business and Management*, 8(14), 36-54.
- Acharya, A., Vellakkal, S., Taylor, F., Masset, E., Satija, A., Burke, M., & Ebrahim, S. (2013). The impact of health insurance schemes for the informal sector in low- and middle-income countries: A systematic review. *Policy Research Working Paper 6324*. Washington: The World Bank.
- Ahmed, S., & Khan, M. M. (2011). Is demand-side financing equity enhancing? Lessons from a maternal health voucher scheme in Bangladesh. *Social Science & Medicine*, 72, 1704-1710.
- Alam, K., & Mahal, A. (2014a). The economic burden of angina on households in South Asia. *BMC Public Health*, 14(179).
- Alam, K., & Mahal, A. (2014b). Economic impacts of health shocks on households in low and middle income countries: A review of literature. *Globalization and Health*, 10(21).
- Alatas, V., Purnamasari, R., & Wah-Poi, M. (2013). Reaching Indonesia's poor and vulnerable. *East Asia Forum* (January, 2). Retrieved from <http://www.eastasiaforum.org/2013/01/02/reaching-indonesias-poor-and-vulnerable/>
- Amponsah, S. (2015). *The Incidence of Health Shocks, Formal Health Insurance, and Informal Coping Mechanism*. ASSA Annual Meeting: AFEA Session. January 2015.
- Angelini, P., & Generale, A. (2008). On the evolution of firm size distributions. *The American Economic Review*, 98(1), 426-438. Doi: 10.1257/aer.98.
- Aquino, R., de Oliveira, N. F., & Barreto, M. L. (2008). Impact of the Family Health Programme on infant mortality in Brazilian municipalities. *American Journal of Public Health*, 99(1), 87-93.
- Arifianto, A., Marianti, R., Budiyati, S. (2005) Making services work for the poor: A report on health financing mechanisms in Kabupaten Tabanan, Bali. *SMERU Field Report*. Jakarta: SMERU Research Institute.
- Audretsch, D. B., & Elston, J. A. (2002). Does firm size matter? Evidence on the impact of liquidity constraints on firm investment behaviour in Germany. *International Journal of Industrial Organization*, 20, 1-17.
- Australian AID. (2011). *Targeting the Poorest: An Assessment for the Proxy Means Test Methodology*. Canberra: Australian Agency for International Development.
- Babiaz, K. S., Miller, G., Yi, H. M., Zhang, L. X., & Rozelle, S. (2010). New evidence on the impact of China's New Rural Cooperative Medical Scheme and its implications for rural primary healthcare: Multivariate difference-in-difference analysis. *BMJ*, 341, c5617.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bachmann, M. O., & Booyesen, F. L. R. (2003). Health and economic impact of HIV/AIDS on South African households: A cohort study. *BMC Public Health*, 3(14).
- Bales, S. (2013). Impact of health shocks on household welfare in Vietnam – Estimates using fixed effects estimation. *HEFPA Working Paper WP-18*.
- Barros, R. (2008). Wealthier but not much healthier: Effects of a health insurance programme for the poor in Mexico. Unpublished paper. <<http://www-siepr.stanford.edu/repec/sip/09-002.pdf>>.
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*, 60(1), 137-177.
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different? *Journal of Financial Economics*, 89, 467-487. Doi: 10.1016/j.jfineco.2007.10.005
- Beck, T., Demirgüç-Kunt, A., Laeven, L., & Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance*, 25, 932-952. Doi: 10.1016/j.jimonfin.2006.07.005
- Beegle, K. (2003). Labour effects of adult mortality in Tanzanian households. *World Bank Policy Research Working Paper 3062*. The World Bank.
- Beegle, K., De Weerd, J., & Dercon, S. (2007). Adult mortality and consumption growth in the age of HIV/AIDS. *CSAE WPS/2007-02*.
- Bellows, N. M., Bellows, B. W., & Warren, C. (2011). The use of vouchers for reproductive health services in developing countries: Systematic review. *Tropical Medicine and International Health*, 16(1), 84-96.
- Bridges, S., & Guariglia, A. (2008). Financial constraints, global engagement, and firm survival in the United Kingdom: Evidence from micro data. *Scottish Journal of Political Economy*, 55(4), 444-464.
- Bridges, S., & Lawson, D. (2008). Health and labour market participation in Uganda. *UNU-WIDER Discussion Paper No. 2008/07*.
- Carpenter, R. E., Fazzari, S. M., & Petersen, B. C. (1994). Inventory investment, internal-finance fluctuations, and the business cycle. *Brookings Papers on Economic Activity*, 2, 75-138.
- Carpenter, R. E., & Guariglia, A. (2008). Cash flow, investment, and investment opportunities: New tests using UK panel data. *Journal of Banking & Finance*, 32, 1894-1906. Doi: 10.1016/j.jbankfin.2007.12.014
- Carpenter, R. E., & Petersen, B. C. (2002a). Is the growth of small firms constrained by internal finance? *The Review of Economic and Statistics*, 84(2), 298-309.
- Carpenter, R. E., & Petersen, B. C. (2002b). Capital market imperfections, high-tech investment, and new equity financing. *The Economic Journal*, 112, F54-F72.
- Carrin, G., Gray, E., & Almeida, J. (1999). Coping with ill health in a rickshaw puller's household in Chittagong, Bangladesh. *Southeast Asian Journal of Tropical Medicine and Public Health*, 30(1), 136-148.
- Chen, Y. Y., & Jin, G. Z. (2012). Does health insurance coverage lead to better health and educational outcomes? Evidence from China. *Journal of Health Economics*, 31, 1-14.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Clementi, G., & Hopenhyn, H. (2006). A theory of financing constraints and firm dynamics. *Quarterly Journal of Economics*, 121, 229-265.
- Cotlear, D. *et al.* (2015). *Going Universal: How 24 Developing Countries Are Implementing Universal Health Coverage from the Bottom Up*. Washington: The World Bank.
- Cuevas, F., & Parker, S. W. (2010). The impact of health insurance on use, spending, and health in Indonesia. In Escobar, M. L., Griffin, C. C., & Shaw, R. P. (Ed.), *The impact of health insurance in low- and middle-income countries* (pp. 122-136). Washington: Brookings Institution Press.
- Daskalakis, N., Jarvis, R., & Schizas, E. (2013). Financing practices and preferences for micro and small firms. *Journal of Small Business and Enterprise Development*, 20(1), 80-101. <http://dx.doi.org/10.1108/14626001311298420>
- Davies, S. (2010). Do shocks have persistent impact on consumption? The case of rural Malawi. *Progress in Development Studies*, 10(1), 75-79. Doi:10.1177/146499340901000105
- De Weerd, J., & Dercon, S. (2006). Risk-sharing networks and insurance against illness. *Journal of Development Economics*, 81, 337-356.
- Demirgüç-Kunt, A., & Klapper, L. (2012). Financial inclusion in Africa. *World Bank Policy Research Working Paper No. 6088*. The World Bank.
- Dercon, S., Hoddinott, J., & Woldehanna, T. (2005). Shocks and consumption in 15 Ethiopian villages, 1999-2004. Unpublished paper.
- Dercon, S., & Krishnan, P. (2000). In sickness and in health: Risk sharing within households in rural Ethiopia. *Journal of Political Economy*, 108(4), 688-727.
- Duraisamy, P., Ganesh, A. K., Homan, R., Kumarasamy, N., Castle, C., Sripriya, P., Mahendra, V., & Solomon, S. (2006). Costs and financial burden of care and support services to PLHA and households in South India. *AIDS Care: Psychological and Social Aspect of AIDS/HIV*, 18(2), 121-127. Doi:10.1080/09540120500159359
- EIU. (2014, January 13). *Indonesia Launched Universal Healthcare*. The Economist Intelligence Unit. Retrieved from <http://www.eiu.com/industry/article/1071418091/indonesia-launches-universal-healthcare/2014-01-13>
- Ekman, B. (2004). Community-based health insurance in low-income countries: A systematic review of the evidence. *Health Policy and Planning*, 19(5), 249-270.
- Fink, G., Robyn, P. J., Sié, A., & Sauerborn, R. (2013). Does health insurance improve health? Evidence from a randomized community-based insurance rollout in rural Burkina Faso. *Journal of Health Economics*, 32, 1043-1056.
- Genoni, M. E. (2012). Health shocks and consumption smoothing: Evidence from Indonesia. Unpublished paper.
- Gertler, M. (1988). Financial structure and aggregate economic activity: An overview. *Journal of Money, Credit and Banking*, 20(3), 559-588.
- Gertler, P., & Gruber, J. (2002). Insuring consumption against illness. *The American Economic Review*, 92(1), 51-70.
- Gertler, M., & Hubbard, R. G. (1988). Financial factors in business fluctuations. *NBER Working Paper No. 2758*. National Bureau of Economic Research.

- Giedion, U., & Uribe, M. V. (2009). Colombia's universal health insurance system. *Health Affairs*, 28(3), 853-863.
- Gnawali, D. P., Pokhrel, S., Sié, A., Sanon, M., De Allegri, M., Souares, A., Dong, H. J., & Sauerborn, R. (2009). The effect of community-based health insurance on the utilisation of modern health care services: Evidence from Burkina Faso. *Health Policy*, 90, 214-222.
- Grosh, M. E., del Ninno, C., Tesliuc, E., & Ouerghi, A. (2008). *For Protection and Promotion: The Design and Implementation of Effective Safety Net*. Washington, DC: World Bank.
- Gruber, J., Hendren, N., & Townsend, R. (2012). Demand and reimbursement effects of healthcare reform: Healthcare utilisation and infant mortality in Thailand. *NBER Working Paper No. 17739*. Cambridge: National Bureau of Economic Research.
- Guariglia, A. (2008). Internal financial constraints, external financial constraints, and investment choice: Evidence from a panel of UK firms. *Journal of Banking & Finance*, 32, 1795-1809. Doi: 10.1016/j.jbankfin.2007.12.008
- Guariglia, A., Liu, X. X., & Song, L. (2011). Internal finance and growth: Microeconomic evidence on Chinese firms. *Journal of Development Economics*, 96, 79-94.
- Gupta, K. (1982). Determinants of corporate borrowing. A note. *Journal of Financial Economics*, 10, 115-116.
- Harimurti, P., Pambudi, E., Pigazzini, A., & Tandon, A. (2013). The nuts and bolts of Jamkesmas, Indonesia's Government-financed health coverage program for the poor and near-poor. *UNICO Studies Series 8*. Washington: The World Bank.
- Hubbard, R. G., & Kashyap, A. (1992). Internal net worth and the investment process: An application to U.S. agriculture. *NBER Working Paper No. 3339*. National Bureau of Economic Research.
- Hutchinson, J., & Xavier, A. (2006). Comparing the impact of credit constraints on the growth of SMEs in a transition country with an established market economy. *Small Business Economics*, 27, 169-179.
- Hyytinen, A., & Toivanen, O. (2005). Do financial constraints hold back innovation and growth? Evidence on the role of public policy. *Research Policy*, 34, 1385-1403. Doi: 10.1016/j.respol.2005.06.004
- ILO. (2008). *Social security in Indonesia: Advancing the development agenda*. Jakarta: International Labour Organisation.
- Jütting, J. P. (2004). Do community-based health insurance schemes improve poor people's access to health care? Evidence from rural Senegal. *World Development*, 32(2), 273-288.
- Karan, A., Engalgau, M., & Mahal, A. (2014). The household-level economic burden of heart disease in India. *Tropical Medicine and International Health*, 19(5), 581-591.
- Khan, F., Bedi, A. S., & Sparrow, R. (2015). Sicknes and death: Economic consequences and coping strategies of the urban poor in Bangladesh. *World Development*, 72, 255-266.
- King, G., Gakidou, E., Imai, K., Lakin, J., Moore, R. T., Nall, C., Ravishankar, N., Vargas, M., Téllez-Rojo, M. M., Ávila, J. E. H., Ávila, M. H., & Llamas, H. H. (2009). Public policy for the poor? A randomised assessment of the Mexican universal health insurance programme. *Lancet*, 373, 1447-1454.
- Kraft, A. D., Quimbo, S. A., Solon, O., Shimkhada, R., Florentino, J., & Peabody, J. W. (2009). The health and cost impact of care delay and the experimental impact of insurance in reducing delays. *The Journal of Pediatrics*, 155(2), 281-285.

- Lagarde, M., & Palmer, N. (2011). The impact of user fees on access to health services in low- and middle-income countries (review). *The Cochrane Library*, 4.
- Lei, X. Y., & Lin, W. C. (2009). The new cooperative medical scheme in rural China: Does more coverage mean more service and better health? *Health Economics*, 18, S25-S46.
- Leive, A., & Xu, K. (2008). Coping with out-of-pocket health payments: empirical evidence from 15 African Countries. *Bulletin of the World Health Organization*, 86, 849-856.
- Levine, D., Polimeni, R., & Ramage, I. (2015). Insuring health or insuring wealth? An experimental evaluation of health insurance in rural Cambodia. *Journal of Development Economics*. Manuscripts.
- Lindelow, M., & Wagstaff, A. (2005). Health shocks in China: Are the poor and uninsured less protected? *World Bank Policy Research Working Paper 3740*. Washington: The World Bank.
- Liu, K. (2013). Health insurance coverage for low-income households: Consumption smoothing and investment. Unpublished paper.
- Macinko, J., Guanais, F. C., & de Souza, M. de F. M. (2006). Evaluation of the impact of the Family Health Programme on infant mortality in Brazil, 1990-2002. *Journal of Epidemiol Community Health*, 60, 13-19.
- Mahal, A., Canning, D., Odumosu, K., & Okonkwo, P. (2008). Assessing the economic impact of HIV/AIDS on Nigerian households: A propensity score matching approach. *AIDS*, 22(suppl 1), S95-S101.
- Mahal, A., Karan, A., Fan, V. Y., & Engelgau, M. (2013). The economic burden of cancers on Indian households. *PLoS ONE*, 8(8), e71853.
- Mateev, M., & Anastasov, Y. (2010). Determinants of small and medium sized fast growing enterprises in Central and Eastern Europe: A panel data analysis. *Financial Theory and Practice*, 34(3), 269-295.
- Mateev, M., Poutziouris, P., & Ivanov, K. (2013). On the determinants of SME capital structure in Central and Eastern Europe: A dynamic panel analysis. *Research in International Business and Finance*, 27, 28-51. <http://dx.doi.org/10.1016/j.ribaf.2012.05.002>
- Mercer, L., & Morgan, W. (1972). Internal funds and automobile industry investment: An evaluation of the Seltzer hypothesis. *The Journal of Economic History*, 32(3), 682-690. Doi: <https://doi.org/10.1017/S0022050700077184>
- Meyer, C., Bellows, N., Campbell, M., & Potts, M. (2011). *The Impacts of Vouchers on the Use and Quality of Health Goods and Services in Developing Countries: A Systematic Review*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
- Miller, G., Pinto, D. M., & Vera-Hernández, M. (2009). High-powered incentives in developing country health insurance: Evidence from Colombia's Régimen Subsidiado. *NBER Working Paper No. 15456*. Cambridge: National Bureau of Economic Research.
- Mitra, S., Palmer, M., Mont, D., & Groce, N. (2015). Can households cope with health shocks in Vietnam? *Health Economics* (proceeding).
- Moreno-Serra, R., & Smith, P. C. (2012). Does progress towards universal health coverage improve population health? *Lancet*, 380, 917-923.

- Murphy, A., Mahal, A., Richardson, E., & Moran, A. E. (2013). The economic burden of chronic disease care faced by households in Ukraine: A cross-sectional matching study of angina patients. *International Journal for Equity in Health*, 12(38).
- Musso, P., & Schiavo, S. (2008). The impact of financial constraints on firm survival and growth. *Journal of Evolutionary Economics*, 18, 135-149. Doi: 10.1007/s00191-007-0087-z
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13, 187-221.
- Nguyen, C. V. (2011a). The impact of voluntary health insurance on health care utilisation and out-of-pocket payments: New evidence for Vietnam. *Health Economics*, 21, 946-966.
- Nguyen, C. V. (2011b). The impact of health insurance for children: Evidence from Vietnam. *MPRA Paper No. 36552*.
- Nguyen, H., & Wang, W. J. (2013). The effects of free government health insurance among small children – evidence from the free care for children under six policy in Vietnam. *The International Journal of Health Planning and Management*, 28, 3-15.
- Nguyen, H. T. H., Hatt, L., Islam, M., Sloan, N. L., Chowdhury, J., Schmidt, J. O., Hossain, A., & Wang, H. (2012). Encouraging maternal health service utilization: An evaluation of the Bangladesh voucher program. *Social Science & Medicine*, 74, 989-996.
- Pál, R., & Kozhan, R. (2009). Firms' investment under financial constraints: A euro area investigation. *Applied Financial Economics*, 19(20), 1611-1624.
- Palmer, M., Mitra, S., Mont, D., & Groce, N. (2015). The impact of health insurance for children under age 6 in Vietnam: A regression discontinuity approach. *Social Science & Medicine*, 145, 217-226.
- Panpiemras, J., Puttitanun, T., Samphantharak, K., & Thampanishvong, K. (2011). Impact of universal health care coverage on patient demand for health care services in Thailand. *Health Policy*, 103, 228-235.
- Parinduri, R. (2014). Family hardship and the growth of micro and small firms in Indonesia. *Bulletin of Indonesian Economic Studies*, 50(1), 53-73.
- Parmar, D., Reinhold, S., Soares, A., Savadogo, G., & Sauerborn, R. (2012). Does community-based health insurance protect household assets? Evidence from rural Africa. *Health Service Research*, 47(2), 819-837.
- Perdana, A. A. (2014). The future of social welfare program in Indonesia: From fossil-fuel subsidies to better social protection (briefing note). International Institute for Sustainable Development.
- Pohl, V., Neilson, C., & Parro, F. (2013). The effects of health shocks on employment: Evidence from accidents in Chile. Unpublished paper.
- Powell-Jackson, T., & Hoque, M. E. (2012). Economic consequences of maternal illness in rural Bangladesh. *Health Economics*, 21, 796-810. Doi:10.1002/hec.1749
- Quimbo, S. A., Peaboy, J. W., Shimkhada, R., Florentino, J., & Solon, O. (2011). Evidence of a causal link between health outcomes, insurance coverage, and a policy to expand access: Experimental data from children in the Philippines. *Health Economics*, 20, 620-630.
- Robyn, P. J., Fink, G., Sié, A., & Sauerborn, R. (2012). Health insurance and health-seeking behaviour: Evidence from a randomised community-based insurance rollout in rural Burkina Faso. *Social Science & Medicine*, 75, 595-603.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Rahaman, M. M. (2011). Access to finance and firm growth. *Journal of Banking & Finance*, 35, 709-723. Doi: 10.1016/j.jbankfin.2010.09.005
- Rein, W. (2003). Are finance constraints hindering the growth of SMEs in Europe? *EIB Papers*, 8(2), 23-50.
- Rocco, L., Tanabe, K., Suhrcke, M., & Fumagalli, E. (2011). Chronic diseases and labour market outcomes in Egypt. *World Bank Policy Working Paper 5575*. The World Bank.
- Rocha, R., & Soares, R. R. (2010). Evaluating the impact of community-based health interventions: Evidence from Brazil's Family Health Programme. *Health Economics*, 19, 126-158.
- Rosella, D., Aquino, R., & Barreto, M. L. (2010). Impact of Family Health Programme on the quality of vital information and reduction of child unattended deaths in Brazil: An ecological longitudinal study. *BMC Public Health*, 10(380).
- Sembinging, M. (2008). *SMEs Growth and Development in Indonesia*. Joint Regional Workshop on SME Development and Regional Economic Integration. Tokyo, Japan. 22-26 September.
- Shi, W. X., Chongsuvivatwong, V., Geater, A., Zhang, J. H., Zhang, H., & Brombal, D. (2011). Effect of household and village characteristics on financial catastrophe and impoverishment due to health care spending in Western and Central rural China: A multilevel analysis. *Health Research Policy and System*, 9(16).
- Simmonds, A., & Hort, K. (2013). Institutional analysis of Indonesia's proposed road map to universal health coverage. *Health Policy and Health Finance Knowledge Hub Working Paper 33*. Nossal Institute for Global Health, University of Melbourne, Australia.
- Spaan, E., Mathijssen, J., Tromp, N., McBain, F., ten Have, A., & Baltussen, R. (2012). The impact of health insurance in Africa and Asia: A systematic review. *Bulletin of the World Health Organisation*, 90, 685-692.
- Sparrow, R. et al. (2014). Coping with the economic consequences of ill health in Indonesia. *Health Economics*, 23, 719-728.
- Sparrow, R., Suryahadi, A., & Widyanti, W. (2013). Social health insurance for the poor: targeting and impact of Indonesia's *Askeskin* programme. *Social Science & Medicine*, 96, 264-271.
- Strauss, J., K. Beegle, B. Sikoki, A. Dwiyanto, Y. Herawati, & F. Witoelar (2004). *The Third Wave of the Indonesia Family Life Survey (IFLS3): Overview and Field Report*. WR-144/1-NIA/NICHD.
- Strauss, J., F. Witoelar, B. Sikoki, & A.M. Wattie (2009a). *The Fourth Wave of the Indonesia Family Life Survey (IFLS4): Overview and Field Report*. WR-675/1-NIA/NICHD.
- Surmarto, S., & Bazzi, S. (2011). Social protection in Indonesia: Past experiences and lessons for the future. The 2011 Annual Bank Conference on Development Opportunities, Paris, 30 May – 1 June. The World Bank and OECD.
- Thomas, D., Frankenberg, E., Friedman, J., Habicht, J. P., Hakimi, M., Ingwersen, N., Jaswadi, Jones, N., McKelvey, C., Pelto, G., Sikoki, B., Seemen, T., Smith, J. P., Sumantri, C., Suriastini, W., & Wilopo, S. (2006). Causal effect of health on labor market outcomes: Experimental evidence. Unpublished paper.
- Thornton, R. L., Hatt, L. E., Field, E. M., Islam, M., Diaz, F. S., & González, M. A. (2010). Social security health insurance for the informal sector in Nicaragua: A randomised evaluation. *Health Economics*, 19, 181-206.

- Townsend, R. M. (1994). Risk and insurance in India. *Econometrica*, 62(3), 539-591.
- Vargas, J. P. M. (2012). Binding constraints: Does firm size matter? *MPRA Paper No. 41286*, posted 13 September.
- Wagstaff, A. (2007). The economic consequences of health shocks. *Journal of Health Economics*, 26, 82-100.
- Wagstaff, A. (2010). Estimating health insurance impacts under unobserved heterogeneity: The case of Vietnam's health care fund for the poor. *Health Economics*, 19, 189-208.
- Wagstaff, A., & van Doorslaer, E. (2003). Catastrophe and impoverishment in paying for health care: With applications to Vietnam 1993-1998. *Health Economics*, 12, 921-934.
- Wagstaff, A., & Lindelow, M. (2008). Can insurance increase financial risk? The curious case of health insurance in China. *Journal of Health Economics*, 27, 990-1005.
- Wagstaff, A., & Lindelow, M. (2014). Are health shocks different? Evidence from a multi-shock survey in Laos. *Health Economics*, 23, 706-718.
- Wagstaff, A., Lindelow, M., Jun, G., Ling, X. & Qian, J. C. (2009). Extending health insurance to the rural population: An impact evaluation of China's new cooperative medical scheme. *Journal of Health Economics*, 28, 1-19.
- Wagstaff, A., & Pradhan, M. (2006). Health insurance impacts on health and nonmedical consumption in developing country. *Policy Research Working Paper 3563*. Washington DC: The World Bank.
- Wagstaff, A., & Yu, S. C. (2007). Do health sector reforms have their intended impacts? The World Bank's Health VIII project in Gansu province, China. *Journal of Health Economics*, 26, 505-535.
- WHO. (2015). *Tracking Universal Health Coverage: First Global Monitoring Report*. Geneva: World Health Organisation.
- World Bank. (2008). Investing in Indonesia's health: Challenges and opportunities for future public spending. Jakarta: The World Bank.
- Yamauchi, F., Buthelezi, T., & Velia, M. (2008). Impacts of prime-age adult mortality on labour supply: Evidence from adolescents and women in South Africa. *Oxford Bulletin of Economics and Statistics*, 70(3), 375-398. Doi:10.1111/j.1468-0084.2008.00504.x
- Yilma, Z. *et al.* (2014). Coping with shocks in rural Ethiopia. *The Journal of Development Studies*, 50(7), 1009-1024.
- Yip, W., & Hsiao, W. C. (2009). Non-evidence-based policy: How effective is China's new cooperative medical scheme in reducing medical impoverishment? *Social Science & Medicine*, 68, 201-209.
- Yip, W., Wang, H., & Hsia, W. (2008). *The Impact of Rural Mutual Health Care on Access to Care: Evaluation of a Social Experiment to Rural China*. Boston, M. A.: Harvard School of Public Health.
- Zhang, J., Gan, L., Xu, L. X. C., & Yao, Y. (2014). Health shocks, village elections, and household income: Evidence from rural China. *China Economic Review*, 30, 155-168. <http://dx.doi.org/10.1016/j.chieco.2014.06.006>

Green Purchasing Capabilities and Green Purchasing Practices Toward Triple Bottom Line Performance

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Abstract

Over the last two decades, growing concern about environmental and ecosystem quality has led to a renewed interest in environmentalism. Increasing awareness of the general public and stakeholders, firms need to be more transparent in addressing and managing the environmental and social issues. More environmentally conscious companies should proactively involve their suppliers when designing their green purchasing practices to improve the environmental performance of products and business processes. This research is positioned to explore how buyer firms are utilizing suppliers in support of environmental purchasing and supplier management. This could be the gap and very significant area of focus in terms of environmental impact. This research is using two sources of the data, the journal publications as the secondary data and field interviews as the primary data with six ISO 14001 certified companies. The purpose of interview is to identify whether any similarity or differences of the variables from the literature review for the green capabilities strategies for Malaysian context. The main objective of this research is to investigate the major problems, concepts and variables related to green procurement capability, green purchasing practices and the impact on triple bottom line performance. This study is using resource-based view theory (RBV) as the base for the development of a theoretical framework to study the impact of green capabilities and practices to achieve organization competitive advantage and firm sustainability.

Keywords: Green purchasing capabilities, green purchasing practices, triple bottom line performance, resource based view.

INTRODUCTION

The multitude of the environmental challenges, such as the exploitation of natural resources, loss of biodiversity, climate change, reused and issue in recycling of wastes have attracted the attention of various stakeholders, especially those parties who are focusing on sustainability practices (Chen and Chang, 2012; Molina-Azorín et al., 2009; Haden et al., 2009). Tate et al., 2012, Aschehoug et al., (2012), Sarkis et al., (2010) recognized that the environmental issue has dramatically increased consumers' awareness of environmental problems. Procurement has evolved into a strategic function in the supply chain, where 50 to 75 percent spent on costs in a purchase of materials (Zailani et al., 2012; Dobrzykowski, 2012). Firms are beginning to recognize the role that suppliers play in sustainability initiatives (Tate et al., 2012). As a result, green purchasing has been increasingly getting the interest of business due to the growing awareness of the environment, concern for the environment and uncompromising adherence towards the environmental regulations (Yu and ching , 2012) Therefore, it would be fruitful to initiate sustainability practices through green sourcing or procurement (Carter and Rogers, 2008). The firm should extend sustainability practices to external operations such as improving their supplier base than focused sustainability efforts only in their internal operations (Eltayeb et al., 2011). This focus has created a gap between the conceptual models and the practical implementations for this study.

However, successfully adopting these green strategies is often a challenging task, especially when firms are controlled by their limited resources and capabilities (Klassen and Whybark, 1999; Lee and Klassen, 2008; Wu and Pagell, 2011). Drawing on the resource-based view (RBV) has noted that the implementation of strategies requires firms to possess appropriate resources and capabilities (Barney, 1991; Wernerfelt, 1984; Steinle and Schiele,

2008; Barney, 2012; Zimmermann and Foerstl, 2014) to achieve corporate strategy and firm performance (Gold et al., 2010; Beske et al., 2014). The competitiveness of organizations has gone beyond building quality products at low costs in a timely manner (Sarkis et al., 2010), but they have to adjust their business models and to reallocate their resources (Sharma et al., 1999; Mutungi, 2013; Montabon et al., 2007 and Bala et al. 2008) for the green supply management opportunity. Therefore, the practice of sustainability is no longer optional, but rather it is mandatory.

LITERATURE REVIEW

Green Purchasing Practices

While supply chain management was gaining attention both in practice and academic literature, the concept of strategic purchasing has also been emerging (Song et al., 2017). Zhu (2008) and Carter and Carter (1998) defined green purchasing as focuses on cooperating with suppliers for the purpose of developing products that are environmentally sustainable. Supplier selection and management decisions related to environmental purchasing management are among the largest drivers of sustainability of an organization and the footprint of its products (Tate, 2012). Supplier development programs include factors such as trust building, financial investment, relational norm development, knowledge transfer (Bai and Sarkis, 2010; Vachon and Klassen, 2008; Fu et al., 2012). The main supplier environmental collaboration could result in improved environmental performance; the activities are such as Supplier education, supplier support, and Joint ventures. In particular, Vachon and Klassen (2008) and Geffen and Rothenberg (2000) showed that collaboration with suppliers on environmental issues is related to manufacturing performance improvements. Evaluative activities refer to the assessment and monitoring of the environmental performance of suppliers. The environmental assessment of suppliers together with collaborative practices have a positive impact on environmental performance (Zhu and Sarkis, 2007; Rao and Holt, 2005; Gimenez et al., 2012). Lee and Klassen (2008) showed that both evaluation and collaboration together produce a better environmental performance for suppliers. Ağan et al. (2016) and Wen-li et al. (2003) found a positive correlation between the degree of supplier evaluation and purchasing performance.

Green Purchasing Capabilities

Green purchasing capabilities can be defined as a collection of complex individual skills, assets and knowledge applied in organizational practices that enable firms to organize their operation activities and resource utilization in order to achieve the firms' goals and objectives. Lau and Wang (2009), Ray et al. 2004 and Chen et al. (2004) viewed capabilities as the ability of a firm to work closely with a limited number of suppliers and to integrate internally within their supply-chain members in order to create sustainable competitive advantage for long-term mutual gains. Many studies have highlighted procurement as a significant function for firm performance. However, in the research by Ordanini and Rubera (2008), they found that the driver of the procurement capability of a firm is still unknown. Also, less attention was given on how purchasing function could develop capabilities in order to positively influence firm performance (Dobrzykowski et al., 2012; Hult et al., 2004). Environmentally proactive firms may be more willing to deploy their resources and capabilities to launch green initiatives (Newbert's, 2007). Similarly, corporate environmental proactivity's firm may affect the effective exploitation of capabilities for successful green strategy implementation (Yang, 2017) and believed to have great influence on its strategic decisions for competitive outcomes (González-Benito, 2005). Successful implementation of green strategies requires possessing and deploying their specific capabilities and the ability of a firm to identify, utilize, and assimilate both internal and external resources to facilitate the entire supply chain activities (Wu and pagell, 2011)

Triple bottom line performance

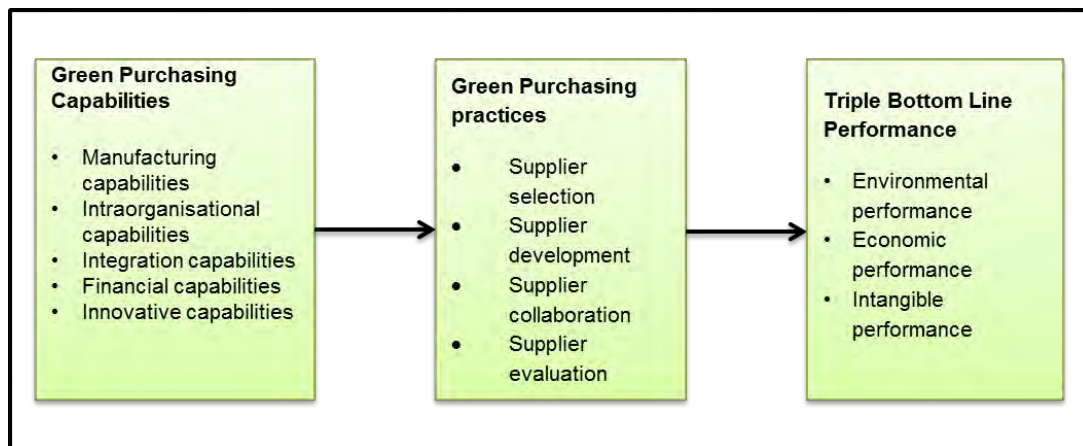
The idea of the triple bottom line was developed by Elkington (1998, 2004) at a broader level, consists of three components: the natural environment, society, and economic performance for organizational sustainability. Markley and Davis (2007) supported the idea behind the TBL paradigm, that corporations should measure their performance not only by evaluating the traditional bottom line but also by considering the ecological and social responses to environmental issues. There is also a growing awareness of building the firm sustainability principles into their supply chain management as an integration and realization of

a company's economic, environmental, and intangible objectives to improve the company's long-term performance.

Resource-based view theory

The earlier works on the Resource-based view theory (RBV) found that Resource-based theorists view the firm as a unique bundle of resources and capabilities, that if employed in distinctive ways, could create competitive advantage (Wernerfelt, 1984; Barney, 1991, 2001; Grant, 1991; Peteraf, 1993; Rungtusanatham et al., 2003; McIvor, 2009). A resource with the potential to create competitive advantage must meet a number of criteria. The resource must be valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Some firms perform better than others by explicitly looking at the internal resources and capabilities, to generate new knowledge and bring inimitability to its resource-capability framework (Kraaijenbrink et al., 2010; Song et al., 2007). As such, Resource-Based View can be seen as an appropriate perspective for considering how purchasing and supply management functions can potentially generate competitive advantage through their sustainability-related activities (Luzzini et al., 2015)

PROPOSED CONCEPTUAL FRAMEWORK



RESEARCH METHODOLOGY

Methodology

The objective of this research is to discover and green purchasing capabilities, green purchasing practices and triple bottom line performance in the Malaysia context. This research is using two sources of the data, the journal publications to compete for the secondary data and using field interviews to collect the primary data. Firstly, we will be focused and searched for relevant environmental green purchasing article to identify the capabilities, practices and triple bottom line to fit and scope and research framework for this study, followed by a qualitative study to obtain the primary data by using 6 case studies method to conduct field interviews in Malaysia. A summary of the study design is illustrated as below:

Research Procedure

Quantitative content analysis of the literature

We have adopted content analysis method for the literature review. Content analysis is used to systematically evaluate the symbolic content of all forms of documents and texts that seek to quantify content in terms of predetermined categories and in a systematic and replicated manner. This method also helps to identify the literature in terms of various, thereby creating a realm of research opportunities (Jayant, 2010). We focused on a literature review regarding the areas for environmental green purchasing to determine the base and the scopes where we used to establish the foundation of our research framework. Finally, we cross validate the variables identified via content analysis to field interviews of practitioners. The literature review was thus important to create guidelines and highlight aspects that needed to be observed in the case studies.

Qualitative content analysis of the field interview

For the primary data, we employed multiple cases study method, Multiple cases allow for iteratively approaching the research objectives, thus checking inferences drawn from one case against the empirical evidence of the other cases through replication logic (Yin, 2009). For this reason, semi-structured interviews were employed, thus allowing an exploration of the different orientations of the conceptual framework of environmental green procurement. The data gathered from in-depth interviews conducted with six manufacturers in central Peninsular Malaysia. Interviews would be the best method to collect data in view of the lack of study in green procurement, especially pertaining to variables that are lacking in the literature. In this work, six case studies were conducted. Interviews are important because they reveal relationships with people involved with the phenomena being analyzed on a daily basis, and who experience them fully (Shah and Corley, 2006). Thus, responsible for the environmental, purchasing and production sectors were interviewed at all the companies. In terms of data analysis, Siggelkow (2007) highlights the necessity of a strong theoretical background that helps consistently filter data according to conceptual arguments for successfully dealing with the abundance of data case study research produces. We responded to this call by using qualitative content analysis to analyze the data (Duriiau et al., 2007).

DATA ANALYSIS

Result Quantitative content analysis

From the quantitative content analysis, the researcher has focused are on a paper dealing green purchasing in term of the capabilities, green purchasing practices and areas on the firm sustainability and triple bottom line. We also reviewed articles dealing with evaluates the RBV on the green initiative in order to answer the research questions for this study using the field interview for 6 cases study:

Green Procurement Practices

- Supplier selection: This can be defined as the conditions and factors used to evaluate the capabilities of suppliers and selecting the right parties for long-term competitive advantage for the buying firm (Choi and Hartley, 1996; Vonderembse and Tracey, 1999)
- Supplier development: It is the efforts of the buying firm to improve the performance and capabilities of the suppliers in order to meet the short term or long-term supply needs and objectives of a buying firm (Rodríguez et al., 2005).
- Supplier collaboration: The buying firm improves the environmental and manufacturing performance of suppliers by extending green purchasing management through collaborative activities with its suppliers for further improvement (Vachon and Klassen, 2008).
- Supplier evaluation: The buying firm carries out the supplier assessment, provides incentives, training, and working directly with the suppliers to improve the performance of the latter while initiating a competition among all the suppliers for firm performance (Cormican and Cunningham, 2007).

Triple Bottom Line

Triple bottom line (TBL) focuses not only on the economic value of corporations but also on the environmental and social benefit. All these three dimensions must be discussed together (Elkington, 1998). Sustainability in TBL can be defined as the pursuit of the tripartite of economic, environmental, and social performance for an organization (Foerstl et al., 2010).

- Environmental performance: This refers to the ability of a of implementing the internal and external green initiatives on the natural environment of a firm. (Bowen et al., 2001a; Rao, 2002; Vachon and Klassen, 2008; Zhu and Sarkis, 2004; Zhu et al., 2013; Zhu et al., 2008; Gimenez et al., 2012).
- Intangible Performance: This performance will not be able to be quantified and justified easily; it can be referred to as the organizational image in the eyes of the public and customer satisfaction (Gimenez et al., 2012).
- Economic performance: This refers to the ability of the manufacturing firms to reduce the costs related to the purchase of materials, energy consumption, waste treatment and discharge, increase profitability and sales, market share, and productivities (Carter

et al., 2000; Rao and Holt, 2005; Zhu and Sarkis, 2004; Zhu et al., 2008; Gimenez et al., 2012).

Green purchasing Capability

In the RVB theory, resources and capabilities are considered the core elements for a firm. However, capabilities arise as a result of the ability of a firm to create value by utilizing and combining the resources through the processes and activities of a firm (Barney, 2001).

- Strategic capability: The ability in identifying and developing reliable suppliers that could reduce costs in purchasing transactions while maintaining relationships with external suppliers and internal activities to achieve long-term sustainability goals (Ordanini and Rubera, 2008).
- Recovery capability: This refers to the capability to recover as much as possible from the economic and ecological value in order to reduce waste to a minimum level (Thierry et al., 1995).
- Resource base Capability: These resources are embedded in business processes of a firm and use its capabilities to perform business processes (Stalk, 1992).
- Innovation capability: Innovation is a broad and multidimensional concept that lead to the implementation of new technology or improved products or services (Kafetzopoulos and Psomas, 2015) and for the purpose of creating new value for customers and financial returns for the firm. (Santolaria et al., 2011).
- Speed capability to the market: These refer also the capability to increase the competitiveness of a firm, its speedy introduction of products to capture market share in order to maximize financial performance by introducing the new products development into the market (Richey et al., 2005).
- Design capability: This capability includes green eco-design capabilities or designs for recycling (Lau and Wang, 2009).
- Integration capability: Based on Vachon and Klassen (2008), environmental integration is a direct involvement of a firm with its suppliers and customers to develop environmental solutions.
- Organizational capability: This is the capability of an organization to allocate and coordinate its resources effectively and efficiently (Chang, Chiou, & Wang, 2007).
- Information sharing: This refers to the capability of the mutual sharing of information as the backbone for a successful implementation of supply chain philosophy (Bechtel and Jayaram, 1997, Mentzer et al. (2001).
- Cooperative capabilities: organizations require cooperative capabilities of employees to work together reduce and improve the impact of environmental issues (Hart, 2005) and reach mutual understanding, thus contributing to the benefits of reducing risk in the reversed supply chains (Srivastava and Srivastava, 2006).
- Financial capability: Financial capability is the ability to make environmental investments, such as the green technology and green initiative by an organization (Murillo-Luna et al., 2011).
- Manufacturing capability: The ability of a firm to introduce new manufacturing technology and the capability of improving working conditions, reducing cost and usage of raw materials, and energy consumption. (Talbot et al., 2007; Größler and Grübner, 2006).

Result Qualitative content analysis of the field interview

For confidentiality purpose, all these companies are labelled as company A, B, C, D, E and F. High degree of reliability is achieved by thoughtful selection of key informants, we focused on these companies because they are major players in town and high possibility to engage in green practices and focus on firm sustainability. The researcher then will analyze those related words and phrases and then grouped them together to create an inclusive list of similarities that could be labeled as concepts. For example, the code generated from G1 is the manufacturing capabilities, researcher will continue to identify whether there is any similarities comment for manufacturing capabilities, and the researcher will continue to identify the new phase/text in order to explore a new theme/concept for the same company, a part of the manufacturing capability, G2 and G3 emerged as another main concept found in the data for company A.

Table.1: Key Profile for All Companies Participating in the Interview

<i>Item</i>	<i>Company A</i>	<i>Company B</i>	<i>Company C</i>	<i>Company D</i>	<i>Company E</i>	<i>Company F</i>
<i>Year Established</i>	1995	1978	1997	1971	1959	1967
<i>Number of Employees</i>	187	150	300	376	389	152
<i>Business Type</i>	FMCG	Packaging	Packaging	Plastic materials	Raw material	Packaging
<i>Annual Sales</i>	RM315 Million	RM380 Million	RM 193Million	RM 231 Million	RM 1100 Million	RM 185 Million
<i>Products</i>	Consumer product	Paper packaging	2 piece Al can	Lamination base film, PE shrinkable film.	Sugar	Metal container for packaging
<i>Quality Standards</i>	ISO 9001, ISO 14001, HACCP	ISO 9001, ISO 14001	ISO 9001, ISO 22000, HACCP	ISO 9001, ISO 22000, ISO 14001 OHSAS 18001	ISO 9001, ISO 9002, ISO 14001	ISO 9001, ISO 14001

This step will be applied for the subsequent sessions for green purchasing practices, S1, S2 and so on and for the triple bottom line, P1, P2 and P3. The findings of these case studies will be summarized in a cross-case analysis to highlight matching and contrasting findings throughout the six cases to enhance validity and reliability of data analysis.

Company	Key point for capabilities	Open code assigned
A	<p>The purchasing team must be able to integration with the entire supply chain members, QA, R&D and manufacturing is crucial to buy the green products for new development to ensure new product launch On time.</p> <p>Cost saving program is the annual activity where purchasing department is required to cut cost based on the budgeted value.</p> <p>The purchaser must equip with the manufacturing knowledge so that they could work with plant personnel for cost improvement program.</p>	<p>Integration (IC)</p> <p>Innovation, design and speed (I & DC)</p> <p>Financial (FC)</p> <p>Manufacturing (MC)</p>
B	<p>The purchasing function is committed to coordination with the supply chain, sales and marketing QA and R&D is crucial.</p> <p>The team must equip with commercial awareness/information, with strategic planning for raw and packaging materials to support for the local team and work closely with their HQ.</p> <p>They need to be proactive to gather the market information in term of supply or cost structure.</p> <p>They must also understand market demands, in order to be more competitive for all the new development to</p>	<p>Integration (IC)</p> <p>Strategy (SC)</p> <p>Financial (FC)</p>

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	maintain their number one position in the overall market share. The purchaser must have the manufacturing knowledge to ensure the sourcing process for new items are align with company green policy, in order to collaborate with the suppliers to ensure the best quality and service obtained from time to time.	Innovation, design and speed (I & DC) Manufacturing (MC)
C	Technical knowledge, information, and integration capability, from supplier integration at the upper stream and customer integration capability at downstream in the supply chain. Analysing cost structure with long term strategic planning to ensure continuous supply of the raw materials. (Tinplate).	Manufacturing (MC) Integration (IC) Financial (FC)
D	Continuous improvement throughout the supply chain for better coordination, Improvement for new specification for cost saving program	Integration (IC) Financial (FC)
E	The purchasing team need to have manufacturing/ technical skills during purchasing, to ensure cost saving for the company to good refinery management and the constant upgrading of machinery and equipment in the plant from time to time. The purchase must have the hedging skill for raw sugar in the international market for hedging their raw materials. This is the long term strategic in their purchase planning. The basic integrating skills such as sourcing, selecting and collaboration and evaluation with suppliers/agents are critical for the purchaser to ensure the get the best cost for the company.	Manufacturing (MC) Financial (FC) Strategy (SC) Integration (IC)
F	Internal supply chain collaboration, to reduce waste and use resource effectively. The purchaser must have the market information for hedging and work closely with customers for strategic sourcing for LME. The basic technical skills for supplier selection and evaluation, working with customers for new development for cost saving program. Example such as down gauging/cost saving program for new renovation/design. (Such as 202 lids, down gauge can body)	Integration (IC) Strategy (SC) Manufacturing (MC)

Company	Practices	Open code assigned
A	This company is the food and beverage company. (FMCG) The main objectives for the company are to ensure that health and safety considerations are part of the decision making processes for purchasing of service, product, equipment and substances. The company focuses on the selection of the approved suppliers, set strict green standard for supplier, development and collaboration with suppliers and yearly scheduled audit on main suppliers will be carried out from time to time.	Selection (s) Development (D) Collaboration (C) Evaluation (E)
B	This is the MNC Company, producing paper packaging for beverages. They will work with	Selection (S)

	suppliers that comply with the United Nations declaration and Conventions on Human rights, right of child, safe and healthy working condition, as well as to the international labour organization conventions. Therefore, they are very careful in the supplier selection and evaluation, and collaborate closely with the entire supplier to ensure they meet their requirement. In this case, they will only buying from “chain of custody certified” suppliers. Environmental performance is one criterion for selecting and evaluating suppliers and for awarding business.	Collaboration (C) Evaluation (E)
C	This company is the packaging manufacturer for FMCG. Supplier collaboration and working relationship is very important for them for further improvement. Due to the requirement from their customers, they also requested their suppliers for following improvement; reduce in use for scarce natural resource, energy and water.	Selection (S) Collaboration (C)
D	This is the company producing plastic packaging for all use. They work hand in hand together with the resin suppliers who are the renowned scientist in their own field, such as chemical, petroleum, oil and gas; engineering. They also participate in their supplier program, such as new materials development, bio-degradable materials, new product application. All of these will compliment and synergies each other towards global live positive and sustainability issue. The purchaser also asks for the report and information on materials sources on yearly evaluation.	Development (D) Collaboration (C) Evaluation (E)
E	This is the sugar refinery in Malaysia. Purchasing team has worked closely with the reliable contactor and suppliers. The environmental protection is one of the important criteria when selecting new technologies and equipment. They have achieved significant progress in the areas of energy efficiency, environmental impact and reduced consumption of utilities and consumable materials.	Selection (S) Collaboration (C)
F	Working closely with those suppliers with green environmental awareness, continuous develop and explore for new products with improve specification; Supplier collaboration and evaluation are very critical to ensure they have a pool of qualified suppliers that can support their green procurement practices. Major suppliers audit will be planned on half yearly basis to ensure compliance and meeting their requirement.	Selection (S) Development (D) Collaboration (C) Evaluation (E)

Company	Triple bottom line	Open code assigned
A	There is an corporate social responsibility for the society, They hope to project a good image for their company and hope to bring less impact on environmental issue, At the same , they hope they could improve their cost by reducing recall, they want consumers to see their product as the safe and health products with their green initiatives.	Image (IM) Environment (EN) Cost (CT)
B	The Image of transparency, safe, healthy and green environment project a good image for the company. By implementing green procurement, they believe solid relationships with all the key suppliers, founded in trust and mutual advantage where they could strive to be a preferred customer to their suppliers.	Image (IM)
C	Cost is critical for our customers; we could reduce materials use in the final product, without compromising the quality, At the same time, reduce the usage in energy and reduce waste.	Cost (CT) Environmental (EN)
D	Cost reduction for customers, better way of use of the materials, reduce energy and water consumption for environmental, use in chemical and reduce production of waste, and more systematic way of disposal or discharge the toxic substances according to regulation.	Cost (CT) Environmental (EN)
E	Better way of material utilization, reduced the use of the materials, energy and water consumption for environmental impact, and discharge of toxic substances into ecosphere, lead to cost improvement for their product.	Environmental (EN) Cost (CT)
F	Managed to reduce the impact of the environmental issue such as reduction in effluent and emission, efficient in waste and recycle process and make sustainable use of resources or cost improvement program.	Environmental (EN) Cost (CT)

Based on the findings, the green purchasing capabilities in Malaysia are manufacturing capabilities, Intra organizational capabilities, integration capabilities, financial capabilities and innovative capabilities. The resource base capabilities and organizational capabilities are identified and grouped under the “Intra organizational capabilities”, while “innovative, design and speed” are grouped under “innovative capability” as all these capabilities share similar initiatives. A similar basis is applied to “integration and cooperation”, as both terms were interchangeably used during the interviews. Information capability was embedded in “integration”. Recovery capability was grouped under the “manufacturing capability”. We present our findings based on each section commences with a cross-case analysis, followed by a discussion of our findings in comparison to our initial propositions. Based on the interview transcripts, we summarized findings in below Tables:

Company	Integration capabilities	Innovative capabilities	Financial capabilities	Manufacturing capabilities	Intraorganisational capabilities
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A	√	√	√	√	
B	√	√	√	√	√
C	√		√	√	
D	√		√		
E	√		√	√	√
F	√			√	√
Total	6	2	5	5	3
Percent	28.6	9.5	23.8	23.8	14.28

These findings suggest that the integration is the most important capability is needed as purchasing personnel, followed by the financial capability and manufacturing capability. All these have an important role to play to improve business outcomes. The score for Integration capabilities is 28,6, followed by financial and manufacturing capabilities of 23.8

Company	Supplier selection	Supplier development	Supplier Collaboration	Supplier evaluation
A	√	√	√	√
B	√		√	√
C	√		√	
D		√	√	√
E	√		√	
F	√		√	√
Total	5	2	6	4
Percent	29.41	11.76	35.29	23.52

The study provides evidence that supplier collaboration play an important role where it allows buyer and supplier firms to establish common norms, and inter-personal linkages, which facilitate joint problem solving and informal integration, and in turn, leads to improved performance (Cannon and Perreault, 1999; Prahinski and Benton, 2004). The next most important concept is supplier selection As a matter of fact, the supplier development may be perceived as less important in Malaysia context. The score for supplier collaboration is 35.29 and followed by supplier selection of 29.41.

Company	Environment performance	Economic performance	Intangible performance
A	√	√	√
B			√
C	√	√	
D	√	√	
E	√	√	
F	√	√	

Total	5	5	2
Percent	41.66	41.66	16.66

Based on triple bottom line performance is as below. We concluded that environment and economy are equally important for firm performance in Malaysia context. For comparison with the performance identified in the content analysis, shows that triple bottom line focuses very strongly on the environment and economic performance, the intangible performance is insignificant at this stage of research. Both environmental and economic are getting the same score of 41.66.

CONCLUSION AND DISCUSSION

All the capabilities stated above are categorized under the resource base capabilities and shall be used as independent variables for this study and for the development of the final frame to reflect the green purchasing practices among the manufacturing firms. Hence, the findings from the interviews could be accepted as the basis to support the variables for the green purchasing capabilities in the Malaysian context. From the analysis of data derived from the interviews, researcher could identify there are four main activities in respect of purchasing practices in the Malaysian context; namely supplier selection, development, collaboration, and evaluation. This study provides evidence that green purchasing practices (Selection, development, collaboration and evaluation) are well implemented in Malaysia even though the degree of the impact are vary from plant to plant. Sustainability performance on the triple bottom line was mentioned in the interviews. For triple bottom line performance, we concluded that environmental, economic and intangible performance is important for firm sustainability. All interviewee talked about these constructs. The analysis shows that triple bottom line considerations did not play a substantial role in the intangible performance; instead, they focused very strongly on the environment and economic outcomes.

This study aims to identify what are the green capabilities that needed to implement the green purchasing practices toward the triple bottom line performance among the ISO 14001 manufacturing firms in Malaysian, using two sources from journal publication as the secondary data and using field interview as primary data through the case study method. Using quantitative content analysis of the 65 selected journal articles reveals the green purchasing and compares the results through the case study interviewing with six manufacturers in Malaysia, we found the consistencies and similarities in term of the variables in between the quantitative and qualitative methods for Malaysia context. From the field interview, we noticed those firms involving in “green “concept increased their efforts in managing suppliers are directly influenced the purchasing practice in their supplier selection, evaluation, development, and assessment. Similarly, those firms are increasingly becoming responsible for environmental and social problems view sustainability not only as a chance to contribute to social goals but also as a powerful source of competitive advantage and a matter of corporate survival.

Our finding from field interview support that the RVB is appropriate for explaining the green purchasing capabilities toward the firm performance. From a theoretical perspective, we can explain the effect of all these capabilities in term of RBV theory. Firms with appropriate capabilities in possession will be in the best position to adopt the environmental activities. This study presumes that these main green capabilities strategies (manufacturing capabilities, integration capabilities, financial capabilities) have a direct positive effect on the extent of the Triple bottom line performance. The finding from the filed interview what the practitioner is doing in Malaysia contact is the reflection of the review done in the quantitative content analysis. The result showed that the green purchasing capabilities and green purchasing practices are consistency basing on the literature review that conducted. Purchasing must promote high level of working relationship with their supply base to ensure an exchange of information flow and sharing of knowledge where the value creation with suppliers hinges on the purchasing’s capability. Therefore, purchasing professionals should restructure green purchasing practices pertaining to the environmental impact on their immediate suppliers where it has become a challenging task for many companies. Such capabilities can gain a sustainable competitive

advantage by enabling firms to build and leverage beneficial inter and intra organizational relationships towards sustainability and firm performance.

REFERENCES

- Adham, K. N., & Siwar, C. (2012). The Establishment of Government Green Procurement Practices in Malaysia: The Way Forward. *International Journal of Sustainable Development*, 5(8), 41-50.
- Ağan, Y., Kuzey, C., Acar, M. F., & Açıkgöz, A. (2016). The relationships between corporate social responsibility, environmental supplier development, and firm performance. *Journal of Cleaner Production*, 112, Part 3, 1872-1881.
- Amit, R., & Schoemaker, P. J. . (1993). Strategic assets and organizational rent. *Strategic Management Journal*, 14(1), 33-46.
- Jayant, A., Gupta, P., Garg, S.K. (2012). Perspectives in Reverse Supply Chain Management(R-SCM): A State of the Art Literature Review *Jordan Journal of Mechanical and Industrial Engineering*, 6(1), 87-102.
- Aschehoug, S. H., Boks, C., & Støren, S. (2012). Environmental information from stakeholders supporting product development. *Journal of Cleaner Production*, 31, 1-13. doi: 10.1016/j.jclepro.2012.02.031.
- Awasthi, A., & Kannan, G. (2016). Green supplier development program selection using NGT and VIKOR under fuzzy environment. *Computers & Industrial Engineering*, 91, 100-108. doi:<https://doi.org/10.1016/j.cie.2015.11.011>
- Azadegan, A., Bush, D., & Dooley, K.J. (2008). Design creativity: static or dynamic capability? *International Journal of Operations & Production Management*, 28(7), 636-662. doi:<http://dx.doi.org/10.1108/01443570810881794>.
- Bai, C., & Sarkis, J. (2010). Green supplier development: analytical evaluation using rough set theory. *Journal of Cleaner Production*, 18(12), 1200-1210. doi:10.1016/j.jclepro.2010.01.016
- Bala, A., ; Muñoz, Paco,; Rieradevall, Joan,; Ysern, Pere. (2008). Experiences with greening suppliers. The Universitat Autònoma de Barcelona. *Journal of Cleaner Production*, 16(15), 1610-1619. doi:10.1016/j.jclepro.2008.04.015
- Barney, J. B. (1991). Firm resource and sustained competitive advantage. *Journal of Management*, 17, 99-120.
- Barney, J. B. (2001). Is the resource-based "view" a useful perspective for strategic management research? Yes. *The Academy of Management Review*, 26(1), 41-56.
- Barney, J. B. (2012). Purchasing, supply chain management and sustained competitive advantage, the relevance of resource based theory *Journal of Supply Chain Management*, 48(2), 3.
- Bechtel, C., & Jayaram, J. (1997). Supply chain management: a strategic perspective. *The International Journal of Logistics Management*, 8(1), 15-34.
- Berns, M., Townend, A., Khayat, Z., Balagopal, B., Reeves, M., Hopkins, M., & Kruschwitz N. (2009). The business of sustainability. *MIT Sloan Management Review*, 1–82.
- Beske, P., Land, A., & Seuring, S. . (2014). Sustainable supply chain management practices and dynamic capabilities in the food industry: A critical analysis of the literature. . *International Journal of Production Economics*, 152, 131-143.

- Black, J. A., & Boal, K.B. (1994). Strategic resources: Traits, configurations and paths to sustainable competitive advantage. *Strategic Management Journal*, 15, 131-148.
- Bowen, F. E., Cousins, P.D., Lamming, R.C., & Faruk, A.C. (2001a). Horse for courses: explaining the gap between the theory and practice of green supply. *Greener Management International*, 35, 41-60.
- Brundtland, G. H. (1987). Report of the World Commission on environment and development: "our common future." . *United Nations*.
- Butler, T. (2011). Compliance with institutional imperatives on environmental sustainability: Building theory on the role of Green IS. *The Journal of Strategic Information Systems*, 20(1), 6-26. doi:10.1016/j.jsis.2010.09.006.
- Carr, A. S., & Pearson, J.N. (2002). The impact of purchasing and supplier involvement on strategic purchasing and its impact on firm's performance. *International Journal of Operations & Production Management*, 22(9/10), 1032-1053.
- Carter, C. R., Ellram, L. M., & Ready, K. J. (1998). Environmental purchasing: Benchmarking our German counterparts. *International Journal of Purchasing and Materials Management*, 34(4), 28-38.
- Carter, C. R., Kale, R., & Grimm, C.M. (2000). Environmental purchasing and firm performance: an empirical investigation. *Transportation Research Part E: Logistics and Transportation Review*, 36(3), 219-228. doi:http://dx.doi.org/10.1016/S1366-5545(99)00034-4.
- Carter, C. R., & Rogers, D.S. (2008). A framework of sustainable supply chain management: moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 38(5), 360-387. doi:10.1108/09600030810882816.
- Carter, C. R., & Carter, J. R. (1998). Interorganizational determinants of environmental purchasing: Initial evidence from the consumer products industries. *decision Sciences*, 29(3), 659-684.
- Chang, H. R., Chiou, W.C., & Wang, S.L. (2007). Studying the Development of Firm's Organizational Capability: An Analysis of Large Enterprise in Taiwan. *Journal of Accounting, Finance & Management Strategy*, 3(1), 79-97.
- Chen, I., Paulraj, A., & Lado, A. (2004). Strategic purchasing, supply management, and firm performance. *Journal of Operations Management*, 22(5), 505-523. doi:10.1016/j.jom.2004.06.002.
- Chen, Y. S., & Chang, C. H. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3), 502-520. doi:10.1108/00251741211216250.
- Choi, T. Y., & Hartley, J. L. (1996). An exploration of supplier selection practices across the supply chain. *Journal of Operation Management*, 14(4), 333-343.
- Cormican, K., & Cunningham, M. (2007). Supplier performance evaluation: lessons from a large multinational organisation. *Journal of Manufacturing Technology Management*, 18(4), 352-366. doi:http://dx.doi.org/10.1108/17410380710743752
- De Toni, A. F., De Zan, G., & Battistella, C. (2016). Organisational capabilities for internal complexity: an exploration in the Coop stores. . *Business Process Management Journal*, 22(1), 196-230.

- Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35(12), 1504-1511.
- Dobrzykowski, D. D., Hong, P. C., & Park, J. S. (2012). Building procurement capability for firm performance: a service-dominant logic view. *An International Journal* 19(4/5), 567-584. doi:10.1108/14635771211258016.
- Duriau, V. J., Rhonda K. Reger, and Michael D. Pfarrer. no. 1 (2007): 5-34. (2007). "A content analysis of the content analysis literature in organization studies: Research themes, data sources, and methodological refinements.". *Organizational research methods* 10,, 1, 5-34.
- Eltayeb, T. K., Zailani, S., & Jayaraman, K. (2010). The examination on the drivers for green purchasing adoption among EMS 14001 certified companies in Malaysia. *Journal of Manufacturing Technology Management*, 21(2), 206-225. doi:10.1108/17410381011014378
- Eltayeb, T. K., Zailani, S., & Ramayah, T. (2011). Green supply chain initiatives among certified companies in Malaysia and environmental sustainability: Investigating the outcomes. *Resources, Conservation and Recycling*, 55(5), 495-506. doi:http://dx.doi.org/10.1016/j.resconrec.2010.09.003.
- Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of Operations Management*, 28(1), 58-71. doi:10.1016/j.jom.2009.06.001.
- Foerstl, K., Reuter, C., Hartmann, E., & Blome, C. (2010). Managing supplier sustainability risks in a dynamically changing environment – sustainable supplier management in the chemical industry. *Journal of Purchasing and Supply Management*, 16(2), 118-130.
- Geffen, C., & Rothenberg, S. (2000). Suppliers and environmental innovation: The automotive paint process. *International Journal of Operations and Production Management*, 20(2), 166–186.
- Gimenez, C., Sierra, V., & Rodon, J. (2012). Sustainable operations: Their impact on the triple bottom line. *International Journal of Production Economics*, 140(1), 149-159. doi:10.1016/j.ijpe.2012.01.035.
- Giunipero, L. C., Hooker, R. E., & Denslow, D. (2012). Purchasing and supply management sustainability: Drivers and barriers. *Journal of Purchasing and Supply Management*, 18(4), 258-269. doi:10.1016/j.pursup.2012.06.003.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California management review*, 33(3), 114-135.
- Größler, A., & Grübner, A. (2006). An empirical model of the relationships between manufacturing capabilities. *International Journal of Operations & Production Management*, 26(5), 458-485.
- Größler, A. (2010). An exploratory system dynamics model of strategic capabilities in manufacturing. *Journal of Manufacturing Technology Management*, 21(6), 651-669. doi:http://dx.doi.org/10.1108/17410381011063978
- Haden, S.S.P., Oyler, J. D., & Humphreys, J. H. (2009). Historical, practical, and theoretical perspectives on green management: an exploratory analysis. *Management Decision*, 47(7), 1041-1055.
- Hart, S. L. (2005). *Capitalism at the crossroads: The unlimited business opportunities in solving the world's most difficult problems*. New Jersey: Pearson Education.

- Hendricks, K. B., & Singhal, V. R. (2003). The effect of supply chain glitches on shareholder wealth. *Journal of Operations Management*, 21(5), 501-522.
- Hoek, R. v., Johnson, M., Godsell, J., & Birtwistle, A. (2010). Changing chains: Three case studies of the change management needed to reconfigure European supply chains. *The International Journal of Logistics Management*, 21(2), 230-250. doi:10.1108/09574091011071933
- Hult, G., Tomas, M., Ketchen, D. J. Jr. & Slater S. F. (2004). Information processing, knowledge development and strategic supply chain performance. *Academy of Management Journal*, 47(2), 241-253.
- Hunt, S. D., & Davis, D. F. (2008). Grounding supply chain management in resource-advantage theory. *Journal of Supply Chain Management*, 44(1), 10-21.
- Huo, B. (2012). The impact of supply chain integration on company performance: an organizational capability perspective. *Supply Chain Management: An International Journal*, 17(6), 596-610.
- Igarashi, M., De Boer, L., & Fet, A. M. (2013). What is required for greener supplier selection? A literature review and conceptual model development. *Journal of Purchasing and Supply Management*, 19(4), 247-263.
- Kafetzopoulos, D., & Psomas, E. (2015). The impact of innovation capability on the performance of manufacturing companies. The Greek case. *Journal of Manufacturing Technology Management*, 26(1), 104-130. doi:10.1108/jmtm-12-2012-0117.
- Klassen, R. D., & Whybark, D. C. (1999). The impact of environmental technologies on manufacturing performance. *Academy of Management Journal*, 42(6), 599-615.
- Klassen, R. D., & Vachon, S. (2003). Collaboration and evaluation in the supply chain: The impact on level environmental investment. *Production and Operations Management*, 12(3), 336-352.
- Kraaijenbrink, J., Spender, J. C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management*, 36(1), 349-372.
- Large, R.O. (2005). Communication capability and attitudes toward external communication of purchasing managers in Germany. *International Journal of Physical Distribution & Logistics Management*, 35(6), 426-444. doi:10.1108/09600030510611657.
- Large, R.O., & Thomsen, C.G. (2011). Drivers of green supply management performance: Evidence from Germany. *Journal of Purchasing and Supply Management*, 17(3), 176-184. doi:10.1016/j.pursup.2011.04.006.
- Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial Marketing Management*, 29, 65-83.
- Lau, K. H., & Wang, Y. (2009). Reverse logistics in the electronic industry of China: a case study. *Supply Chain Management: An International Journal*, 14(6), 447-465.
- Lee, S. Y., & Klassen, R. D. (2008). Drivers and Enablers That Foster Environmental Management Capabilities in Small and Medium Sized Suppliers in Supply Chains. *Production Operations Management*, 17(16), 573-586. doi:10.3401/poms.1080.0063.
- Liao, Y., Hong, P., & Roa, S.S. (2010). Supply management, supply flexibility and performance outcomes: An empirical investigation of Manufacturing firms. *Journal of Supply Chain Management*, 46(3), 6-22.

- Liu, D.Y., & Chen, S.W. (2008). The Role of Innovation Capability in Organizational Change: The Case of J&S Bank. *The Business Review*, Cambridge, 11(1), 90-96.
- Luzzini, D., Brandon-Jones, E., Brandon-Jones, A., & Spina, G. (2015). From sustainability commitment to performance: The role of intra- and inter-firm collaborative capabilities in the upstream supply chain. *International Journal of production Economics*, 165, 51-63. doi:<https://doi.org/10.1016/j.ijpe.2015.03.004>
- Markley, M J., & Davis, L. (2007). Exploring future competitive advantage through sustainable supply chains. *International Journal of Physical Distribution & Logistics Management*, 37(9), 763-774.
- Mata, F. J. Fuerst, W. L., & Barney, J. B. (1995). Information technology and sustained competitive advantage: A resource-based analysis. *MIS Quarterly*, 19(4), 487-505.
- McIvor, R. (2009). How the transaction cost and resource-based theories of the firm inform outsourcing evaluation. *Journal of Operations Management*, 27, 45-63. doi:10.1016/j.jom.2008.03.004.
- McNabb, D. E. (2002). *Research methods in public administration and nonprofit management*. 3A.E. Sharpe Armonk, New York London, England
- Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business Logistics*, 22(2), 1-25.
- Min, H., & Galle W. P. (2001). Green purchasing practices of US firms. *International Journal of Operations & Production Management*, 21(9/10), 1222-1238.
- Molina-Azorín, J. F., Claver-Cortés, E., Pereira-Molina, J., & Tarí, J. J. (2009). Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry. *Journal of Cleaner Production* 17, 516-524.
- Montabon, F., Sroufe, R., & Narasimhan, R. (2007). An examination of corporate reporting, environmental management practices and firm performance. *Journal of Operations Management*, 25(5), 998-1014. doi:10.1016/j.jom.2006.10.003.
- Murillo-Luna, J. L., Garcés-Ayerbe, C., & Rivera-Torres, P. (2011). Barriers to the adoption of proactive environmental strategies. *Journal of Cleaner Production* 19(13), 1417–1425. doi:10.1016/j.jclepro.2011.05.005.
- Musa, N. D., Buniamin, S., Johari, N. H., Ahmad, N., Abd Rauf, F. H., and Rashid, A. (2013). Key Indicators Towards the Implementation of Green Government Procurement in Malaysia *World Applied Sciences Journal*, 28, 127-135. doi:10.5829/idosi.wasj.2013.28.efmo.27020.
- Muslan, N., Hamid, A. B. A., Tan, H., & Idris, H. (2013). Practices of green supply chain management (GSCM) towards manufacturing sustainability. *International Proceedings of Economics Development and Research*, 66(14), 74-80.
- Mutingi, M. (2013). Developing green supply chain management strategies: A taxonomic approach. *Journal of Industrial Engineering and Management*, 6(2), 525-546. doi:10.3926/jiem.475.
- Myers, M. D. (1997). Qualitative research in information systems. *Management Information Systems Quarterly*, 21(2), 241-242.
- Newbert, S. (2007). Empirical research on the Resource-Based View of the firm: An assessment and suggestions for future research. *Journal of Strategic Management*, 28, 121-146.

- Ordanini, A., & Rubera, G. (2008). Strategic capabilities and internet resources in procurement: A resource-based view of B-to-B buying process. *International Journal of Operations & Production Management*, 28(1), 27-52.
- Peteraf, M.A. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic Management Journal*, 14(3), 179-191.
- Prahinski, C. A. (2001). *Communication strategies and supplier performance evaluations in an industrial supply chain*. (3031249 Ph.D.), The Ohio State University, Ann Arbor. Retrieved from <http://search.proquest.com/docview/304719375?accountid=28930> ABI/INFORM Complete database.
- Pressey, A. D., Winklhofer, H. M., & Tzokas, N. X. (2009). Purchasing practices in small to medium-sized enterprises: An examination of strategic purchasing adoption, supplier evaluation and supplier capabilities. *Journal of Purchasing and Supply Management*, 15(4), 214-226.
- Pruess, L. (2001). In dirty chains? Purchasing and greener manufacturing. *Journal of Business Ethics*, 34(3/4), 345-359.
- Rao, P. (2002). Greening the supply chain: A new initiative in South East Asia. *International Journal of Operations & Production Management*, 22(5/6), 632-655.
- Rao, P., & Holt, D. (2005). Do green supply chain lead to competitiveness and economic performance? *International Journal of Operations and Production Management*, 25(9), 898-916.
- Ray, G., Barney, J. B., & Muhanna, W. A. (2004). Capabilities, business processes, and competitive advantage: choosing the dependent variable in empirical of test in resource base view. *Strategic Management Journal*, 25(1), 23-37.
- Reed, R., & DeFillippi, R. J. (1990). Causal ambiguity, barriers to imitation, and sustainable competitive advantage. *Academy of Management Review*, 15(1), 88-102.
- Reuter, C., Foerstl, K., Hartmann, E., & Blome, C. (2010). sustainable global supplier management: The role of dynamic capabilities in achieving competitive advantage. *Journal of Supply Chain Management*, 46(2), 45-63.
- Richey, R. G., Genchev, S. E., & Daugherty, P. J. (2005). The role of resource commitment and innovation in reverse logistics performance. *International Journal of Physical Distribution & Logistics Management*, 35(3/4), 233-257.
- Rio, M., Reyes, T., & Roucoules, L. (2013). Toward proactive (eco)design process: modeling information transformations among designers activities. *Journal of Cleaner Production*, 39, 105-116. doi:10.1016/j.jclepro.2012.07.061.
- Shah, S. K., & Corley, K. G. (2006). Building better theory by bridging the quantitative-qualitative divide. *Journal of Management Studies*, 43(8), 1835.
- Siggelkow, N. (2007). Persuasion with case studies. *The Academy of Management Journal*, 50(1), 20-24.
- Song, W., Xu, Z., & Liu, H. C. (2017). Developing sustainable supplier selection criteria for solar air-conditioner manufacturer: An integrated approach. *Renewable and Sustainable Energy Reviews*, 79, 1461-1471. doi:<https://doi.org/10.1016/j.rser.2017.05.081>
- Srivastava, S. K., & Srivastava, R. K. (2006). Managing product returns for reverse logistics. *International Journal of Physical Distribution & Logistics Management*, 36(7), 524-546.

- Steinle, C., & Schiele, H. (2008). Limits to global sourcing? *Journal of Purchasing and Supply Management*, 14(1), 3-14. doi:10.1016/j.pursup.2008.01.001
- Svensson, G., & Bååth, H. (2008). Supply chain management ethics: conceptual framework and illustration. *Supply Chain Management: An International Journal*, 13(6), 398-405. doi:10.1108/13598540810905651
- Talbot, S., Lefebvre, É., & Lefebvre, L. A. (2007). Closed-loop supply chain activities and derived benefits in manufacturing SMEs. *Journal of Manufacturing Technology Management*, 18(6), 627-658. doi:doi:10.1108/17410380710763831.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Thierry, M., Salomon, M., Van Nunen, J., & Van Wassenhove, L. (1995). Strategie issues in product recovery management. *California Management Review*, 37(2), 114-135.
- Vachon, S., & Klassen, R. D. (2008). Environmental management and manufacturing performance: The role of collaboration in the supply chain. *International Journal of Production Economics*, 111(1), 299-315.
- Vonderembse, M. A., & Tracey, M. (1999). The impact of supplier selection criteria and supplier involvement on manufacturing performance. *Journal of Supply Chain Management*, 35(3), 33-39.
- Wen-li, L., Humphreys, P., Chan, L. Y., & Kumaraswamy, M. (2003). Predicting purchasing performance: the role of supplier development programs. *Journal of Materials Processing Technology*, 138(1-3), 243-249.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5, 171-180.
- Winter, S.G. (2000). The satisficing principle in capability learning. *Strategic Management Journal*, 21(10-11), 981-996.
- Wu, Z., & Pagell, M. (2011). Balancing priorities: Decision-making in sustainable supply chain management. *Journal of Operations Management*, 29(6), 577-590. doi:10.1016/j.jom.2010.10.001.
- Yang, C. L., Lin, S. P., Chan, Y. H., & Sheu, C. (2010). Mediated effect of environmental management on manufacturing competitiveness: an empirical study. *International Journal of Production Economics*, 123(1), 210-220.
- Yang, L., Zhu, Q., & Seuring, S. (2017). Linking capabilities to green operations strategies: The moderating role of corporate environmental proactivity. *International Journal of Production Economics*, , 187, 182-195.
- Yoon, S. N., Lee, D., & Schniederjans, M. (2016). Effects of innovation leadership and supply chain innovation on supply chain efficiency: Focusing on hospital size. *Technological Forecasting and Social Change*, 113, 412-421. doi:http://dx.doi.org/10.1016/j.techfore.2016.07.015
- Zailani, S.H.M., Eltayeb, T.K., Hsu, C.C., & Tan, K C. (2012a). The impact of external institutional drivers and internal strategy on environmental performance. *International Journal of Operations & Production Management*, 32(6), 721-745. doi:10.1108/01443571211230943.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Zhu, Q., & Geng, Y. (2013). Drivers and barriers of extended supply chain practices for energy saving and emission reduction among Chinese manufacturers. *Journal of Cleaner Production*, 40, 6-12.
- Zimmermann, F., & Foerstl, K. . (2014). A Meta-Analysis of the "Purchasing and Supply Management Practice–Performance Link". . *Journal of Supply Chain Management*., 50(3), 37-54.
- Zsidisin, G. A., & Ellram, L. M. (2003). An agency theory investigation of supply risk management. *Journal of Supply Chain Management*, 39(2), 15-27.
- Zsidisin, G. A., & Siferd, S. P. (2001). Environmental purchasing: a framework for theory development. *European Journal of Purchasing & Supply Management*, 7(1), 61-73.

Service Quality in the Malaysian Private Higher Education Institutions

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Abstract

The intense competitive landscape for higher education is forcing Malaysian private higher education institutions (PHEIs) to develop strategies that are more effective and pay more attention to the students' needs. The purpose of this study is to investigate the students' perceptions on service quality, on satisfaction and behavioural intention in Malaysian private universities. The study will be carried out on the selected PHEIs by using the quota sampling technique. Self-administered questionnaires will be designed and distributed to the targeted students. The study will use Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyse the collected data, assess the model and test hypotheses. The findings of the study would contribute to the academic theory of service quality, satisfaction and behavioural intentions. Besides, the management of the universities would be able to use these findings to improve the existing policies or introduce new policies and practices for improving the quality of services offered to the students. In addition, the study will adopt a comprehensive data reliability and validity by using PLS-SEM which will further enhance the research framework and methodology.

Keywords: Service quality, satisfaction, behavioural intentions, private higher education institutions and Malaysia.

INTRODUCTION

The intense competitive landscape for higher education are forcing private higher education institutions (PHEIs) to develop strategies that are more effective and pay more attention to the students' needs. The demand in higher education can be seen from the large flow of students studying abroad and the increasing number of colleges and universities providing educational services across borders (Lim, Yap & Lee, 2010). Since 1990, Malaysia has experienced enormous growth in higher education, especially in the number of public and private higher educational institutions. In 1990, Malaysia has only 7 public universities, now has increased to 20 universities with approximately 566,266 students pursuing their tertiary education in the respective public universities. However, private universities has also gain the substantial attention on their fast-growing trend both from local and imported foreign universities (Ministry of Higher Education, 2017). According to the enrolment statistic from Ministry of Higher Education, there are about 15,000 students studied in the PHEIs in 1985. Today, the number of student enrolled in the private universities is more than the public universities. There are approximately 608,378 students who have registered with 513 PHEIs which include 402 colleges and 111 private universities and university colleges in Malaysia. Many private colleges and universities face the challenging problems of declining student enrolment, poor strategic marketing planning, intense competition between other private colleges or universities that offer the same courses and service quality. Thus, many PHEIs are trying to improve their university brand by providing higher quality service to their students (Datta and Vardhan, 2017).

For the needs of the study, a service quality measurement tool referred to as SERVQUAL developed by Parasuraman, Zeithaml and Berry (1988) was used. The SERVQUAL defines customer satisfaction as the gap between customer expectation and actual performance. The measurement of perceived quality will be used to examine if the actual service provided is perceived as satisfactory by the students. There are two main objectives in this study. Firstly, this research will measure the gaps between student expectation levels of service and their perception of service quality performance. Secondly, this research will also

analyse the relationship among students' perceived service quality, satisfaction and behavioural intention. With this perspective, there is an urgent need for thorough investigation that will be offered in this study, in order to measure the student perceptions' of service quality, satisfaction and behavioural intention within HEIs, particularly, in the private sector.

LITERATURE REVIEW

Service Quality

Service quality is the customer's judgment about a service overall performance (Zeithaml, 1988). Dedek (2003) defined service quality as the capability to meet and exceed the results that the provider and the customer mutually defined and embraced at the beginning of a service encounter. Parasuraman et al. (1985, 1988 & 1991) proposed a well-known framework for measuring service quality, the SERVQUAL scale. The original SERVQUAL comprised of ten determinant service factors. However, following extensive statistical analysis in 1988 revealed significant correlations between several of the factors as the ten service factors reduced into five. The five suggested service quality dimensions are tangible, reliability, responsiveness, assurance and empathy (Parasuraman et al., 1988 & 1991). The SERVQUAL model has been found to be a useful tool for understanding the service quality from the customer perspective. The model allows researchers to measure the gap between customers' expectations of service and their perceived service experiences.

Student Satisfaction

Satisfaction has been defined as an emotional state of mind created by exposure to a service experience, while service quality is interpreted as an evaluation of the attributes of a service which are primarily controlled by a supplier (Baker & Crompton, 2000). Wong (2004) refers satisfaction as a set of emotional responses which take place during the consumption experience. Customer satisfaction is thus important for service organisations and is highly related with service quality. The customer's experience within the service process is an important determinant of their satisfaction with the service and facilitates their assessment of service quality (Parasuraman et al., 1985; Bitner, 1990). Mahapatra & Khan (2007) highlighted that an institution need to satisfy several customers and stakeholders including students, alumni, parents, employer and government, but the students being the main. It is important to measure students' feedback on service quality. Students' feedback on the quality of services provided by the institute is useful for performance improvement of the institute including in the teaching aspects and training curriculum content as a guide to prospective students to choose the institute and as a method of quality measurement (Sid Nair, Murdoch, & Mertova, 2011).

Student Behavioural Intention

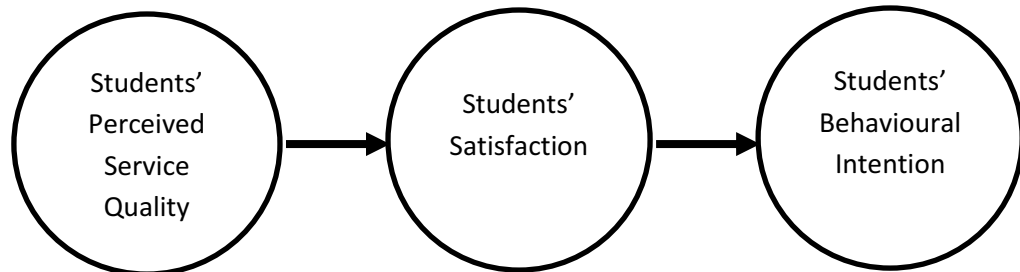
There is a strong evidence which suggests that it is the satisfaction of the customer that determines future intention and behaviour towards the service (McDougall & Levesque, 2000; Zeithaml & Bitner, 1996). Behavioural intentions to return and to recommend are considered to be an outcome of overall satisfaction (Anderson & Mital, 2000; Hennig-Thurau, Langer, & Hansen, 2001). Jones and Suh (2000) found that overall satisfaction has a direct influence on how likely customers were to re-use the service. Evidences also have shown that customer satisfaction and service quality perceptions affect consumer intentions to behave in other positive ways include praising the firm, preferring one company over others, increasing their volume of purchases, or agreeably paying a price premium (Zeithaml & Bitner, 1996). Kau and Loh (2006) found that satisfied customers are more likely to trust the firm and talk positively about it to family and friends.

Boulding, Kalra, Staelin and Zeithaml (1993) found strong links between service quality and other behavioural intentions of strategic importance to a university. These include saying positive things about the school, planning to pledge to contribute money to the class upon graduation and planning to recommend the school to employers as a place from which to recruit. These students may also show the intention to return and undertake other courses/degrees offered by the same higher educational institution (Olsen & Johnson, 2003), other forms of training and development courses, and may also continue even after graduation to maintain a relationship with the institution through donations (Henning-Thurau et al., 2001).

CONCEPTUAL FRAMEWORK

Based on the literature review mentioned above, a conceptual framework is constructed and proposed to study the students' perceptions on service quality, on satisfaction and behavioural intention in Malaysian private universities. This is illustrated in Figure 1.

Figure 1: Proposed Conceptual Framework



Relationship between Expectation and Perception of Service Quality

Parasuraman et al. (1985) cited the differences between customer expectations and perceptions statements as perceived service quality. Service quality levels are higher when the gap between perception of performance and desired expectations is non-existent or small, while the levels of satisfaction exist when perceived performance exceeds predicted expectations (Parasuraman et al., 1988). The value of generating separate ratings for expectation and perception levels of service quality is utilizing a two-column format, which generates separate ratings of service with two identical, side-by-side scales. It required computing the expectation and perception service level differences to analyse the gap between expectations and perceptions of service quality, which is perceived service quality (Parasuraman et al., 1994). Therefore, the following hypothesis is formed:

Hypothesis 1: There is a significant correlation between expectations and perceptions of service quality levels in higher educational setting.

Relationship among Student Perceived Service Quality, Student Satisfaction and Student Behavioural Intention

Guo, Xiao and Tang (2009) study demonstrated that the relationship between satisfaction and customer retention, where increased levels of satisfaction may result in increased intentions to repeat purchase, consumption or use of a product and/or service thus increasing their intention to remain effectively retained. Since several studies show a relationship between quality, satisfaction, retention and customer loyalty, it can be stipulated that benchmarking on quality of service becomes an indicator of long-term relationships and serves as a guarantee that the service provider will meet expectations, thereby reducing levels of uncertainty (De Cannière, De Pelsmacker, & Geuens, 2009). Hence, it is believed that there is a strong relationship between students' satisfaction and students' behavioural intentions. Therefore, a hypothesis is developed as follow:

Hypothesis 2: Students' perceived service quality influences students' satisfaction and students' behavioural intention.

RESEARCH METHODOLOGY

Research Design

This study is used to address the research problem on how the students' perceived service quality will influence student satisfaction and student behavioural intention in the higher education setting. Several theories are adopted and applied in the present study such as service quality, satisfaction, and behavioural intention. The mentioned theories are applied specifically on students studying in PHEIs in Malaysia. Thus, it can be concluded that applied research is employed in the sake of achieving the research objectives. A quantitative research

is adopted in this study. The data will be collected via self-administered questionnaire. All the numerical data would be analysed by various statistical analyses to test specific hypotheses. For the purpose of this study, a quantitative research methodology is built from current literature using SERVQUAL for the evaluation of services in higher education settings.

Sampling Design

The target sampling for this study is PHEIs with self-accrediting status as listed in the MQA website. The self-accreditation status is awarded to higher education providers which have demonstrated a strong and stable internal quality assurance system. The self-accreditation system for Malaysian public and private universities was first introduced by MOHE in 2010. It was designed to encourage growth in Malaysia's higher education landscape. The first batch of recipients of the self-accrediting status included Universiti Putra Malaysia (UPM), Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), Monash University Malaysia, University of Nottingham Malaysia Campus, Curtin University Sarawak and Swinburne University of Technology Sarawak.

On March 2017, MOHE has announced another eight higher learning institutions to receive their self-accrediting status. This status entitles the respective university's senate to accredit its programmes based on the standard set by MQA. The eight universities which received the self-accrediting status are Universiti Tunku Abdul Rahman (UTAR), Universiti Teknologi MARA (UiTM), Universiti Teknologi Petronas (UTP), International Medical University (IMU), Universiti Utara Malaysia (UUM), Universiti Islam Antarabangsa Malaysia (UIAM), Universiti Tenaga Nasional (UNITEN) and Multimedia University (MMU). The PHEIs with self-accrediting status have a long establishment since their inception, rich experience in operating the university, effective policy and internal quality assurance system, well planning and maintenance of facilities and equipment, hire a qualified and professional academic staff and administrative staff and a stable enrolment of student both local and international students. The target respondent for this study is individual student who is studying at the PHEIs with self-accrediting status. The sample size should be set to 384 at the level of 100,000 based on the sample size table proposed by Krejcie and Morgan (1970). A non-probability sampling and quota sampling technique will be used to select qualified respondents from the PHEIs to participate in this study.

DATA ANALYSIS

This study will adopt SERVQUAL model with a set of 22 questions identified as 'Expectations' and 'Perceptions' to analyse and determine the frequency and means of the responses. The gap between expectations and perceptions on each of the items was reviewed in terms of the most positive and most negative gaps. Subsequently, this study will perform reliability analysis. Cronbach's alphas will be computed for each set of variables measuring the same dimension to provide evidence of reliability. Reliability analysis will be utilised for expectation and perceptions of service quality. Next, this study will also analyse the descriptive statistics. Standard descriptive statistics such as means, standard deviations and variances were replied for all variables to analyse the data set. Lastly, the outputs of PLS-SEM will be used to explain the proposed hypothesise of this study.

CONTRIBUTION

Theoretical Implications

This study can contribute to the academic theory of service quality, satisfaction and behavioural intentions. The study aims to provide a theoretical framework for service quality measurement in the context of higher education in general and Malaysian's PHEIs in particular.

Managerial Implications

This study will also provide a set of recommendations for service quality improvements through the empirical investigation, the extent to which service quality can contribute towards the formulation of student retention strategies for the higher education institutions. Policy makers in the higher education industry can make use of the findings to strengthen their quality

management by reinforcing marketing communications, service quality and student satisfaction and student behavioural intention.

CONCLUSION

In summary, the objective of this paper is to attempt in giving a suggested framework for understanding the students' perceptions on service quality, on satisfaction and behavioural intention in Malaysian private universities. This model will act as the basis for those researchers in the future. In the interim, the authors are in the midst of designing a questionnaire and will collect data from the student respondents who study in the PHEIs with self-accrediting status. The results of this data collection will be reported in the near future. It is believed that this study will give the policy makers in the higher education industry an even better understanding on the associations among service quality, satisfaction and behavioural intention in the higher education industry in Malaysia.

REFERENCES

- Anderson, E. W., & Mittal, V. (2000). Strengthening the satisfaction-profit chain. *Journal of service research*, 3(2), 107-120.
- Baker, D. A., & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. *Annals of tourism research*, 27(3), 785-804.
- Bitner, M. J. (1990). Evaluating service encounters: the effects of physical surroundings and employee responses. *The Journal of Marketing*, 69-82.
- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A dynamic process model of service quality: from expectations to behavioral intentions. *Journal of marketing research*, 30(1), 7.
- Datta, K. S., & Vardhan, J. (2017). A SERVQUAL-based framework for assessing quality of international branch campuses in UAE: A management students' perspective. *SAGE Open*, 7(1).
- De Cannière, M. H., De Pelsmacker, P., & Geuens, M. (2009). Relationship quality and the theory of planned behavior models of behavioral intentions and purchase behavior. *Journal of Business Research*, 62(1), 82-92.
- Dedeke, A. (2003). Service quality: a fulfilment-oriented and interactions-centred approach. *Managing Service Quality: An International Journal*, 13(4), 276-289.
- Guo, L., Xiao, J. J., & Tang, C. (2009). Understanding the psychological process underlying customer satisfaction and retention in a relational service. *Journal of Business Research*, 62(11), 1152-1159.
- Hennig-Thurau, T., Langer, M. F., & Hansen, U. (2001). Modeling and managing student loyalty: An approach based on the concept of relationship quality. *Journal of Service Research*, 3(4), 331-344.
- Jones, M. A., & Suh, J. (2000). Transaction-specific satisfaction and overall satisfaction: an empirical analysis. *Journal of Services Marketing*, 14(2), 147-159.
- Kau, A. K., & Wan-Yiun Loh, E. (2006). The effects of service recovery on consumer satisfaction: a comparison between complainants and non-complainants. *Journal of Services Marketing*, 20(2), 101-111.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Lim, Y. M., Yap, C. S., & Lee, T. H. (2011). Destination choice, service quality, satisfaction, and consumerism: International students in Malaysian institutions of higher education. *African Journal of Business Management*, 5(5), 1691.
- Mahapatra, S. S., & Khan, M. S. (2007). A neural network approach for assessing quality in technical education: An empirical study. *International Journal of Productivity and Quality Management Decision*, 2(3), 287-306.
- Malaysian Qualifications Agency (MQA), www2.mqa.gov.my/mqr/
- McDougall, G. H., & Levesque, T. (2000). Customer satisfaction with services: putting perceived value into the equation. *Journal of services marketing*, 14(5), 392-410.
- Ministry of Higher Education, <https://www.mohe.gov.my/>.
- Olsen, L. L., & Johnson, M. D. (2003). Service equity, satisfaction, and loyalty: from transaction-specific to cumulative evaluations. *Journal of Service Research*, 5(3), 184-195.
- Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Perceived service quality as a customer-based performance measure: An empirical examination of organizational barriers using an extended service quality model. *Human Resource Management*, 30(3), 335-364.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, 41-50.
- Parasuraman, A., Zeithaml, V. & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 12-40.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1994). Alternative scales for measuring service quality: a comparative assessment based on psychometric and diagnostic criteria. *Journal of Retailing*, 70(3), 201-230.
- Sid Nair, C., Murdoch, N., & Mertova, P. (2011). Benchmarking the student experience: the offshore campus experience. *The TQM Journal*, 23(6), 585-597.
- Wong, A. (2004). The role of emotional satisfaction in service encounters. *Managing Service Quality: An International Journal*, 14(5), 365-376.
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *The Journal of Marketing*, 2-22.
- Zeithaml, V. A., & Bitner, M. J. (1996). *Services Marketing*. New York: McGrawHill.

The Relationship of Participative and Laissez-Faire Leadership Styles on Employees' Organisational Commitment

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Abstract

Leadership is emitted in the two-sided interaction between supervisors and subordinates that work together to achieve a common goal in the manner that decided by the leaders. Past studies reveal that employees' organisational commitment is an outcome that can be affected by the leadership styles possessed by their superior. Hence, the objective of this study is to examine the relationship between leadership styles and employees' organisational commitment in the manufacturing industry in Selangor by employed two types of leadership styles; participative and laissez-faire. A cross-sectional study through primary data has been adopted by using questionnaire survey through convenience sampling technique is applied for this study. SPSS specifically Multiple Linear Regression (MLR) test were employed to analyze and interpret the data gathered. The findings reveals there's a relationship between participative leadership style and laissez-faire leadership style towards employees' organisational commitment. This study is expected to filled a gap and contribute to the practical implications.

Keywords: Leadership styles, Participative, Laissez Faire, and Employees organisational commitment.

INTRODUCTION

Leadership is refers as an association between a leader and subordinates that work together in achieving a common goal in the manner that decided by the leaders in an organisation (Rehman, Shareef, Mahmood & Ishaque, 2012). Prior findings shows the employees' organisational commitment has an impact on the contributions of employees as well as the organisation's performance and reputation. In view of that, subordinates attitude and commitment can be affected by the leaders. Dale and Fox (2008) describes, when subordinates perceive that the leader is providing a formal rule for them to complete the task, they have the tendency to be more committed and obligate to the organisation as they felt they have higher responsibility to achieve organisation objectives. Therefore, the feeling of responsibility will trigger a good and personal effort from employees' and could succeed the organisation. Steyrer, Schiffinger and Lang (2008) earlier mentioned in the study that a company's performance can be favourably affected by the employees' organisational commitment as employees tend to work hard for the company. Hence, employees' organisational commitment is a vital elements that indicates the relationship between employees and an organisations (Shahzad, Rehman & Abbas, 2010).

Employees are one of the main strength in an organisation in achieving their objectives and goals. According to Javaid & Mirza (2012) the difference leadership style influence the level of employees' organisational commitment and it is essential to accomplish the organisational goals. This result indicates that goal congruence between superior and subordinates is an important effect arises from leadership in an organisation. Fincham and Rhodes (2005) earlier stated that the massive corporate failure due to poor leadership and it destroy the employees spirit to ensure work more efficient. Realizing the vital fact of the leadership in an organisation with the support of prior studies. Scarborough (2001) stated that applying the most appropriate leadership style is challenging. Scarborough (2001) added the internal issues and external such as demographic and social issues forces challenge the leadership in manufacturing companies. Jeremy, Melinde and Ciller (2012) later explained in manufacturing company, leadership is known as an actions to encourage subordinates commitment towards identifying their full

potential in achieving objectives, vision with passion and integrity. Numerous amount of prior research have been conducted to determine the most suitable leadership styles from different standpoints. For instance, Bučiūnienė and Škudienė (2008) studied the relationship between employees' organisational commitment and leadership styles in manufacturing industries for Lithuanian, Özşahin, Zehir and Acar (2011) for Turkey manufacturing, Lee, Fu, Li and Chen (2011) for Taiwan manufacturing, Zehir, Ertosun, Zehir and Müceldili (2011) for Istanbul manufacturing, Abu Kassim and Sulaiman (2011) and Chiun Lo, Ramayah and Wei Min (2009) for Malaysia manufacturing industry. Although there are several past studies conducted to determine the relationship between different leadership styles on employees' organisational commitment for different countries, there are still deficiencies. Thus, the objective of this study is to specifically focus in discovered the relationship between the participative and laissez faire leadership styles on employees' organisational commitment of employees in manufacturing companies in Selangor.

LITERATURE REVIEW

Leadership

Leadership is a leader practice in giving instruction, guide and effect the behavior and work of their subordinates in the direction of achieving specific organizational (Iqbal, Anwar, and Haider, 2015). Furthermore, in suitable leadership style manager is able to persuade the subordinates to work with confidence and passionate. This is in line with Miller, Walker and Drummond (2002) that leadership styles are used to interact positively with leaders and subordinates through leadership techniques such as controlling, directing and motivating are employed to give guidelines for employees to follow and work by. However, in the "New Leadership" modern approach, leaders are seen as superior which carry out more varied meaning, other than of simply an influence process (Koech and Namusonge, 2012).

Participative Leadership Style.

Participative leadership styles promotes the participation of subordinates in business task and decision making with sufficient support from their superior. Participative allows organization to include subordinates from different levels of organization to involve in decision-making process (Spreitzer, 2005). Similarly with Somech (2005) that describe participative leadership style as the process of making joint decision or at least sharing influence in decision making by superior by his or her subordinates. For the purpose of this study, the definition of participative are adopting by Masoq, Bilal, Nazir and Baig (2013) which describe participative as a leader who would conduct discussions with subordinates and motivate them to contribute ideas in the decision making process and also process all the available information in making the best decision.

Participative leadership style basically encompasses group members in an organisation in identifying and developing task actions or strategies to achieve organisation essential objectives (Iqbal, Anwar, and Haider, 2015). From this point of perspective, the function of this leadership styles is heavily relies on leader instruction and support. According to Mullins (2005), participative is a form of leadership that is more relaxed and requires delegation and discussion. They also assist their subordinates in decision making process through encouragement, motivation and support. The fundamental advantages of participative leadership is allowing involvements of subordinates in most of organization activities such as to share or generate the ideas and to commit in achieving organisation goals (Iqbal, Anwar, and Haider, 2015). Prior researchers consistently believed that participative leadership style has a positive relationship on employee organisational commitment (Huang, Shi, Zhang & Cheung, 2006; Steyrer, Schiffinger & Lang, 2008; Hester, Devos & Keer, 2011; Tan, 2011; Bell & Mjoli, 2014).

Participative leadership increase employees' performance by become an active participation that promotes involvement and commitment in the business process and decision making (Bell & Mjoli, 2014). The concept of participative leadership style has develop the feeling of sense of belonging among employees. Thus they are willing to be together with their superior in order to carry out their business task and decision making. The employee participation in the decision making process basically will improved their motivation as they will feel honoured as they are given an opportunity to contribute the idea to the success of the company (Beardwell &

Holden, 1997; Armstrong, 2009). Dolatabadi and Safa (2010) later added that it will also affect the quality of works, shared value and the clarity of employee roles.

Laissez-Faire Leadership Style

Laissez-faire leadership is contrary from participative leadership. Laissez faire is defined as an avoidance of taking the responsibility in making decision and less communication, participation and involvement within the workforce (Njoroge et al., 2017). They also stated that managers believe in their employees to carry out the tasks alone and solve the problems with their own ways. Zehir, Sehitoglu and Erdogan (2012) mentioned that laissez faire managers have little management authority and leave their responsibility to subordinates to make decision on organisation's goals, plans and programmes. By adopting Van Eeden, Cilliers and Van Deventer (2008) definition from the prior study, Laissez-faire leadership in this study is describe as a leader that is inactive in setting, planning and organizing goals and direction.

Various prior researchers claimed that there are a mixed relationship between laissez-faire on employee organisational commitment. Sakiru, Othman, Silong, Abdullahi, Agbana, Kia and Ndidi (2013), Asiri, Rohrer, Al-Surimi, Da'ar and Ahmed (2016) and Njoroge et al. (2017) for instance believed that that laissez faire leadership style was positive and significant related to employee's job commitment. On contrary, Dariush et al. (2016) and Silva and Mendis (2017) stated that the effect of laissez faire leadership style had a negative relationship on employees organisational commitment. Additionally, it is known as the least favourably style of leadership. Leadership style that are accompanied by less sense of achievement, transparency, teamwork, and supporters do not gain respect from their subordinates (Trottier, Van Wart & Wang, 2008; Lok & Crawford, 1999).

James and Collins (2008) asserted that laissez-faire leader with its non-intervening characteristic, is unwilling to affect or control the subordinates by giving them limitless freedom in handling their job and tasks. Generally, for this style of leadership, leader set a high expectations that the employee will be able to make their own and right decision without their participation in the process. This will trigger two different perspective of employee mentality. Employees who need guidance from their superior might find that this type of leadership may lead to wrong decision making without realizing it and effects the whole organisation performance (Skogstad, Matthiesen & Einarsen, 2007). However, for employee who prefer to work in freedom and stress-free organisation do not require motivation or guidelines of the leader in accomplishing their task, eventually, they are more willing to continue to work under this leadership style (Cemaloğlu, Sezgin & Kiliç, 2012).

Employees' Organisational Commitment

Employee is main resources of successful organisation. Thus employee commitment is crucial in order to achieve organisational task and goals (Javaid and Mirza, 2012). Various definition of employee organisational commitment are broadly discussed in the prior researches. In the earlier emerging stage of employee commitment, Allen and Meyer (1990) define employee commitment as a psychological state that will influence employees' decision to stay and obligate with their current organisation. This explains on the willingness of employees to maintain their loyalty and contribute more effort to the organisation in achieving the organisation goals. This definition later are further elaborate by Hunt and Morgan (1994) that state organisational commitment as multidimensional in nature, involving an employee's loyalty to the organisation, willingness to exert effort on behalf of the organisation, degree of goal and value congruency with the organisation, and desire to maintain membership. While Park and Rainey (2007) describe that employee organisational commitment is about the connection between the organisation and its employee. Due to varied definition of employee organisational commitment, this study will adopt definition by Allen and Meyer's (1990).

Numerous prior studies have claimed that leadership styles have a positive relationship on employee commitment (Bučiūnienė & Škudienė, 2008). This is in line with prior study by Awan & Mahmood (2009) that depict employee commitment reflects by the quality of the leadership in the organisation. Lo, Ramayah, Minc, and Songand (2010) determined the leadership styles of superiors are significant measurements in an organisation because it help in outline subordinates' organisational commitment in many essential ways. Employee organisational

commitment is associated and important with an increase in satisfaction, quality, performance, loyalty, participation and motivation of subordinates.

Path-goal Theory

This study examines the relationship between two leadership styles such as participative and laissez faire leadership style as independent variables and employees' organisational commitment as dependent variable. Therefore, path-goal theory was developed and used in this study to investigate the relationship between participative and laissez faire leadership styles and employees' organisational commitment. The path-goal theory was developed by Robert House in 1971 and revised in 1996 and become a primary theory in identifying the leadership behaviour. According to House (1996), path-goal theory is a dyadic theory of supervision that concerned with how the leaders influence subordinates' motivation and job satisfaction and performance. However, Silverthorne (2001) argued that the determinant of leadership behaviour is depends on the situation and organisation environment that required leaders to find their own ways in adapting to the current situation and environment.

According to the overview of path-goal theory by Alanazi, Alharthey and Rasli (2013), there are two hypotheses; the first one is leaders' behaviour affect subordinates' job satisfaction and second is leaders' behaviour would motivate the subordinates by considering their needs to enhance job performance. Alanazi et al. (2013) discussed that the effective leaders should attend the needs of their subordinates and assist them by providing guidance, direction and support them in order to attain their own goals. Therefore, the leaders should know and select the most effective leadership style in helping subordinates to the organisation's performance (Alanazi et al., 2013).

RESEARCH METHODOLOGY

This empirical study was conducted to examine the relationship between participative and laissez-faire leadership style towards employees' organisational commitment. Three constructs were used in this study including employees' organisational commitment, participative and laissez-faire leadership styles. All constructs were adapted from prior studies by Avolio and Bass (2004) and Harris & Ogbonna (2001). Minor changes were made to make sure that the statements suitable with Malaysian context. Questionnaire consists of three section; Section A asking respondents to indicate their five aspects of demographic profiles, Section B and C, required respondents to indicate their agreements on constructs statements. All statements were asked using 7-point Likert scale from 'strongly disagree' to 'strongly agree'.

The questionnaire were distribute through face to face and online approach to 350 employees from manufacturing industry in Selangor using convenience sampling. Manufacturing industry in Selangor were chosen due to the importance of the manufacturing sector to the economy is evidenced in its contribution to the gross domestic product (GDP), external trade and job creation. Thus, in order to sustain the sector's contribution to the economy, workforce engagement as well as the retention of talent workers in the manufacturing sector is indispensable (Hooi, 2016). Pilot test were distributed to 30 random employee in manufacturing industry to test the feasibility and validity of the items developed. All the data collected will be analyze using SPSS to test the reliability and MLR.

DATA ANALYSIS

Data were distributed to 360 employee in manufacturing industry from different sectors in Selangor. From 360 survey, only 344 were collected back. 21 of collected survey were excluded due to incomplete response. The number of usable survey was 323 (89.7%). Four aspects of demographics profiles were gather. Table 1 display the frequencies of respondent's demographic profiles.

Table 1: Descriptive Analysis on Demographic Profiles (n=323)

	Frequency	Percentage %
Gender		
Male	157	48.6
Female	166	51.4
Age		
25 years or less	173	53.6
26 to 35 years	123	38.1
36 to 45 years	20	6.2
46 and above	7	2.1
Tenure		
Less than 1 year	130	40.2
1 to 5 years	136	42.1
6 to 10 years	46	14.2
11 to 15 years	9	2.8
16 to 20 years	2	0.6

Cronbach's alpha value for each construct was generated. Cronbach's are calculated to test the internal consistency of a constructs. The suggested value to measure good reliability is 0.7 and above (George & Mallery, 2003). Table 2 depict that reliability of all construct exceeded the suggested value of 0.8 which indicates good internal consistency.

Table 2: Reliability Test

Constructs	Cronbach's alpha	No. of items
Participative leadership	0.885	5
Laissez-Faire leadership	0.922	4
Employees' organisational commitment	0.891	18

To test the relationship between participative leadership and laissez-faire leadership style on employees' organisational commitment, the multiple linear regression was used. The data gathered are shown in Table 3.

Table 3: Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Sig.
	B	Std. Error	
1 (Constant)	1.899	.256	.000

PLS	.408	.043	.000
LLS	.114	.030	.000

a. Dependent Variable: EOC
N=323

Based on the above results, there is a relationship between participative leadership and laissez-faire leadership on employees' organisational commitment as all p-value is less than 0.05. Among both variables participative leadership have the strongest relationship on employees' organisational commitment with beta coefficient (β) of 0.408 as compared to laissez-faire leadership with beta coefficient (β) of 0.114.

DISCUSSION AND CONCLUSION

Strong organisational commitment create a sense of belonging among employees and subsequently establishes their loyalty to the organisation (Hussain & Asif, 2012) and the effectiveness of a leader is a major determinant of success or failure of an organisation, group or even a country (Fiedler, 1996). Thus, how leader create the working environment help to set-up the loyalty of employees especially in today's complex and changing business environment. The main objective of this study to determine the relationship between participative and laissez-faire leadership style on employees' organisational commitment. Both leadership styles showed a significant relationship between participative and laissez-faire on employees' organisation commitment. However, participative leadership styles have a great influences towards employees' organisational commitment compared to laissez-faire styles. Employees more prefer participative leadership style as it's developed the sense of belonging towards organisation as leader with this style are willing to listen to and considered about their opinion in decision making process (Steyrer, Schiffinger & Lang, 2008). This has become a motivation to be together with their leader in achieving the company goals. On the other hand, laissez-faire style is indicated by the employees as the least effective style in leadership. Laissez-faire leader is leader who always avoid involving in decisions making and less likely hold the responsibilities as a leader. Hence, it is can been with such leadership application, it will reduce employee's commitment and indirectly unable to meet the organisational's goals (Bass, 1999; Erkutlu, 2008).

Leadership style is one of the significant factors that determine employees' commitment in an organisation. Thus, results from this study is expected to contribute to the manufacturing company point of view in order to build up better leadership style. Employees' commitment will to work together with the company will significantly help in achieving and improve organisational goals. Even though this study successfully addressing its objectives, the small sample size has become one of the limitation in this study. This study only analyses the results based on 184 of respondents and the results may not generalize to represent the whole population of manufacturing industry employees in Selangor. Additionally, since the concepts of leadership is wide, future research on other types of leadership style such as classical, supportive, directive, transactional, transformational on employees' organisational commitment is necessary.

REFERENCES

- Alanazi, T. R., Alharthey, B. K. & Rasli, A. (2013). Overview of path-goal leadership theory. *Jurnal Teknologi (Social Sciences)*, 64(2), 49–53.
- Allen, N. and Meyer, J. (1990), "The measurement and antecedents of affirmative, continuance and normative commitment to the organisation", *Journal of Occupational Psychology*, Vol. 63, pp. 1-18.
- Anvari, R., Amin, S. M., Ismail, W. K. W., & Ahmad, U. N. U. (2010). Strategic training practices, effective organizational commitment, and turnover intention: The mediating role or psychological contract. *African Journal of Business Management*, 4(15), 3391-3405.

- Armstrong, M (2009) Handbook of human resource management practice. (11th edition). London and Philadelphia.
- Asiri, S. A., Rohrer, W. W., Al-Surimi, K. Da'ar, O. O. & Ahmed, A. (2016). The association of leadership styles and empowerment with nurses' organizational commitment in an acute healthcare setting: A cross-sectional study. *BMC Nursing*, 15(38).
- Avolio, B. J., & Bass, B. M. (2004). Multifactor leadership questionnaire, manual and sampler (3rd ed.). Redwood City, CA: Mind Garden.
- Awan, M. R. & Mahmood, K. (2009), Relationship among leadership style, organizational culture and employee commitment in university libraries. *Library Management*, 31, 253-266. Retrieved June 11, 2016 from www.emeraldinsight.com/0143-5124.html
- Bass, B., (1999). On Two Decades of Research and Development in Transformational Leadership. *European Journal of Work and Organizational Psychology*, 8(1) pp. 9-32.
- Beardwell, I. and Holden, L. (1997), *HRM: A Contemporary Perspective*, Pitman, London
- Bell, C., & Mjoli, T. (2014). The effects of participative leadership on organizational commitment: Comparing its effects on two gender groups among bank clerks. *African Journal of Business Management*, 8(22), 451-459. doi:10.5897/AJBM2013.7028
- Bučionienė, I. & Škudienė, V. (2008), Impact of Leadership Styles on Employees' Organizational Commitment in Lithuanian Manufacturing Companies. *SEE Journal*, 33, 57-65
- Cemaloğlu, N., Sezgin, F., & Kilinç, A. (2012). Examining the relationships between school principals' transformational and transactional leadership styles and teachers' organizational commitment. *The Online Journal of New Horizons in Education*, 2(2), 53-64.
- Chiun Lo, Ramayah, T and Wei Min (2009). Leadership styles and organizational commitment: a test on Malaysia manufacturing industry. *African Journal of Marketing Management Vol. 1(6) pp. 133-139.*
- Dale, K., & Fox, M. L. (2008). Leadership style and organizational commitment: Mediating effect of role stress. *Journal of Managerial Issues*, 20(1), 109-130.
- Dariush, L., Choobdar, G., Valadkhani, P. & Mehrali, E. (2016). Leadership styles facilitating organizational commitment of employees. *International Journal of Economics, Commerce and Management*, 4(5), 640-655.
- Dolatabadi, H. Rezaei & M. Safa. 2010. The Effect of Directive and Participative Leadership Style on Employees' Commitment to Service Quality. *International Bulletin of Business Administration*, Issue 9: 31-42.
- Erkutlu, H., (2008). On The impact of transformational leadership on organizational and leadership effectiveness. *Journal of Management Development*, 27(7) pp. 708-726.
- Fiedler, F. E, (1996), "Research on leadership selection and training: One view of the future", *Administrative Science Quarterly*, Vol. 41, pp. 241-250.
- Fincham R. and Rhodes P. (2005). *Principles of Organisational Behaviour* (5th edition). New York; Oxford University Press.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th ed.). Boston: Allyn & Bacon.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Harris, L. C., & Ogbonna, E. (2001). Leadership style and market orientation: An empirical study. *European Journal of Marketing*, 35(5/6), 744-764.
- Hester, H., Devos, G., & Keer, H. (2011). The relation between school leadership from a distributed perspective and teachers' organizational commitment: Examining the source of the leadership function. *Educational Administration Quarterly*, 47(5), 728-771.
- Huang, X., Shi, K., Zhang, Z., & Cheung, Y. L. (2006). The impact of participative leadership behavior on psychological empowerment and organizational commitment in Chinese state-owned enterprises: the moderating role of organizational tenure. *Asia Pacific Journal of Management*, 23, 345-367.
- Hussain, T., & Asif, S. (2012). Is employees' turnover intention driven by organizational commitment and perceived organizational support. *Journal of Quality and Technology Management*, 8(2), 1-10.
- Hunt, S.D. and Morgan, R.M. (1994), "Relationship marketing in the era of network competition", *Marketing Management*, Vol. 3 No. 1, pp. 19-28.
- Hooi, L.W. (2016). Organisational Justice and Citizenship Behaviour in Malaysia, *Governance and Citizenship in Asia*, DOI 10.1007/978-981-10-0030-0_2
- House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Science Quarterly*, 16, 321-338.
- House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy and a reformulated theory. *Leadership Quarterly*, 7(3), 323-352.
- House, R. J. & Mitchell, T. R. (1974). Path-goal theory of leadership. *Journal of Contemporary Business*, 3, 81-98.
- Iqbal, N., Anwar, S., Haider, N., (2015). Effect of leadership style on employee performance. *Arabian Journal of Business and Management Review*, 5(5), 146-152.
- James, K. & Collins, J. (2008). *Leadership Perspectives: Knowledge into Action*. London: Palgrave Macmillan.
- Javaid, M. F., & Mirza, M. U. (2012). Leadership style enhances the employee organizational commitment: A case study of educational institutions in Lahore. *International Journal on Management, Statistics & Social Sciences*, 1(1), 64-77.
- Jeremy M., Melinde C. and Ciller V., (2012) Perceived leadership style and employee participation in a manufacturing company in the democratic republic of Congo, *African journal of business management*, 6(15),5389-5398.
- Lee, L. Y., Fu, C. S., Li, S. M., & Chen, S. M. (2011). The effects of a project's social capital, leadership style, modularity, and diversification on new product development performance. *African Journal of Business Management*, 5(1), 142-155.
- Lo, M., Ramayah, T., Minc, H., & Songand, P. (2010), The relationship between leadership styles and organizational commitment in Malaysia: Role of leader-member exchange. *Asia Pacific Business Review*, 16, 79-103. Retrieved April 16, 2011 from <http://www.informaworld.com>
- Lok, P. & Crawford, J. (1999), The relationship between commitment and organizational culture, subculture, leadership style and job satisfaction in organizational change and development. *Leadership & Organization Development Journal*, 13, 365-373: <http://www.emerald-library.com>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Malik, S. H., Aziz, S. & Hassan, H. (2014). Leadership behaviour and acceptance of leaders by subordinates: Application of path-goal theory in telecom sector. *International Journal of Trade, Economics and Finance*, 5(2), 170–175.
- Maqsood, S., Bilal, H., Nazir, S., & Baig, R. (2013). Manager's leadership styles and employee's job satisfaction. *Human and Social Science Research*, 1(2), 139-144.
- Mullins, L. J. (2005). *Management and organisational behaviour* (7th ed.). United Kingdom: Prentice Hall.
- Njoroge, D. I., Wanjala, J. W. & Mathews, B. G. (2017). Laissez faire leadership style and organisational commitment: The moderating effect of employee participation. *International Journal of Research in Commerce, IT and Management*, 7(1), 6–10.
- Özşahin M., Zehir C., & Acar A. Z. (2011). Linking leadership style to firm performance: The mediating effect of the learning orientation. *Procedia Social and Behavioral Sciences*, 24, 1546-1559.
- Park, S. M., & Rainey, H. G. (2007). Antecedents, mediators and consequences of affective, normative, and continuance commitment empirical tests of commitment effects in federal agencies. *Review of Public Personnel Administration*, 27(3), 197-226.
- Rehman, S., Shareef, A., Mahmood, A., & Ishaque, A. (2012). Perceived leadership styles and organizational commitment. *Interdisciplinary Journal of Contemporary Research in Business*, 4(1), 616-626.
- Sakiru, O. K., Othman, J., Silong, A. D., Abdullahi, M., Agbana, A., Kia, N. & Ndidi, N.L. (2013). Leadership styles and its effectiveness on employees' job commitment. *Research on Humanities and Social Sciences*, 3(9), 169–175.
- Scarborough, D. J. (2001), "Transforming Leadership in the Manufacturing Industry", *Journal of Industrial Technology*, Vol. 17, No. 2.
- Shahzad, K., Rehman, K. U., & Abbas, M. (2010). HR practices and leadership styles as predictors of employee attitude and behavior: Evidence from Pakistan. *European Journal of Social Sciences*, 14(3).
- Silva, D. A. C. S. & Mendis B. A. K. M. (2017). Relationship between transformational, transactional and laissez faire leadership styles and employee commitment. *European Journal of Business and Management*, 9(7), 13–21.
- Silverthorne, C. (2001). A test of the path-goal leadership theory in Taiwan. *Leadership & Organization Development*, 22(4), 151–158.
- Skogstad, A., S.B. Matthiesen and S. Einarsen (2007) 'Organizational Changes: A Precursor of Bullying at Work?', *International Journal of Organizational Theory and Behaviour* 10(1): 58-94.
- Spreitzer, G. (2005), "A role for organizations in sustainable peace" at the 2005 National Academy of Management Meetings, August 7-10, Hawaii.
- Steyrer, J., Schiffinger, M., & Lang, R. (2008). Organizational commitment—A missing link between leadership behavior and organizational performance? *Scandinavian Journal Management*, 24, 364-374.
- Tan, M. H. (2011). The relationship between headmasters' leadership behaviour and teachers commitment in primary schools in the district of sarikei, Sarawak. *Procedia- Social and Behavioral Sciences*, 29, 1725-1732. <http://dx.doi.org/10.1016/j.sbspro.2011.11.418>

- Trottier, T., Van Wart, M., and Wang, X. (2008), Examining the Nature and Significance of Leadership in Government Organizations. *Public Administration Review*, 319-333. Retrieved October 23, 2010 from <http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6210.2007.00865.x/pdf>
- Wu, T. F., Tsai, M. H., Fey, Y. H., & Robert, W. T. Y. (2006). A study of the relationship between manager's leadership style and organizational commitment in Taiwan's international tourist hotels. *Asian Journal of Management and Humanity Sciences*, 1(3), 434-452.
- Yiing, L. H. & Ahmad, K. Z. (2009). The moderating effects of organizational culture on the relationships between leadership behaviour and organizational commitment and between organizational commitment and job satisfaction and performance. *Leadership & Organization Development Journal*, 30(1), 53–86.
- Zehir, C., Ertosun, Ö. G., Zehir, S., & Muceldili, B. (2011). The effects of leadership styles and organizational culture over firm performance: Multi-national companies in Istanbul. *Procedia- Social and Behavioral Sciences*, 24, 1460- 1474.
- Zehir, C., Sehitoglu, Y. & Erdogan, E. (2012). The effect of leadership and supervisory commitment to organizational performance. *Procedia – Social and Behavioral Sciences*, 207–216.
- Zorah Abu Kassim, Z. & Sulaiman, M. (2011). Market Orientation and Leadership Styles of Managers in Malaysia. *International Journal of Leadership Studies*, Vol. 6 Iss. 2.

What Drives the Adoption of Online GST Payment via Taxpayer Access Point (TAP)? Does Trust Persists: The Conceptual View

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Abstract

The implementation of 6% Goods and Services Tax (GST) has been in the operation since 1 April 2015. It is a self-assessed tax system and requires the accurate application of the GST rate to each transaction with the correct calculation of GST payable. In line with efforts done by Royal Malaysian Customs Department to promote prompt GST payment and electronic filing, the effective management of the GST system via Taxpayer Access Point (TAP) system has become increasingly important. TAP is an electronic access portal to facilitate the taxpayer to manage their GST system. TAP allows taxpayer to register, file their GST returns, make payment and etc. Yet, only 13% of the GST registrants made on-line GST payment via TAP. The reliability of TAP is questionable and the registrants do not trust on it. Considering the low adoption rate of online GST payment via TAP, this study seeks to explain the online GST payment adoption via TAP from the perspective of trust through an integrated framework that consists of trust, perceived usefulness, perceived ease of use and attitude from the Technology Acceptance Model. This study is expected to contribute to the growing of literatures in taxpayer's trust towards the adoption of TAP as well as deeper the knowledge of Malaysian government on effective management of GST TAP system in order to encourage the adoption.

Keywords: Goods and Services Tax, Taxpayer Access Point, Technology Acceptance Model, Trust

INTRODUCTION

With the view to modernize the Malaysian taxation system, Malaysian government replaced the Sales and Services Tax regimes with the Goods and Services Tax (GST) effective from 1st April 2015. GST is a self-assessed tax system, which requires the registrants to apply accurate application of the GST rate for each transaction with the correct calculation of GST payable. In view that GST is an essential contributor to the Malaysian economy, the effective management of the GST system has become increasingly important. Hence, Taxpayer Access Point (TAP) is introduced to facilitate the taxpayer to manage their tax system with Royal Malaysian Customs.

Taxpayer Access Point (TAP)

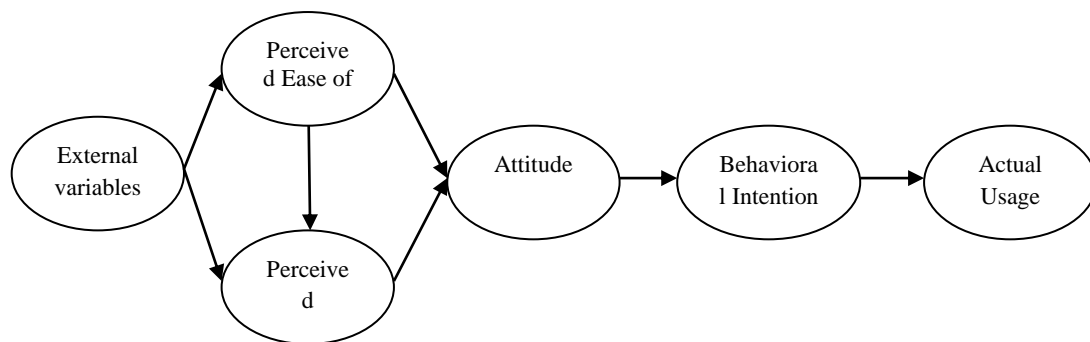
In line with the paperless GST payment, TAP is introduced as an electronic access portal that allows the registrants to manage their GST system such as registration, update profile, filing GST returns, check refund status, apply for special facilities and make payment. Greater service accessibility and availability with 24/7, TAP system provides an easy, fast and convenient way for taxpayers to manage their GST system. In contrast with the government's effort, the utilization of TAP services by registrants is increasing at a slow pace. As per 25 October 2015, there are 392,515 GST registrants. 97% of them have submitted the GST return via the TAP. Nevertheless, only 13% of the GST registrants made online GST payment via TAP. Despite the benefits and convenience of the TAP, the usage of online payment via TAP is still far from the massive utilization. The Sarawak Timber Association (2015) also highlighted that the GST registrants are lack of confidence towards the reliability of the TAP. They do not trust on the TAP. Hence, understanding and maintaining the users' trust has become the important concern.

In the past studies, many researchers have pointed out the immense importance of users trust in the online environment as well as in the government services like TAP (Mpinganjira, 2015;

Azmi, Ang, & Talib, 2015). Sharma (2015) urged that the success of the implementation of the government initiatives is determined by the end users, GST registrants. As opined by Benamati et al. (2010), trust defined as the willingness of individual to be vulnerable. It plays an essential role in the online context especially involve payment transaction. Users are concern about the online payment security. They may doubt whether the TAP can effectively protect their information and payment from the risk. If the registrants fail to trust the TAP online payment services, they will not adopt and use it. Even though past literatures have urged the importance of trust for successful online payment context, Salo and Karjaluoto (2007) believed that the online trust's literature has been very fragmented and are still in their infancy. Considering the low adoption rate of online payment via TAP, this study aims to discover the drivers that influence the adoption intention. Since Technology Acceptance Model (TAM) has the ability to predict different technology utilization (Tan, Ooi, Chong, & Hew, 2014), this study adopted TAM with incorporate the additional factor, Trust to explore the inter-relationships between the constructs.

LITERATURE REVIEW

Technology Acceptance Model (TAM) is an information system theory which was originated by Davis (1989) to explain the adoption intention of information technology in various aspects (refer to Figure 1). The author believed that an individual's behavioral intention to use a technology is determined by perceived ease of use and perceived usefulness. TAM was a robust model which has been widely used, generalized and empirically validated in varied research studies such as internet banking (Marakarkandy, Yajnik, & Dasgupta, 2017); mobile learning (Huang, Lin, & Chuang, 2007), e-payment (Tella & Olasina, 2014) and etc. As opined by Davis (1989), the TAM consists of six constructs which are external variables, perceived ease of use, perceived usefulness, attitude, behavioral intention and actual usage (refer to Figure 1).



Source: Davis et al. (1989, p.985).

Figure 1: Technology Acceptance Model (TAM)

Although TAM is a parsimonious model, it has been criticized for only takes into consideration two main constructs: perceived ease of use and perceived usefulness. The overall prediction is not complete and adequate (Huang, Lin, & Chuang, 2007; Tan et al., 2014). Davis (1989) agreed and highlighted that additional factors are needed to be incorporated into the TAM's constructs. Yet, the additional factor is mainly depending on the technology context (Moon & Kim, 2001). Chauhan (2015) noted that trust play an essential role in the implementation of technology. Lack of trust can be one of the potential barriers to extensive use of any technology. It is believed that with the absence of physical contact, high level of trust is necessary in the online GST payment via TAP. If the TAP system is trustworthy, the registrants will more likely to pay. Likewise, the trust is added as the additional factors to understand how trust affects the TAM's constructs in order to understand the drivers which affect the adoption intention of online GST payment via TAP system. However, the actual usage of online GST payment via TAP system is dropped due to the low usage. Figure 2 illustrates the proposed conceptual framework for this study.

Propositions Development

Trust

Trust level varies significantly among people. It is incorporating ideas from marketing sociology, organizational behavior, economics and psychology. Marakarkandy, Yajnik, and Dasgupta (2017) define the individual's generalized expectancy as trust. Trust is necessary in the online environment (Smith, Satya, & Sivakumar, 2005). Users cannot physically check the payment or monitor the security of sending sensitive financial information. Consequently, lack of trust may prevent the registrants from adopting the online GST payment service via TAP rather than prefer the manual payment. Hence, it is proposed that when the users perceived the online payment system are secure and benevolent, it brings significant effect on perceived ease of use, perceived usefulness, attitude as well as the adoption intention of the online payment via TAP system (Hussain Chandio et al., 2013).

P1a: Greater weight on the trust in TAP system will lead to higher level of perceived usefulness in online GST payment.

P1b: Greater weight on the trust in TAP system will lead to higher level of perceived ease of use in online GST payment.

P1c: Greater weight on the trust in TAP system will lead to higher level of attitude in online GST payment.

P1d: Greater weight on the trust in TAP system will lead to higher level of behavior intention of online GST payment.

Perceived Usefulness (PU)

According to Davis (1989), PU is the degree of individuals believes that by using the said system would improve his/her task performance. To enhance the adoption of online GST payment via TAP system, the innovation must possess more advantages as compared to the traditional payment matter. Speed and convenience are the key advantages of TAP system. It helps the GST registrants in productivity and efficiency by reducing transaction cost and avoiding lengthy queue times. Tan et al. (2014) urged that if the users perceived that the system is useful and enhancing their productivity, it will encourage the usage as well as to impose a good attitude towards the system. The following proposition thus ensues:

P2a: Greater weight on the Perceived Usefulness will lead to higher level of attitude in online GST payment.

P2b: Greater weight on the Perceived Usefulness will lead to higher level of behavior intention of online GST payment.

Perceived Ease of Use (PEOU)

Davis (1989) defined PEOU as the extent of mental effort in using the technology. The online service of TAP should be simple, easy and convenient to the GST registrant. Several of studies pointed that PEOU can positively influence the usefulness of the system as well as the adoption of system (Kesharwani & Bisht, 2012; Cho & Sagynov, 2015). If the online payment service via TAP involve of complicate steps, the more likely registrant will exert negative attitude towards the system. Likewise, it is posited that the greater weight on PEOU, it will lead to high level of PU, attitude, and online GST payment adoption via TAP system.

P3a: Greater weight on the Perceived Ease of Use will lead to higher level of Perceived Usefulness in online GST payment.

P3b: Greater weight on the Perceived Ease of Use will lead to higher level of attitude in online GST payment.

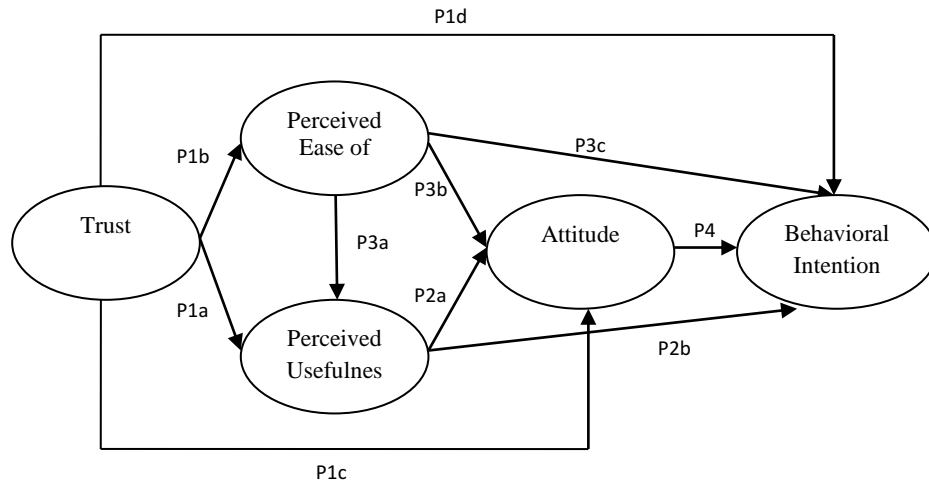
P3c: Greater weight on the Perceived Ease of Use will lead to higher level of behavior intention of online GST payment.

Attitude

Attitude is a trait reflecting users' respond favorably or unfavorably to a technology (Ajzen, 1989). When the user poses a positive attitude towards the technology, this will encourage the usage and behavioral intention. The past literatures found that when the system is useful and simple to use, the users will have positive attitude towards the technology. It leads to enhance the adoption of system (Huang, Lin, & Chuang, 2007; Marakarkandy, Yajnik, & Dasgupta, 2017). Since the behavior intention of online GST payment via TAP system is affected by attitude, it leads to the following proposition:

P4: Greater weight on the attitude of TAP system will lead to higher level of behavior intention of online GST payment.

Figure 2: Proposed Conceptual Framework



CONCLUSION AND IMPLICATIONS

In line with efforts done by Royal Malaysian Customs Department to promote prompt GST payment and electronic filing, seminars and TAP system have launched which aimed to educate registrants on the benefit of e-filing and online payment to remit a paperless GST payments. Despite the benefits and convenience of the TAP, the usage of online GST payment via TAP is still far from the massive utilization. The objective of this study is to improve the understanding of the factors which drive the intention of the online GST payment via TAP. Specifically, the findings in this study expected to contribute a better understanding of the role of trust in influencing the TAM's constructs to enhance the adoption of TAP system. GST registrants need a government that understands their needs. Through capturing the trust level of GST registrants and linking them to the drivers is a way to build an integrated model to explain the TAP system adoption from the theoretical perspective, in which practical contributions can be derived to provide better implications for Royal Malaysian Customs Department to develop the TAP system.

REFERENCES

Azmi, A., Ang, Y. D., & Talib, S. A. (2016). Trust and justice in the adoption of a welfare e-payment system. *Transforming Government: People, Process and Policy*, 10(3), 391-410.

Benamati, J., Fuller, M., Serva, M., & Baroudi, J. (2010). Clarifying the integration of trust and TAM in e-commerce environment: implications for system design and management", *IEEE Transactions on Engineering Management*, 57(3), 380-393.

Chauhan, S. (2015). Acceptance of mobile money by poor citizens of India: integrating trust into the technology acceptance model. *Info*, 17(3), 58-68.

- Cho, Y. C., & Sagynov, E. (2015). Exploring factors that affect usefulness, ease of use, trust and purchase intention in the online environment. *International Journal of Management & Information Systems*, 19(1), 21-36.
- Davis, F.D. (1989). Perceived usefulness, perceived ease of use and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–340.
- Huang, J. H., Lin, Y. R., & Chuang, S. T. (2007). Elucidating user behavior of mobile learning: A perspective of extended technology acceptance model. *The Electronic Library*, 25(5), 585-598.
- Hussain Chandio, F., Irani, Z., Abbasi, M.S. and Nizamani, H.A. (2013). Acceptance of online banking information systems: an empirical case in a developing economy. *Behaviour & Information Technology*, 32(7), 668-680.
- Kesharwani, A., & Bisht, S. S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4), 303-322.
- Marakarkandy, B., Yajnik, N., & Dasgupta, C. (2017). Enabling internet banking adoption: An empirical examination with an augmented technology acceptance model (TAM). *Journal of Enterprise Information Management*, 30(2), 263-294.
- Moon, J.W. and Kim, Y.G. (2001). Extending the TAM for a world wide web context. *Information & Management*, 38(4), 217-230.
- Mpinganjira, M. (2015). Use of e-government services: the role of trust. *International Journal of Emerging Market*, 10(4), 622-633.
- Salo, J., & Karjaluoto, H. (2007). A conceptual model of trust in the online environment. *Online Information Review*, 31(5), 604-621.
- Sarawak Timber Association. (2015, August). *STA members face post-implementation GST issues*. Retrieved from <http://sta.org.my/index.php/news-updates/press-release/60-press-release-sta-members-face-post-implementation-gst-issues>
- Sharma, S. K. (2015). Adoption of e-government services: the role of service quality dimensions and demographic variables. *Transforming Government: People, Process and Policy*, 9(2), 207-222.
- Smith, D., Satya, M., & Sivakumar, K. (2005). Online Peer and Editorial Recommendations, Trust and Choice in Virtual Market. *Journal of Interactive Marketing*, 19, 15-37.
- Tan, G. W. H., Ooi, K. B., Chong, S. C., & Hew, T. S. (2014). NFC mobile credit card: The next frontier of mobile payment? *Telematics and Informatics*, 31(2014), 292-307.
- Tella, A., & Olasina, G. (2014). Predicting users' continuance intention toward e-payment system: an extension of the Technology Acceptance Model. *International Journal of Information Systems and Social Change*, 5(1), 1-21.

Factors that Influencing Online Retailer's Intention to Adopt Virtual Reality (VR) in Malaysia

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Abstract

In this new generation with high growing rate of people's lifestyle, technology become one of the most important innovation in our life. As a result, technology had brought many benefits to the people started in many years ago and will be keep continuing creating new innovation in coming years to more convenience people's lifestyle. Virtual reality is one of the most high technology that launched in recent years and it's has a great potential to help in many industries, especially in online retailing. In order to be competitive in such online retailing industry, marketers start to emphasize on technology which can more attract and convenience online buyers. Past researches discovered that several of behavior might impact the willingness to make some changes into their life. Therefore, this study attempts to examine the willingness to adopt this new technology within the online based retailing in Malaysia. 100 questionnaires were collected and SmartPLS technique was use to analyze the data collected. Findings show that all the three factors namely behavior, social influence, and self-efficacy were significantly influencing the intention to adopt new technology. Among these three factors, behavior and self-efficacy were show positive relationship while social influence shows negative relationship with intention to invest new technology. Accordingly, this study introduce a few recommendations for practitioners and academics with regards to the several behavior and its influence on the willingness to invest new things into business.

Keywords: Virtual Reality, Theory of planned behavior (TPB), Online Retailer, New technology adoption, Malaysia

INTRODUCTION

According to Najafipour, Heidari and Foroozanfar (2014), on their previous studies, VR is using a computer-generated 3D condition which is virtual environment that shows direction and perhaps connect with the real-time emulation towards five senses of the user. It can result to the capability to move around, experience the virtual environment, able to choose and shift the objects in the virtual environment (Najafipour et al, 2014). Thus, it is able to provide physical immersion and psychological response which users are separated from the real world due to no connection with real world and user experiences and behaves in alike real life circumstances within the virtual environment (Wilson & Soranzo, 2015). Besides, VR enable users to move on a comprehensively immersive world created by computer system without take a look at the real life around them (Aziz & Tan, 2014). For example, user may experience virtual environment in a blank room with headset or other devices to feel, touch and hear the sound and this results in the interaction between objects and spaces for the user.

VR is also a tool to create realistic sophisticate without adventure and destroy the legacy sites and allows user to place with conscious condition or circumstances which not fit with crowds (Aziz et al, 2014). It can be concluded that VR is classified by immersion, interaction and involvement (Piovesan, Passerino & Pereira, 2012). Immersion refers to the user has the real feeling in the virtual environment of the computer, interaction is the user control virtual objects, and lastly involvement is to search the virtual environment as the user able to take part directly in the virtual environment (Piovesan et al, 2012).

According to Carson (2015), VR is widely used in many industries such as health care, entertainment, retailing, tourism, education, and others. Furthermore, it is a familiar and common product especially in countries like Ireland, England, Japan and other countries since it is a generation of technology and people believe that it will grow even more in future. VR brings numerous benefits to businesses which it allows the people to be there without actual travelling to a place, VR can be an important tool in training and it can help the businessman to reduce their travels around the world for meetings. Hence, VR is adopted in different industries in worldwide (Revesencio, 2015). VR has been adopted in high risk industries in Australia such as mining industry to heighten workers' capabilities in a safe and well-ordered environment (Pedram, Perez, Palmisano, and Farrelly, 2016). In addition, VR has also been used in aerospace and automotive industries in France where it allows them to run as many of the project review checklists as possible to save time and optimize development costs (Fillatreau, Fourquet, Le Bolloc'H, Cailhol, Datas, and Puel, 2014). It is also used in visualization zone to resolve issues like limited visual angle, navigation, scaling and others (Olshannikova, Ometov, Koucheryavy, and Olsson, 2015).

VR has been initially adopted by the automotive industry in local because it helps to increase output and improve the quality of product in the manufacturing process through the clear-cut guidance in the decision making and the technology implementation (Mousavi, 2011). Malaysia automotive industry used VR for production scheduling, testing and manufacturing, styling and designing, and prototyping and these provide a comprehensive view and clear picture of the technology to the developers (Mousavi, 2011). Besides, VR is adopted in construction industry in Malaysia as reported by the Ismail, 2017. By adopting VR, architects are allowed to perform their job tasks without using the actual architecture drawings because they are capable to access all the architecture drawings inside the virtual environment (Ismail, 2017). Not only that, VR has also been adopted in the gaming industry by VR Lab that located at many different areas of Kuala Lumpur such as SS15 Subang, Bandar Sunway, Manjalara Kepong, Kota Damansara, SS2 PJ, Wangsa Maju and Publika KL (VR Lab, 2016). Through the combination of VR in game, people can easily enjoy and release their stress by virtually walk and touch the things that they see and make the experience surreal (Ismail, 2017).

LITERATURE REVIEW

Theory of Planned Behavior (TPB)

TPB is a perfect and complete social psychology theory which also mentions that particular salient beliefs will affect their behavioural intentions and subsequent behaviour (Ajzen, 1985). Contrast with TRA, TPB added another variable, perceived behavioural control (PBC) and it explain as "one's perceptions of his/her ability to perform out a certain behaviour easily" (Kim & Crowston, 2011). TPB they are more comprehensive because they mentioned that a normal human they can't complete control their emotional and rational (Kim et al., 2011). So TPB was used to improve TRA and make it more comprehensive and more accurate (Zhang, Guo, Lai, Guo & Li, 2014). In TPB, they mentioned relationship intention behavioural toward attitude, subjective norm and perceived behaviour control (Ajzen, 1985). Based on Hagger and Chatzisarantis in 2006, they stated that TPB has many important contributions in comprehension to social behaviour and many studies used TPB as their framework because they are effective and popular. The TRA and TPB both assume that the most directly and vital predictor of behaviour is the person's judgment or intention to action such as a party wants to adopt new technology in future (Schaw, Sheeran & Norman, 2007). Moreover, theory of planned behaviour used to explain and analyse behavioural intention and it also used to test adoption of new technology (Khalifa, Cheng & Shen, 2012). Furthermore, TPB also has been used in other industry other from new technology adoption example like health care and economic, and it illustrate the personal behaviour of adoption quite completely (Cheon, Lee, Crooks & Song, 2012).

Intention to Adopt Virtual Reality

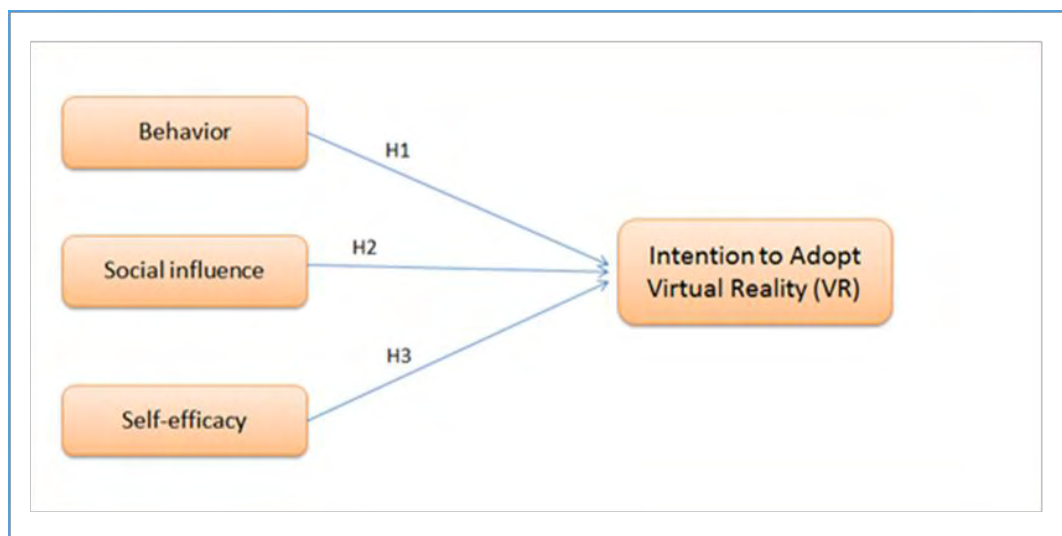
According to Omotayo and Adebayo in 2015, intention is the measure of intensity of a person's intention to show a particular action or behaviour, without a direct relationship between intention and actual behaviour, but intention is as a proxy for measure behaviour. Next, intention also can be defined as perception of a person after achieving trustful relationship that willing to

take action to accept the new thing (Chuchuen, 2016). Adoption intention research models mostly are used to investigate adoption of new technologies such as E-commerce which they were widely used to predict and analyse usage and adoption behaviour (Lin, Lu & Liu, 2013). Behavior can be observed, measured and repeated by an individual through their particular actions but not their motivation, internal processes or feelings (Bicard & Bicard, 2012). By using Theory of Reasoned Action (TRA), it stated that if an individual has positive attitudes and performs it into a particular behavior, it will generate higher intention and they will be possible to perform the behavior (Akulume & Kiwanuka, 2016). Ajzen (1991) has figured out that attitude towards a behavior clearly influences one's self intention of the performance of behavior thus it is parallel to the one's self overall assessment of perform the behavior. In short, behavior can be affected primarily by attitudinal considerations.

Social influence is an extent to which a person's attitudes, beliefs and behaviours are affected by referring to other people (Zhou and Li, 2014). According to Zhang, Liu, Tang, Chen and Li (2013), social influence indicates the ways that people influence opinions, emotions and behaviours of each other. It has global patterns which include being influenced by an opinion leader and a hot topic. Not only that, social influence also has local patterns such as pairwise influence and community influence (Zhang et al., 2013). According to Hernandez and Mazzon's studies (as cite in Ali, 2014), self-efficacy is an individual perceived ability to try a new technology while the facilitating conditions have available resources for adoption. Selection of a specific technology originates from inside people when they feel that they require technology which can improve their current or future living. Moreover, based on Altawallbeh, Soon, Thiam & Alshourah (2015), self-efficacy is a kind of judgments on how well one can implement courses of action required to deal with expectation situations.

CONCEPTUAL FRAMEWORK

Figure 1.1 Proposed Conceptual Framework



According to Pavlou and Chai, (2002), they mentioned that extension or improvement of TRA, which is TPB is the best social psychology theory that used to analyse or develop behavioural intention. Many studies found that TPB used for technology adoption intention (Kim at al., 2011). Based on our study, we analysed or investigate factors that influencing online retailer's intention to adopt VR in Malaysia. Due to VR is still considered as new technology in the market (Desai, Desai, Ajmera & Metha, 2014), TPB framework is suitable for the study and hence become research framework in our topic. For example, internet purchasing, most of the researchers used TPB as their framework (George, 2004).

RESEARCH METHODOLOGY

Sampling Design

This research study executed at whole Malaysia through distributing questionnaire to online retailers because this online retailing can be come from southern region, northern region and central region respectively. It is more convenient and well-populated to collect and gather the data as a representative data of the Malaysia since we are conducting study about intention of online retailers in Malaysia. Non-probability sampling is selected because it is not based on fairness, equity or equal chance (Burns & Bush, 2014). According to MacCallum, Widamam, Zhang and Hong (1999) had indicated that the sample sizes must have at least 100 respondents, and Kevin (2015) said that sample sizes that feedback from 200 to 300 respondents can give an acceptable margin of error of +/- 7 and it is more reliability. Thus, the amount of target respondents selected or sample size for this research is 100 people. In our study, we choose SmartPLS to do the data analysis as it is a famous software application for Partial Least Squares Structural Equation Modeling (PLS-SEM) for marketing research because of its friendly interface used and advance reporting features (Ken, 2013). The main reason to use SmartPLS is because it requires the least demand of sample size which is 100 respondents and residual distribution in order to run the accurate data (Ken, 2013; Hengky & Nur Ainna, 2014; Kim, 2016).

DATA ANALYSIS

Table 1: Demographic Profile of Research Respondents

Demographic Characteristics	Frequency	Percentage (%)
Gender		
Male	47	47
Female	53	53
Year of Experience in Online Retailing		
Below 1 year	31	31
1 - 2 years	38	38
2 - 3 years	16	16
3 years and above	15	15
Monthly Revenue		
Below RM5000	57	57
RM5000–RM10000	23	23
RM10001–RM15000	16	16
RM15001 and above	4	4
Type of Product Selling		
Daily use products	25	25
Beauty products	26	26
Electronic products	12	12
Entertainment & Sports	32	32
Other	5	5

Table 1 shows the frequency of gender of 100 respondents and their percentage. There are 53 (53%) female respondents and 47 (47%) respondents are male. This result proves that our gender characteristic respondents are similar with only 6% of difference. There are 69% respondents who only have experience in online retailing below 2 years. Only 31% respondents have experience in online retailing more than 3 years. This result indicates that most of the respondents have not much experience in online retailing. In monthly revenue, we have more than half which is 57% respondents monthly revenue are below RM5000, 23% respondents monthly revenue are between RM5000 to RM10000, and 20% respondents monthly revenue are more than RM10001. Monthly revenue will direct affect online retailer is that they have sufficient fund to adopt new technology such as Virtual Reality.

Next, it shows that there are 25% respondents who sell daily use product, 26% sell beauty product, 12% sell electronic product, 32% sell entertainment & sports, and 5% sell other products. Other products category includes fashion clothing in premium quality, event activation promoters, logistics, beauty, health, home & service. The majority of the respondents are selling entertainment & sports.

Table 2: Convergent Validity

Variable	Factor Loading (FL)	Composite Reliability (CR)	Average variance extracted (AVE)
Intention to adopt Virtual Reality (VR)			
I1	0.706	0.882	0.518
I2	0.697		
I3	0.779		
I4	0.657		
I5	0.721		
I6	0.752		
I7	0.719		
Behavior			
B1	0.741	0.897	0.554
B2	0.795		
B3	0.772		
B4	0.782		
B5	0.751		
B6	0.658		
B7	0.704		
Social Influence			
SI1	0.635	0.889	0.534
SI2	0.811		
SI3	0.783		
SI4	0.737		
SI5	0.730		
SI6	0.691		
SI7	0.717		
Self-Efficacy			
SE1	0.724	0.895	0.550
SE2	0.760		
SE3	0.683		
SE4	0.740		
SE5	0.726		
SE6	0.817		
SE7	0.735		

Table 2 presents the factor loading (FL) value, composite reliability (CR) and average variance extracted (AVE) of items of dependent variable and independent variable. The FL for all items are from the range of 0.635 to 0.817 which is higher than the acceptable value of 0.5 (Hulland, 1999). The CR value is from 0.882 to 0.897. The range of AVE is 0.518 to 0.554, which have achieved acceptable value with 0.5 (Bagozzo and Yi, 1988).

Table 3: Cross loading

Items	Behavior	Intention to Adopt Virtual Reality (VR)	Self-efficacy	Social Influence
B1	0.741			
B2	0.795			
B3	0.772			
B4	0.782			
B5	0.751			
B6	0.658			
B7	0.704			
I1		0.706		
I2		0.697		
I3		0.779		
I4		0.657		
I5		0.721		
I6		0.752		
I7		0.719		
SE1			0.724	
SE2			0.760	
SE3			0.683	
SE4			0.740	
SE5			0.726	
SE6			0.817	
SE7			0.735	
SI1				0.635
SI2				0.811
SI3				0.783
SI4				0.737
SI5				0.730
SI6				0.691
SI7				0.717

In cross loadings, the correlation between an item and latent variable has been assigned to always higher than the correlation with the other constructs. According to table 3, we can find that major of the value correlation between an item and latent variable are more than 0.7. On the other hand, also have some correlations are lower than 0.7, such as intention to adopt VR with I2 0.697 and with I4 0.657. In addition, the highest correlation is self-efficacy with SE6 0.817 and the lowest correlation is social influence with SI1 0.635. In conclusion of cross loading, all the correlations are acceptable because they are more than 0.5.

Table 4: Discriminant Validity

	Behaviour	Intention To Adopt Virtual Reality (VR)	Self-efficacy	Social Influence
Behaviour	0.918			
Intention To Adopt Virtual Reality (VR)	0.795	0.905		
Self-efficacy	0.887	0.740	0.917	
Social Influence	0.896	0.769	0.869	0.911

***BOLD** value is the square root of AVE.

Discriminant validity can be evaluated by comparing the amount of the variance capture by the construct, discriminant will establish if the value square root of AVE higher than the other correlations between the constructs. According to table 4, we can see that all the value square root of AVE is higher than other correlations between the constructs. The highest

is between behaviour and behaviour with 0.918 and lowest is intention to adopt VR with 0.905 only.

Table 5 indicates the result of path's coefficient and hypotheses testing of the structure model. The two aspects have shown the positive relationships and one more is negative relationships to the intention to adopt VR. There are two hypotheses are supported and one hypothesis is rejected. The T-value that higher than 2.626 are supported. H₁ has the highest of T-value which is 2.737 and H₃ is 2.672 and both hypotheses are supported. Next, H₂ is rejected because their T-value is lower than theoretical T-value with 1.535. In other hand, path's coefficient H₁ and H₃ has the highest effect with $\beta = 0.499$, followed by H₂ ($\beta = 0.262$).

Table 5: Hypotheses testing

Hypothesis	Path's Coefficient (Beta)	T-value	P-value	Result
Intention to Adopt Virtual Reality (VR) > Behavior	0.499	2.737	0.006	Supported
Intention to Adopt Virtual Reality (VR) > Social Influence	0.262	1.535	0.125	Rejected
Intention to Adopt Virtual Reality (VR) > Self-efficacy	0.499	2.672	0.008	Supported

IMPLICATIONS

According to the findings, all of the three variables which are behavior, social influence and self-efficacy will influence the online retailer's intention to adopt virtual reality. Since behavior will positively influence intention to use, the companies should provide training or talk to the retailers to provide them detailed information of virtual reality to learn and know how to use new technology. Retailers who resist to adopt technology or make technological changes may change their mind after attending the training session provided by the companies. Since the retailers tend to be influenced easily by people who are important to them, the virtual reality company can develop more gadgets that are convenient, handy and user-friendly to attract more customers especially those with higher social status and image who have greater power to influence others. They can through word of mouth which can attract potential customers and helps the company to gain greater profits. Self-efficacy also influences their intention to adopt virtual reality which means important to let the retailers to know the usage and benefits of virtual reality. In addition, it is also important for the company to develop more easy-to-use gadgets to the marketplace because people dislike complicated products. A user-friendly product will enhance their confidence and performance which eventually will motivate them to adopt.

RECOMMENDATION FOR FUTURE RESEARCHES

In future, the researchers can extend the research to other fields such as education, tourism and medical which virtual reality will be a useful contribution to these fields. This can encourage the other industries to adopt it to enhance the performance in their industries. It can also help to further explain the usage and benefits of virtual reality which can be beneficial to the company and future users.

CONCLUSION

The research is a survey on the factors influencing online retailer's intention to adopt virtual reality in Malaysia. The framework of the study provides better explanation on the factors influencing online retailer's intention by modifying the variables from TPB model. The research will provide useful information and guidelines to future researchers in related study.

REFERENCES

- Ajzen, I. (1985). Attitudinal vs. normative messages: An investigation of the differential effects of persuasive communications on behavior. *Sociometry*, 34, 263-280.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211
- Akulume, M. & Kiwanuka, S.N (2016). Health Care Waste Segregation Behavior among Health Workers in Uganda: An Application of the Theory of Planned Behavior. *Journal of Environmental and Public Health*.
- Ali, H.S.Z. (2014). The Nature and Components of Perceived Behavioural Control As An Element of Theory of Planned Behaviour. *Journal of Behaviour & Information Technology*, 33(1), 65-84.
- Altawallbeh, M., Soon, F., Thiam, W. & Alshourah, S. (2015). Mediating Role of Attitude, Subjective Norm and Perceived Behavioural Control in the Relationships between Their Respective Salient Beliefs and Behavioural Intention to Adopt E-Learning among Instructors in Jordanian Universities. *Journal of Education and Practice*, 6(11), 152-159.
- Aziz, K. A. & Tan, G. S. (2014). Virtual Reality and Augmented Reality Combination as a Holistic Application for Heritage Preservation in the UNESCO World Heritage Site of Melaka. *International Journal of Social Science and Humanity*, 4(5)
- Bagozzo, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.
- Bicard, S. C & Bicard, D. F. (2012). Defining behavior. Retrieved on 12 April 2017 from http://iris.peabody.vanderbilt.edu/case_studies/ICS-015.pdf
- Carson, E. (2015). 9 industries using virtual reality. Retrieved 11 March 2017 from <http://www.techrepublic.com/article/9-industries-using-virtual-reality/>
- Cheon, J., Lee, S., Crooks, S. M., & Song, J. (2012). An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & Education*, 59(3), 1054-1064.
- Chuchuen, C. (2016). The Perception of Mobile Banking Adoption: The Study of Behavioral, Security, and Trust in Thailand. *International Journal of Social Science and Humanity*, 6(7), 547.
- Desai, P. R., Desai, P. N., Ajmera, K. D., & Mehta, K. (2014). A review paper on oculus rift-a virtual reality headset. *arXiv preprint arXiv:1408.1173*.
- Fife-Schaw, C., Sheeran, P., & Norman, P. (2007). Simulating behaviour change interventions based on the theory of planned behaviour: Impacts on intention and action. *British Journal of Social Psychology*, 46(1), 43-68.
- Fillatreau, P., Fourquet, J.Y., Le Bolloc'H R., Cailhol, S., Datas, A., & Puel, B. (2014). Using virtual reality and 3D industrial numerical models for immersive interactive checklists. *Computers in industry*, 64(9), 1253-1262.
- George, J. F. (2004). The theory of planned behavior and Internet purchasing. *Internet research*, 14(3), 198-212.
- Hagger, M. S., & Chatzisarantis, N. L. (2006). Self-identity and the theory of planned behaviour: Between-and within-participants analyses. *British Journal of Social Psychology*, 45(4), 731-757.

- Hengky, L. & Nur, A.R.(2014). The Result of Partial Least Squares: Structural Equation Modeling Analyses (PLS- SEM). *Journal of Accounting*, 1-35.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strat. Mgmt. J.*, 20: 195–204
- Ismail, I. (2017). New Straits Times, Shireen Tan: Queen of VR. Retrieved 29 March 2017 from <http://www.nst.com.my/news/2017/04/226800/shireen-tan-queen-vr>
- Ken, K.K.W. (2013). Partial Least Squares Structural Equation Modeling (PLS-SEM) Techniques Using SmartPLS. *Journal Marketing Bulletin*, 24, 1-32.
- Kevin, L. (2015). Does your sample size matter? Retrieved on 14 April 2017 from <http://www.lipmanhearne.com/does-your-sample-size-matter/>
- Khalifa, M., Cheng, S. K., & Shen, K. N. (2012). Adoption of mobile commerce: A confidence model. *Journal of computer information Systems*, 53(1), 14-22.
- Kim, G.S. (2016). Partial Least Squares Structural Equation Modeling (PLS-SEM): An Application in Customer Satisfaction Research. *Journal of Science and Technology*, 9(4), 61-68.
- Kim, Y., & Crowston, K. (2011). Technology adoption and use theory review for studying scientists' continued use of cyber-infrastructure. *Proceedings of the Association for Information Science and Technology*, 48(1), 1-10.
- Lin, P. C., Lu, H. K., & Liu, C. H. I. A. (2013). Towards an education behavioral intention model for e-learning systems: An extension of UTAUT. *Journal of Theoretical and Applied Information Technology*, 47(3), 1120-1127.
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4, 84-99.
- Najafipour, A. A., Heidari, M. & Foroozanfar, M. H. (2014). Describing the Virtual Reality and Virtual Tourist Community. Applications and Implications for Tourism Industry. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(12)
- Olshannikova, E., Ometov, A., Koucheryavy, Y., & Olsson, T. (2015). Visualizing Big Data with augmented and virtual reality: challenges and research agenda. *Journal of Big Data*, 2(22).
- Omotayo, F. O., & Adebayo, A. K. (2015). Factors Influencing Intention to Adopt Internet Banking by Postgraduate Students of the University of Ibadan, Nigeria. *The Journal of Internet Banking and Commerce*, 20(3).
- Pavlou, P. A., & Chai, L. (2002). What drives electronic commerce across cultures? Across-cultural empirical investigation of the theory of planned behavior. *J. Electron. Commerce Res.*, 3(4), 240-253.
- Pedram, S., Perez, P., Palmisano, S., & Farrelly, M. (2016). A Systematic Approach to Evaluate the Role of Virtual Reality as a Safety Training Tool in the Context of the Mining Industry. *2016 Coal Operator Conference*, 433-442.
- Piovesan, S. D., Passerino, L. M. & Pereira, A. S. (2012). Virtual Reality as A Tool In The Education. *IADIS International Conference on Cognition and Exploratory Learning in Digital Age*.
- Revesencio, J. (2015). How can businesses benefit from virtual reality? Retrieved 29 March 2017 from http://www.huffingtonpost.com/jonha-revesencio/how-can-businesses-benefi_b_7751958.html

- VR Lab. (2016). Locations. Retrieved 31 March 2017 from http://www.vrlab.my/1_4_locations.html
- Wilson, C. J. & Soranzo, A. (2015). The Use of Virtual Reality in Psychology. A Case Study in Visual Perception. *Hindawi Publishing Corporation*.
- Zhang, J., Liu, B., Tang, J., Chen, T. & Li, J. (2013). Social Influence Locality for Modeling Retweeting Behaviours. *Proceedings of the Twenty-Third International Joint Conference on Artificial Intelligence*.
- Zhang, X., Guo, X., Lai, K. H., Guo, F., & Li, C. (2014). Understanding gender differences in m-health adoption: a modified theory of reasoned action model. *Telemedicine and e-Health*, 20(1), 39-46.
- Zhou, T. & Li, H.X. (2014). Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern. *Computers in Human Behaviour*, 37, 283-289.

Determinants of EPF Contributors' Intention to Convert to Simpanan Shariah Using the Theory of Planned Behavior

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Abstract

Employees Provident Fund (EPF) of Malaysia has introduced Simpanan Shariah to all members as the option to have their account managed and invested according to Shariah compliant regardless of religion, race and nationality. However, the conversion to Simpanan Shariah is not compulsory to the EPF contributors and no fixed dividend return is promised for Simpanan Shariah. This study is to investigate the factors that influence the EPF contributors to convert their EPF savings from conventional to Simpanan Shariah. The proposed conceptual framework will be empirically validated using self-administered questionnaire data. However, this paper is an ongoing research. The Theory of Planned Behavior consists of three main variables which are attitude, subjective norms and perceived behavior control are to be used as indicators in predicting the contributors' intention to convert their EPF savings to Simpanan Shariah. In addition, a new independent variable which is religious obligation will be added to the proposed conceptual framework.

Keywords: simpanan shariah, shariah compliant, theory of planned behavior, consumer behavior

INTRODUCTION

Planning for retirement has become a necessity as it influence the standard of living in retirement years. In Malaysia, there are two types of retirement scheme which are the Employee Provident Fund (EPF) and Pension Scheme. The latter is only provided for the employees under the public sector where they can actually opt out to either choose for EPF or Pension Scheme. However, private sector employees can only rely on EPF to provide them with retirement benefits (Yusuf, Basah & Yusoff, 2014). EPF is a social security institution which has been formed in accordance to the Employees Provident Fund Act 1991 (Act 452) (Employees Provident Fund, 2017). Mohd (2013) mentioned that the provident fund in Malaysia was introduced in 1951 which was defined as a contribution scheme funded via both employers and employees. The fund is aimed to provide non-labor income to the elderly upon retirement. As the biggest retirement scheme in Malaysia, the provident fund is seen as an important provision for the employees to be prepared towards their retirement age. This scheme benefits the members with their efficient and reliable management of their savings which is open to private and non-pensionable public sector employees (Zabri, Ahmad & Loy, 2016). As at September 2016, the total members of EPF have raised up to 14.72 million members. The total numbers of active employee contributors are 6.83 million while the total number of active employers are 541,503. Furthermore, EPF also provides a useful framework for employers to meet their legal and moral obligations to their employees (Employees Provident Fund, 2017).

The amount of contribution to the EPF member's fund is calculated based on the monthly wages or salary of an employee. In addition, the current contribution rate is in accordance with wages or salary received by the employee. There are two types of mandatory contribution rates which should be practiced by the company. The first type are for employees who received wages or salary of RM5,000 and below, employees' contribution is 11% out of their monthly salary and the employers they will contribute 13%. For the second type of contribution rates are for the employees who received wages or salary more than RM5,000,

employees' contribution remained at 11% while the employers will need to contribute only 12%. From July 1975 and onwards, the employers' percentage share has been set consistently higher than the employees' percentage of share (Narayanan, 2002). The monthly contributions of the members will then be invested in a number of approved financial instruments such as Malaysian Government Securities; Money Market Instruments; Loans and Bonds; and Equity and Property to generate income. EPF widen the investment portfolio to be only in the approved financial instruments in order to ensure the optimum returns and most importantly to ensure the dividend payments. The EPF ensured that all savings are protected and contributors will receive reasonable dividends in return. In fact, there is a guaranteed minimum dividend of 2.5% annually for their contributors. All dividends are paid annually and directly into the contributors' EPF account and the dividend rate declared by the EPF is subject to the returns from the investments made in the approved instruments (Employees Provident Fund, 2017).

In following the development of Islamic Finance in Malaysia and other Financial Institution paths, EPF has introduced Islamic saving account to their contributors. This Islamic saving account or so called as Simpanan Shariah was introduced in 2015 after taking into consideration on the demand from the members to have their EPF account to be managed and invested in accordance to Shariah principles. Currently, EPF also stated that there are about 45% of their EPF total investment assets which are already Shariah compliant and it will be expected to grow by at least RM25 billion a year on average. This shows that even before the Simpanan Shariah was introduced, EPF has already practiced Islamic principles pertaining to almost half of their investment fund. Furthermore, there are some different features which make Simpanan Shariah unique as compared to the conventional account. The first difference is, the management and investment of Simpanan Shariah is based on the Islamic principle of Akad Wakalah which means the members will authorize the EPF as their representative to manage their investments which this element is not practiced to the conventional EPF saving. Akad in Islam means a contract between two parties which will bring some effect to the legislation (Rahman, 2009). The contract is the bond act through bargaining process (Ijab) and acceptance (qabul) (Rosland, Romli & Borhan, 2012). Besides that, Simpanan Shariah is endorsed by the EPF's Shariah Advisory Committee as to ensure the management of Simpanan Shariah complies with Shariah principles. Interestingly, there is no guaranteed dividend for Simpanan Shariah as compared to conventional saving as dividend return for Simpanan Shariah will be based on the actual performance of Shariah-compliant investment. Moreover, it is regulated that once the EPF members converted their conventional saving to Simpanan Shariah, they are no longer allowed to revert to conventional saving. (Employees Provident Fund, n.d.).

Notwithstanding the fact that Simpanan Shariah is not giving any promising dividend in return and the fact that the members are not allowed to revert to conventional saving, EPF Chief Executive Officer, Datuk Shahril Ridza Ridzuan stated that up to January 2017 from the total of the initial RM100 billion fund allocated for Simpanan Shariah, RM59.03 billion have been taken up by 635,037 contributors who choose to switch from conventional to Simpanan Shariah. He also added that EPF had allocated RM50 billion additional fund for the year 2018 (Balaram, 2017). Despite the positive feedback from all the contributors, it is still showing that there still some members especially the Muslim contributors who are still not switching their account to Simpanan Shariah since the initial allocation to the Simpanan Shariah is still not fully taken up since its introduction. As the Simpanan Shariah is not made compulsory for the Muslim members to convert, they still can choose to convert or not to convert their EPF saving from conventional saving to Simpanan Shariah. Since some of the 100% allocated Shariah fund is not yet fully utilized, this study aims to determine the EPF contributors' intention to convert their EPF saving to Simpanan Shariah.

LITERATURE REVIEW

Theory of Planned Behavior

Behavior can be defined as an action, attitude or manner which possessed by an individual (Rahman, Asrarhaghghi & Rahman, 2015). Fishbein and Ajzen (1975) have developed theory of reasoned action (TRA) which can be used to explain the varieties of individual's behavior. Using TRA, the individual's behavior can be better understood by measuring the attitudes and intentions of people to carry out or choose to carry out certain

behavior (Fishbein, 1967). The first determinant of the theory which is attitude towards behavior explains whether people have favourable or unfavourable evaluation of the particular behavior (Ajzen & Fishbein, 1980). On the other hand, the second determinant of the theory which is subjective norms explains the social pressures mostly from the people who are close to the individual to influence that individual to either perform or not to perform certain action (Ajzen & Fishbein, 1980).

Theory of planned behavior (TPB) (Ajzen, 1991) on the other hand is an extension to TRA which was developed to overcome the criticism to TRA. TRA was criticized for not being able to be used to measure the behavior of people which have incomplete willingness to carry out certain behavior (Alam & Sayuti, 2011). Any behavior without the conscious willingness of the individual cannot be explained by TRA. Therefore, TPB has introduced perceived behavioral control which refers to person's perception of ease or difficulty to perform specific behavior (Ajzen, 1991). Generally, an individual is said to have a sort of self-control in taking or not taking certain decision which also suggests that it is important to respect one's control in making a decision (Amin, Rahman & Razak, 2014).

TRA and TPB have been applied to a wide variety of research fields especially to measure the consumers' behavior in choosing Halal and Islamic products whether in management, marketing or banking sectors. Husin and Rahman (2016) used TPB to measure the intention of Muslims to participate in family takaful scheme. It is found that TPB model could explain 37.9 per cent of the variance in the intention of Muslims to participate in the family takaful scheme. In their study, they have extended the existing research of TPB by adding three external variables to affect the attitude of an individual which are awareness, knowledge and exposure. It is found that only knowledge and exposure have significant affect on the attitude and intention while awareness interestingly did not have any affect to influence the consumer's intention to purchase the family takaful. Besides that, it is also found that there is significant relationship between perceived behavioral control and intention. When the consumers have positive perception of ease to participate with the family takaful, the possibility of them to have the intention to sign up for family takaful is higher. Meanwhile for subjective norms, it is found that this independent variable did not have significant relationship with the intention of Muslims to participate in the family takaful scheme (Husin & Rahman, 2016).

Amin (2013) has applied TRA to explore the factors influencing Malaysian bank customers to choose Islamic credit cards. He suggested a modified model to examine the attitude, subjective norms and perceived financial cost within context of Islamic credit cards. The study revealed that all the three independent variables have significant influence on the intention of Malaysian bank customers to choose Islamic credit card. Besides that, Rahman et al. (2015) used TRA to measure the attitude and intention of consumers to choose Halal cosmetic products in Malaysia. The study showed that there is significant positive relationship between attitude and intention of consumers to choose Halal cosmetics. Interestingly, the study is also discovered that Malaysians are more concern (having positive attitude) on their intention to choose Halal food products than choosing the Halal cosmetic products. For this current study, TPB is used with three independent variables which are attitude, subjective norms and perceived behavioral control. It is assumed that these three independent variables influence the dependent variable which is the intention of EPF contributors to convert their EPF savings from conventional to Simpanan Shariah.

Religiosity

Religion is an element of culture that permeates every aspect of society and the life of individuals whether they are believers or non-believers (Khraim, 2010). Moschis and Ong (2011) defined religion as one's belief about the absolute definitiveness and inherent truth qualities of a religion's teachings. As the most universal and influential social institution, religion is an important cultural factor to study as it has a very significant influence on people's attitudes, values and behaviors (Mokhlis, 2009). On the other hand, Johnson, Jang, Larson and Li (2001) defined religiosity as the extent of the commitment by an individual to his religion and how much their religion is reflected in their attitudes and behavior. This is because religion is one of the most important factors which influence the affairs of life of its believers (Mukhtar & Butt, 2012). Therefore, it can be concluded that, whatever the religion is teaching or guiding is reflected in an individual's behavior including evaluative criteria, consumption and purchase of products and

services (Muhamad & Mizerski, 2010). Moreover, Khraim (2010) highlighted that the differences in religious affiliations of individuals tend to influence the way they live, the choices they make, what they eat and whom they are associating with. Therefore, in order to enhance the understanding of consumers' choice in a particular context, it is very important to obtain an in-depth understanding of the dominant religion and its effect on consumers' behavior.

In Muslim countries, religion is not only the matter of personal commitment but also the commitment to the state laws. Islamic ruling which is known as fatwa is declared by official religious authority in the Muslim community or by well-known Islamic scholars based on current needs and request from the community (Sachedina, 1990). In recent years, there are a few new fatwa which has been ruled to prohibit some behaviors and products for example cigarette smoking (Ghouri, Atcha & Sheikh, 2006) and obtaining conventional insurances (Muhamad & Mizerski, 2010). Moreover, Muslims' consumption behavior is governed by the Islamic Laws from the Quranic philosophy of what permissible (Halal) and what is not permissible (haram) for Muslim to consume (Eliasi & Dwyner, 2002). It can be seen that financial and food sectors have the most implications of Islamic Laws in terms of their believers' intention for consumption (Mukhtar & Butt, 2012). Therefore, these religious verdicts may become a significant determinant in Muslim consumers' decision making (Muhamad & Mizerski, 2013). In spite of that, it can be said that the extent of an individual for being religious is different as compared to the other who are having the same religious affiliation (Abou-Youssef, Kortam, Abou-Aish & El-Bassiouny, 2015). Therefore, the most important predictor to consumers' behavior intention is the intensity of an individual's religious, not only the religion itself.

Religiosity of an individual has been added as one of indicators in many researches to study consumers' behavior. Rehman and Shabbir (2010) measured the role of one's religiosity in adopting a new product among Muslim consumers. They distributed 300 questionnaires to university students and found that religiosity among Muslim consumers have an effect to attitude towards the adoption of new products. On the other hand, Alam, Mohd and Hisham (2011) carried out a study to examine the effect of religiosity on Muslim consumer behavior and purchasing decision. Their study consisted of 232 Muslims from the middle and upper-income groups working in Shah Alam and Bangi, Selangor. The result indicated that religiosity has a significant effect on the buying behavior of Muslim as they spend moderately and as commanded by Allah in the Quran. In addition, Bakar (1999) showed that religious Muslim do take Islam as their source of reference when making decision in purchases in general as well as in the specific case of buying food. The findings are consistent with Islamic verses that commanded Muslims to obey Allah's guidance and to spend moderately (Alam et al., 2011).

Determinants Of EPF Contributors' Intention To Convert To Simpanan Shariah Attitude

Attitude can be explained by the extent to which a person has favorable or unfavorable evaluation of the behavior in question (Ajzen and Fishbein, 1980). Generally, the stronger an individual belief on the positive impact of certain behavior (Saad & Haniffa, 2014) the more favourable a person's attitude towards certain behavior thus the more likely that person will choose to carry out the behavior (Husin & Rahman, 2016; Saad & Haniffa, 2014). The positive or negative impact on a certain behavior is assessed by an individual on the cost-benefit to carry out certain behavior. On the other hand, Butt and Aftab (2013) have provided another definition of attitude in terms of Islamic concept which suggested that attitude towards Halal Islamic banking captures a person's opinion and perception of Islamic banks. Attitude is one of the major internal influences which affects the consumer decision making process (Abou-Youssef et al., 2015) which have given a significant positive relationship with consumers intention in previous study (Lujja, Mohammad & Hassan, 2016). Therefore, it is expected that attitude will have significant influence in this study. Hence, the following hypothesis is proposed:

H1: Attitude significantly influences the intention of EPF contributors to convert from conventional EPF to Simpanan Shariah.

Subjective Norms

Subjective norms can be explained by the social pressure towards an individual to carry out or not to carry out certain behavior (Ajzen, 1991). This social pressure is mostly coming from close people surrounding the individual as it is suggested that people have certain expectations

regarding the perceptions of their significant others when they engage in the behavior in question. Eagly and Chaiken (1993) defined subjective norms as the perception of an individual whether or not the other person is important to evaluate their behavior. This can also be defined as peer pressure which refers to whether those around the individual strongly influence the individual to participate or intend to participate such behavior. These people may include partners, friends, family, colleagues, community leaders and other notable people (Ibrahim, Fisol & Othman, 2017). In the context of subjective norms to Islamic product or services, Amin et al. (2014) discovered that people are more likely to accept and choose Islamic home financing product if they have found that a large number of people in their surrounding have already adopted and used the Islamic housing finance products which have been offered by the financial institutions. This is in line with a study conducted by Md-Taib et. al. (2008) which has found that social influence is an important factor to affect the individual's intention and acceptance of Islamic banking. Therefore, the following hypothesis is proposed:

H2: Subjective norms significantly influence intention of EPF contributors to convert from conventional EPF to Simpanan Shariah.

Perceived Behavioral Control

Perceived behavioral control refers to perception of an individual on the ease or difficulty of performing certain behavior. If an individual is confident in performing a specific task, it is highly certain that the individual will choose to perform the task (Ajzen, 1991). This suggests that an individual's choice to perform or not to perform certain behavior depends on the capabilities of the individual to carry out the behavior. Keen, Ruyter, Wetzels and Feinberg (2000) suggested that availability of resources and opportunities to perform a behavior can be the indicators to determine perceived behavioral control. On the other hand, Mathieson (1991) suggested that a person's perceived behavioral control is determined by the individual's perception of the availability of skills, resource and opportunities and the importance of those skills, resources and opportunities to perform certain task. For this current study, we consider perceived behavior control as the extent to which EPF contributors have necessary knowledge and capabilities to fulfill all the requirements in order to convert from conventional EPF to Simpanan Shariah. Hence, the following hypothesis is proposed:

H3: Perceived behavioral control significantly influences intention of EPF contributors to convert from conventional EPF to Simpanan Shariah.

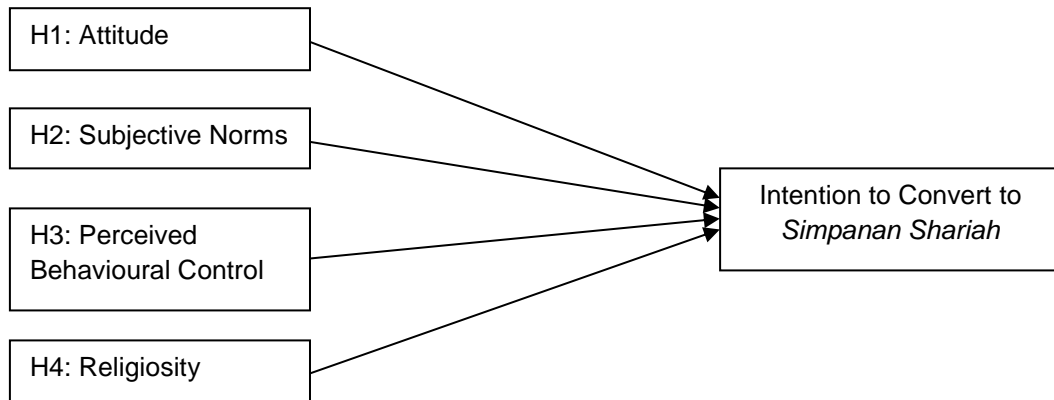
Religiosity

The significance of religious value system is now gaining importance in the consumer behavior research. This is because the level of involvement and degree of religiosity of an individual has significant effect on the consumer behavior on certain variation (Yousaf & Malik, 2013). Hirschman (1981) carried out a study to determine the impact of religiosity on consumer behavior among Jewish and Non-jewish ethnicities. She found that Jewish consumers happen to be more innovative as compared to other consumers. Since that, researchers have been carrying out numerous researches to examine the relationship between religiosity and consumer behavior (Yousaf & Malik, 2013). Therefore, it is interesting to have religious element to be added into this study since this study is related to a selection of Islamic products by EPF members which also consist of Muslim members. Therefore, the following hypothesis is proposed:

H4: Religiosity significantly influences intention of EPF contributors to convert from conventional EPF to Simpanan Shariah.

CONCEPTUAL FRAMEWORK AND HYPOTHESE DEVELOPMENT

Figure 1: Proposed Conceptual Framework



RESEARCH METHODOLOGY

Primary data will be used in this proposed study to collect the information using self-administered questionnaire. The targeted respondents are EPF contributors that have intention to convert their EPF saving from conventional to Simpanan Shariah. This current study is in progress and a number of questions are designed and modified from previous research to be adapted with the context of intention to convert to Simpanan Shariah as dependent variable. The TPB attributes is used to measure the independent variables which are attitude, subjective norms and perceived behavior control. There is one independent variable will be added in this current study which is religiosity. In addition, future study can be done by interview through targeted respondents in their intention when choosing to convert their EPF saving between conventional to Simpanan Shariah.

CONCLUSION

Consistent with its position as a leading saving institution in Malaysia, EPF continues to play its important roles in the nation's economic growth. Since the EPF new Shariah compliant scheme was opened for registration on 8 August 2016, the number of EPF contributors who choose to switch from conventional to Simpanan Shariah keeps increasing regardless their religion, race and nationality. Balaram (2017) stated that as at 1 January 2017, more than half of the total fund allocated had taken up and even RM50 billion additional funds will be allocated during year 2018. Parallel to this achievement, the aims of this study is to determine the factors of EPF contributors' intention to convert to Simpanan Shariah by application of TPB. Therefore, this current study will focuses on the contributors' intention of conversion to Shariah compliant saving scheme. Additionally, this current study will also include one additional variable which is religiosity in the proposed model as an extension to the existing indicators of TPB. This additional variable is likely to have impact on the contributors' intention to convert their EPF savings from conventional to Simpanan Shariah.

Therefore, factors affecting the EPF contributors' intention to convert to Simpanan Shariah will be examined in the context of TPB by including attitude, subjective norms, perceived behavior control and religiosity as an independent variables in the proposed conceptual framework. For this purpose, self-administered questionnaire will be used to provide the key factors that will influence the EPF's contributors the most. The increment in the number of conversion to Simpanan Shariah account by EPF contributors is able to give impact to the movement of Malaysia's Islamic Finance marketplace. Thus, this current study will offer significant implication to the EPF institution particularly its Shariah Advisory Committee by providing them with additional insights on the factors that will influence the contributors before

any rules and policies can be improvised or any modus operandi to be changed. Besides that, this current study can be used to add into the existing studies using TPB application in the Shariah compliant market while at the same time could assist to validate the robustness of TPB in explaining consumer's intention to choose the Islamic product.

REFERENCES

- Abou-Youssef, M. M. H., Kortam, W., Abou-Aish, E. & El-Bassiouny, N. (2015). Effects of Religiosity on Consumer Attitudes Towards Islamic Banking in Egypt. *International Journal of Bank Marketing*, 33(6), 786 – 807.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Process*, 50(2), 179 – 211.
- Ajzen, I. & Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behaviour*. (1st ed.). Pearson.
- Amin, H. (2013). Factors Influencing Malaysian Bank Customers To Choose Islamic Credit Cards: Empirical Evidence from the TRA Model. *Journal of Islamic Marketing*, 4(3), 245 – 263.
- Amin, H., Rahman, A. R. A. & Razak, D. A. (2014). Consumer Acceptance of Islamic Home Financing. *International Journal of Housing Markets and Analysis*, 7(3), 307 – 332.
- Amin, H., Rahman, A. R. A. & Razak, D. A. (2014). Theory of Islamic Consumer Behaviour: An Empirical Study of Consumer Behaviour of Islamic Mortgage in Malaysia. *Journal of Islamic Marketing*, 5(2), 273 – 301.
- Alam, S. S. & Sayuti, N. M. (2011). Applying the Theory of Planned Behavior (TPB) in Halal Food Purchasing. *International Journal of Commerce and Management*, 21(1), 8 – 20.
- Alam, S. S., Mohd, R. & Hisham, B. (2011). Is Religiosity an Important Determinant on Muslim Consumer Behaviour in Malaysia?. *Journal of Islamic Marketing*, 2(1), 83 – 96.
- Bakar, S. A. A. (1999). *Islamic Attributes in Consumer Decision Making: An Empirical Study in Singapore*. A Dissertation Presented to the Kulliyah of Economics and Management Sciences of International Islamic University Malaysia.
- Balaram, S. (2017). EPF: RM59 Billion Taken Up for Simpanan Shariah 2017. *New Straits Times*. Retrieved from <https://www.nst.com.my/news/2017/01/204852/epf-rm59-billion-taken-simpanan-shariah-2017>.
- Butt, M. M. & Aftab, M. (2013). Incorporating Attitude Towards Halal Banking in an Integrated Service Quality, Satisfaction, Trust and Loyalty Model in Online Islamic Banking Context. *International Journal of Bank Marketing*, 31(1), 6 – 23.
- Eagly, A. H & Chaiken, S. (1993). *The Psychology of Attitude*. Harcourt Brace Jovanovich.
- Eliasi, J. R. & Dwyer, J. T. (2002). Kosher and Halal: Religious Observances Affecting Dietary Intakes. *Journal of the American Dietetic Association*, 102(7), 911 – 913.
- Employees Provident Fund. About EPF. (2017). Retrieved from <http://www.kwsp.gov.my/portal/en/about-epf/overview-of-the-epf>.
- Employees Provident Fund. What is Simpanan Shariah?. (n.d.). Retrieved from <https://secure.kwsp.gov.my/shariah/index.html>.
- Fishbein, M. (1967). *Readings in Attitude Theory and Measurement*. (1st ed.). New York: John Wiley & Sons.

- Fishbein, M. & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Addison-Wesley Pub. Co.
- Ghouri, N., Atcha, M. & Sheikh, A. (2006). Influence of Islam on Smoking Among Muslims. *British Medical Journal*, 332(7536), 291 – 294.
- Hirschman, E. C. (1981). American Jewish Ethnicity: Its Relationship to Some Selected Aspects of Consumer Behaviour. *Journal of Marketing*, 45(3), 102 – 110.
- Husin, M. M. & Rahman, A. A. (2016). Do Muslims Intend to Participate in Islamic Insurance?: Analysis from Theory of Planned Behaviour. *Journal of Islamic Accounting and Business Research*, 7(1), 42 – 58.
- Ibrahim, M. A., Fisol, W. N. M. & Othman, Y. (2017). Customer Intention on Islamic Home Financing Products: An Application of Theory of Planned Behaviour (TPB). *Mediterranean Journal of Social Sciences*, 8(2), 77 – 86.
- Johnson, B. R., Jang, S. J., Larson, D. B. & Li, S. D. (2001). Does Adolescent Religious Commitment Matter? A Reexamination of the Effect of Religiosity on Delinquency. *Journal of Research in Crime and Delinquency*, 38(1), 22 – 44.
- Keen, C., Ruyter, K. D., Wetzels, M. & Feinberg, R. (2000). An Empirical Analysis of Consumer Preferences Regarding Alternative Service Delivery Modes in Emerging Electronic Service Markets. *Quarterly Journal of Electronic Commerce*, 1(1), 31 – 47.
- Khraim, H. (2010). Measuring Religiosity in Consumer Research From an Islamic Perspective. *Journal of Economic and Administrative Sciences*, 26(1), 52 – 78.
- Lujja, S., Mohammad, M. O. & Hassan, R. (2016). Modelling Public Behavioral Intention to Adopt Islamic Banking in Uganda: The Theory of Reasoned Action. *International Journal of Islamic and Middle Eastern Finance and Management*, 9(4), 583 – 600.
- Mathieson, K. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behaviour. *Information Systems Research*, 2(3), 173 – 191.
- Mohd, S. (2013). Provident Fund in Malaysia: Sustainability of Retirement Income Provision. *Proceedings of 3rd Asia-Pacific Business Research Conference*. Kuala Lumpur, Malaysia.
- Mokhlis, S. (2009). Relevancy and Measurement of Religiosity in Consumer Behaviour Research. *International Business Research*, 2(3), 75 – 84.
- Moschis, G. P. & Ong, F. S. (2011). Religiosity and Consumer Behavior of Older Adults: A Study of Subcultural Influences in Malaysia. *Journal of Consumer Behaviour*, 10(1), 8 – 17.
- Muhamad, N. & Mizerski, D. (2010). Exploring Muslim Consumers' Information Sources for Fatwa Rulings on Products and Behaviors. *Journal of Islamic Marketing*, 1(1), 37 – 50.
- Muhamad, N. & Mizerski, D. (2013). The Effects of Following Islam in Decisions about Taboo Products. *Journal of Psychology and Marketing*, 30(4), 357 – 371.
- Mukhtar, A. & Butt, M. M. (2012). Intention to Choose Halal Products: The Role of Religiosity. *Journal of Islamic Marketing*, 3(2), 108 – 120.
- Narayanan, S. (2002). Old Age Support for Private Sector Employees in Malaysia: Can the Employees Provident Fund do Better? *Hitotsubashi Journal of Economics*, 43, 119 – 134.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Rahman, Z. A. (2009), *Panduan Perbankan Islam Kontrak dan Produk Asas*. Kuala Lumpur: Telaga Biru.
- Rahman, A. A., Asrarhaghighi, E. & Rahman, S. A. (2015). Consumers and Halal Cosmetic Products: Knowledge, Religiosity, Attitude and Intention. *Journal of Islamic Marketing*, 6(1), 148 – 163.
- Rehman, A. & Shabbir, M. S. (2010). The Relationship between Religiosity and New Product Adoption. *Journal of Islamic Marketing*, 1(1), 63 – 69.
- Rosland, A., Romli, N. & Borhan, J. T. (2012). Contract (Akad) in Online Banking. *International Journal of Computer Applications*, 60(18), 37 – 40.
- Saad, R. A. J. & Haniffa, R. (2014). Determinants of Zakah (Islamic Tax) Compliance Behavior. *Journal of Islamic Accounting and Business Research*, 5(2), 182 – 193.
- Sachedina, Z. (1990). Islam, Procreation and the Law. *International Family Planning Perspectives*, 16(3), 107 – 111.
- Taib, F. M., Ramayah, T. & Razak, D. A. (2008). Factors Influencing Intention to use Diminishing Partnership Home Financing. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(3), 235 – 248.
- Yousaf, S. & Malik, M. S. (2013). Evaluating the Influences of Religiosity and Product Involvement Level on the Consumers. *Journal of Islamic Marketing*, 4(2), 163 – 186.
- Yusuf, M. M., Basah, M. Y. A. & Yusoff, Y. S. (2014). Pre-Retirement Withdrawal in EPF: An Exploratory Study of Employees in Malaysia. *Australian Journal of Basic and Applied Sciences*, 8(3), 439 – 444.
- Zabri, S. M., Ahmad, K. & Lian, A. A. L. H. (2016). The Awareness of Private Retirement Scheme and the Retirement Planning Practices among Private Sector Employees in Malaysia. *International Journal of Economics and Financial Issues*, 6(S6), 120 – 124.

Enterprise Risk Management and Firm Value: A Conceptual Study with Malaysia Listed Companies

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Abstract

Over the recent decade, managing risks has become a major concern of any organization as environments become increasingly dynamic and complex. Enterprise risk management (ERM) facilitate organizations' to effectively deal with uncertainty, and its associated risks and opportunities, to achieve performance and profitability targets and prevent the loss of resources. This study aims to identify the relationship between the implementation of enterprise risk management (ERM) systems and the performance of Malaysia listed companies. The firm value was used as the dependent variable. The independent variables used are enterprise risk management (ERM), profitability, firm size, leverage, and majority ownership. The main objective of this study is to conceptually expose the relationship between enterprise risk management (ERM) and Malaysian listed companies' performance.

Keywords: Enterprise risk management, Firm value, Profitability, Risk, and Leverage.

INTRODUCTION

According to Bank Negara Malaysia (1999), stated that financial crisis had affected more than RM45 billion declines in their total assets. In addition Manab & Ghazali (2013), mention that after the crisis, the issue of corporate governance has received much attention in Malaysia where the government directly put emphasis on the listed companies to be further hands-on in controlling risk and retaining good reporting. In the Malaysian Code on corporate governance 2000, risk management initiative has been unified as one of the vital part of corporate governance code and has been quoted as a main charge of the board of directors. The new Bursa Listing Requirements is incorporated into the Code and it is applied to whole Public Listed Companies in Malaysia. The Public Listed Companies are obligate to reveal their Risk Management, Internal Control and Corporate Governance Guidelines in the annual report to guarantee a disclosure in issuing information to the shareholders, stakeholders, and other organizations that associated with it. Awareness to risk management gives advantageous to banks, government, board of directors, top management, and external auditors and internal auditors because ERM supports them in the implementation and evaluation of corporate policies (Dabari & Saidin, 2014). According to Gates, Nicolas, & Walker (2012) they stated that companies will make better decisions by implementing ERM process. ERM delivers understanding to firms by managing risks across business units and aids them to increase equity returns and capital efficiency (Meulbroek, 2002). Nonetheless, ERM process involves considerable time to provide positive results, therefore companies should be patient with instant value outcome (Gates, Nicolas, & Walker, 2012).

The concept of enterprise risk management (ERM) was developed to avoid bankruptcy of companies in the dynamic environments in the middle of 1990 (David & Desheng, 2010). Which it is an efficient and integrated approach that being use in order to cope with the risks that faced by the firms. ERM can also be distinct as a set of operational or financial activities that can lessen certain costs that linked to the volatility of cash flow in order to increase the value of the company and similarly to the portfolio. Numerous instruments for instance, derivatives and structured product, market insurance and also self-insurance also can be used to perform the risk management activities which are in term of diversification and risk hedging. Nevertheless, the main advantage of having ERM is the ability to guide most of the companies

against the underinvestment problem. Through hedging and dealing with the risk of the company, a company can limit the possibility of their deficit on the cash that will lead to destroying the value of investment, due to this, ERM have a capability to safeguard the ability of company in implementing the business plan (Nocco & Stulz, 2006).

According to research done by Soltanizadeha, Rasida, Golshanb, Quoquaba and Basiruddina (2014), there are still a lot of companies have did not implement the ERM system regardless of its benefits. There only 17% out of 1431 risk managers of US firms have wholly implemented ERM system in 2011. As for Malaysia, most of the Malaysian companies were being affected badly for the period of financial crisis in 1997 due to the poor risk management. According to Bank Negara Malaysia, they have lost RM45 billions on the total assets from the financial crisis in 1997. Furthermore only a small number of Malaysian public listed companies have implemented ERM system although the importance of ERM system has been highlighted. Nonetheless, the ERM system is also being recommended to be employed on the companies that are listed on Bursa Malaysia even though clearly different industries will have different extension or outcome on the ERM implementation. The effectiveness of ERM rest on the appropriate match between firm and ERM (Dabari & Saidin, 2014). Based on Gordon, Loeb and Tseng (2009), they proposed that the relationship between ERM and firm performance is based on environmental uncertainty, industry competition, firm size, firm complexity and monitoring by the board of directors. Therefore, this implies that firms should assess the ERM implementation on the basis of contextual variables around the firm.

Based on the past research, there are some researchers found mixed or adverse results concerning the relationship between ERM and firm value. According to McShane et al., (2011) which investigated the effect of ERM on firm value and discover an evidence showing a positive relationship between increasing level of TRM capability and firm value, however no additional firm value for firms achieving a high ERM rating. The result also shown that under a certain level of ERM, it has positive relationship with firm value, but then again beyond that level there is no apparent increase in firm value. Lin, Wen and Yu (2011) have conducted a theoretical research and examined the effect of ERM on firm value and establish that ERM implementation exhibited a significant negative correlation towards firm value in terms of Tobin's Q. Many of researchers have used Tobin's Q as a standard proxy to measure value (See Hoyt and Liebenberg, 2008; Abdelgalil, 2004; and Chung et. al., 1998). This is due to Tobin's Q is an alternative solution for firms to measure performance because it is containing a mixture of accounting and market information (Lovero, 2000). The most imperative fact is that it is free from managerial manipulation (Hoyt and Liebenberg, 2006). According to Chung and Pruitt (1994), the estimated Q derived is from the product of a firm's share price and the number of common stock shares outstanding plus firm's preference stock plus total net debt; then divided by the book value of the total assets of the firm.

Nevertheless literature in finance are excessive in terms of variables that can be influence on firm value but still only few have been written about the impact of firm value to ERM. The studies on the impact of ERM on firm value are still considered limited particularly in the Malaysian scenario. Therefore, this study aims to fill up this gap. The objective of this study is to observe the impact of ERM on firm value which is proxy by Tobin's Q. The other variables for instance firm size, leverage, profitability, majority ownership and ERM are included in this study.

LITERITURE REVIEW

Dependent Variable

Firm Value

The dependent variable for this study is firm value, which is proxy by Tobin's Q. In empirical risk studies, Tobins-Q is the most commonly used in measuring the value of firm (Smithson and Simkins, 2005). Compared to other measurements like stock returns and accounting measurements, Tobins-Q has more power as it does not involve any adjustment on risk or normalization (Lang and Stulz, 1994). In addition, Tobins-Q is free from managerial population as it reflects on market expectation (Lindenberg and Ross, 1981). Consistent with

Cummins, Lewis and Wei (2006), this study proxy the Tobins-Q as market value of equity plus the book value of liabilities divided by book value of the assets.

Smithson and Simkins (2005) survey found the evidence on relationship between firm value and risk management that company share prices do reflect the value of interest rate risk management in financial institutions, but the results are less clear when examining industrial companies. With regard to variance minimization, the evidence is strong that firms using risk management tools do experience lower return and cash flow volatility. Finally, the survey examines a group of papers that proxy for firm value using Tobin's Q. These papers found that, in general, interest rate and foreign currency (FX) risk management results in higher firm value. The results are mixed when looking at commodity price risk management, however, as higher firm value only seems to accrue to commodity consumers (e.g. airlines) as opposed to commodity producers (e.g. gold miners). For more evidence on the relationship, Smith and Stulz (1985) construct a model to demonstrate that firms' hedging decisions should be made in concert with other financing decisions. They find that firms hedge for three reasons: to reduce taxes; to reduce the costs of financial distress; and managerial risk aversion. Additionally, Stulz (1996) summarizes the results of these papers in a practitioner-friendly, accessible way, providing an examination of the broad theory of risk management that is based on comparative advantage in risk-bearing. He argues that risk management benefits three aspects of firm value: by reducing the variability of cash flows and the potential costs of bankruptcy, by reducing the cost of capital and by reducing taxes.

Independent Variables

Enterprise Risk Management

Bank experience loss when they face the market risk, which is arising from the adverse market movement of their portfolio (Bank Indonesia, 2003). This market risks causes by the exchange rates and interest rates changes. Company that facing market risk related to exchange rate is strongly associated with the company's value. In determining the shares value of a company, it determined by the market conditions. Company that is able to reveal good ERM in their annual report shows that they are able to manage the risk that is arise in the various program implemented.

Hoyt and Lienbenberg (2006) support this where they also found that ERM is positive and significantly influence the company value. They also found that ERM could increase 3.6 % and 17% of firm's value (Hoyt and Lienbenberg, 2006, 2008). Form their study, it is suggest that when the company practice ERM, the company's value is 3.6% to 17 % higher compared to the company that do not practice ERM. ERM can become non-financial information signal for the investors that allied with capital security invested. Therefore, investors are competing to get property certificate and they are willingly to compete on the shares purchase price. While, Beasley et al. (2005), Colquitt et al. (1999) and Kleffner et al (2003) found that ERM implementation level is different from different industries. Consistent with Colquitt et al. (1999), firm in certain industries, such as financial firm, had ERM framework in place or plan to implement one. In Malaysia, having an ERM framework in place was extended to infrastructure and hotels industries. Furthermore, tourism is one of the industries under focus of the Malaysian government to create value (NEM, 2010). Also, suitable with Malaysia's position as a leading exporter of electronic parts (World bank, 2010), all the sample firms from technology sector either had formal ERM framework or had plan to implement one.

Profitability

Profitability is the ability of company to earn a profit for company survivability and the benefit received by shareholders as a reflection of company's operational activities. The ability of company to generate profits based capital assets becomes a part of company's performance assessment in a period (Agustina and Baroroh, 2016). Therefore, profitability is important measurement for company as increase in profits will influence market price increase. In addition, to attract more investments, the company must show good returns (Tahir and Razali, 2011). Bertinetti (2013) investigated the impact of Enterprise Risk Management (ERM) on 200 European listed companies where operated in 17 different industries from 2002 to 2011. The study found that there is a positive relation between profitability, size, financial leverage and beta towards firm's value. Manab and Ghazali (2013) examined 417 public listed companies (PLCs) whether can create ERM on the firm's value in Malaysia. Their analyses using stepwise multiple regressions that focuses on the companies' financial characteristics and found return

on asset (ROA) have positively significant influence firm value indicate to shareholder's wealth increase. These results support the study conducted by Agustina and Baroroh (2016) finding that there firm's value has positively influence with profitability in the view financial performance as main factor that indicate the profitability companies associated with return to investors' in their investment decision. However, in contrary Tahir and Razali (2011) found that there are negatively related between profitability and firm value.

Firm Size

Firm size is determined by the capability and ability of variety of production a firm possesses. It is highly significant between them because large firms can increase their current size very quickly (Tahir and Razali, 2011) due economic of scale. This been supported by Ozgulbas et al. (2006) when their study found that large firms have a higher performance as compared to small firms in Turkey. Li et al. (2014) used two-stages selection correction model to first explain ERM and its determinants to using ordinary least squares (OLS) regression modeling and then, second examine is effect of independent variables on firm value. Their study focuses on 135 insurance industries operating in China. Their results revealed that firm size significant positive related with firm value on the second stage. Beasley et al. (2005) examined the influential factors associated ERM adoption at a 123 firms in the United States (US). They found that the adoption ERM largely influenced by firm size. However, Mule et al. (2015) examined the relationship between firm value and 53 listed companies over the period from 2010 to 2014 in Kenya. Their study used Tobin's Q as a proxy of firm value and resulted that firm size insignificantly impact on the firm value. Previous study conducted by Razali et al. (2011) examined the determinants of ERM adoption on PLCs in Malaysia for the period 2007. Their results found negative relationship between ERM and firm size and claimed Malaysia companies still unaware the important ERM through companies are facing risks.

Leverage

Enterprise risk management (ERM) been adopted by the firms in order to improve their performance. According to Jamal, Hussain & Mehmood (2016), firms with higher leverage, higher growth opportunities and at the same time can see the variability in their return which showing poor performance, have high possibility to adopt ERM. The finding of their study was showing that ERM adoption decision by the firms has significant relationship with the financial leverage. Without ERM, the company with higher leverage are most likely to have financial distress. Supported by Florio & Leoni (2016), the study found negative relationship between leverage and market performance. Furthermore, ERM and leverage have been proved with negative and significant relationship as sophisticated ERM system present a lower level of risk. The study of McShane, Nair & Rustambekov (2011) used financial leverage as a control variable and found similar result as others, negative and significant relation to firm value. However, based on the study of Kommunur et al. (2016), their study showed negative relationship but insignificant between leverage and firm performance in Vietnam. As adoption of ERM, the company needs to bear with additional cost which in turn, does not improve the profitability of the company in a short period of time.

Majority Ownership

Companies were more likely to adopt ERM if the companies were larger and had greater institutional ownership (Jabbour & Kader, 2016). Soltanizadeh et al. (2016) found that ownership have positive relationship with ERM and organizational performance. It has been supported by Pagach and Warr (2011) where, there is positive relationship between probability of hiring the Chief Risk Officers (CRO) with institutional ownership. The percentage of the firm's stock has been used as institutional ownership measurement in this study. Hence, proved that ERM has relationship with the ownership and this study is going to look at the relationship between majority ownership and firm value. According to Bai et al. (2004), ownership structure is the most important mechanism for firms' value maximization as shareholder will have power to control personal gain and other shareholders' expenses. Firm value and ownership concentration is concluded as a complex relationship. Based on the evidence from Chinese firms, the relationship between firm value and ownership changed from positive relationship to negative relationship and return to positive relationship as the ownership concentration increased, keep increasing and finally reached one hundred percent ownership concentration. Hutchinson (2015) found significant and positive relationship between the size of institutional ownership with risk management and the firm value. Their result proved that institutional

investor as the market forces can influence the firm value for both short-term and long-term period depending on their size of institutional ownership.

CONCLUSION

This study has examined literature related to ERM toward performance of Malaysia listed companies. Through the comprehensive literature review, drivers for and obstacles to ERM implementation were identified. This study starts with explanation of the drivers on dependent variable which is firm performance measuring by firm value. Literature review also recognized a number of independent variables which are enterprise risk management implementation, and also control by variable such firm size, profitability, leverage and majority ownership. The identification of the obstacles enables management of companies to be clear about the challenges encountered by the ERM program and take corrective actions to reduce their undesirable effects. Regardless of the achievement of the study objectives, there are few limitations to the conclusions. The drivers and obstacles identified in this study may not be extensive or continue to hold true with the passage of time. Moreover, as the findings were investigated in the context of Malaysia listed companies as a whole, there may be geographical boundaries on the identification of the critical drivers for and obstacles to ERM implementation. Besides, this study only cover the relationship without concerning other factors such mediating or moderating elements that might give different result toward the relationship. Given the above limitations, future research should investigate by considering possible mediating or moderating variable toward significance relationship between ERM and firm performance. Nonetheless, the implication of this study is the drivers and obstacles identified in this study to prepare their customized list of drivers and obstacles. The findings of this study can be used as a base for future research on ERM in different area or study. Therefore, this study contributes to comprehensive conceptual knowledge relating to ERM and allows the management teams of Malaysia public listed companies to overcome the challenges posed by the significant obstacles.

REFERENCES

- Abdelgalil, E. (2004). Measuring Manufacturing Performance: A Literature Review, Working Paper Data Management and Business Research Department. Dubai Chamber of Commerce and Industry
- Abdul Manab, N. A., & Ghazali, Z. (2013) *Does Enterprise Risk Management Create Value*. Journal of Advanced Management Science, 1 (4). pp. 358-362. ISSN 2168-0787
- Agustine, L., & Baroroh, N. (2016). *The relationship between Enterprise Risk Management (ERM) and Firm Value mediated through the Financial Performance*. Review of Integrative Business and Economics Research, 5(1), 128-138
- Bai, C.E., Liu, Q., Lu, J., Song, F. M., Zhang, J. (2004), "Corporate governance and market valuation in China", Journal of Comparative Economics. 32 (4) : 599 - 616.
- Bank Indonesia. (2003), "Peraturan Bank Indonesia nomor: 5/8/PBI/2003 tentang Penerapan Manajemen Risiko Bagi Bank Umum".
- Beasley, M., Clune, R. & Hermanson, D. (2005). *Enterprise Risk Management: An empirical analysis of factors associated with the extent of implementation*. Journal of Accounting and Public Policy, 24, 521- 531
- Bertinetti, Giorgio S. (2013). The effect of the *enterprise risk management implementation on the company value of the European companies*. Working papern. 10/2013 August 2013 ISSN: 2239-2734

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Chung, K. H., & Pruitt, S. W. (1994). A Simple Approximation of Tobin's Q. *Financial Management*, 70-74
- Cummins, J.D., Lewis, C., and Wei, R. 2006. "The Market Impact of Operational Risk Events for U.S. Banks and Insurers." *Journal of Banking and Finance*. forthcoming.
- Dabari, I., & Saidin, S. (2014). A Theoretical Framework on the Level of Risk Management Implementation in the Nigerian Banking Sector: The Moderating Effect of Top Management Support. *Procedia - Social And Behavioral Sciences*, 164, 627-634. <http://dx.doi.org/10.1016/j.sbspro.2014.11.156>
- Florio, C., & Leoni, G., (2016), "Enterprise risk management and firm performance: The Italian case", *The British Accounting Review* 49, 56e74.
- Gordon, L., Loeb, M., & Tseng, C. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal Of Accounting And Public Policy*, 28(4), 301-327. <http://dx.doi.org/10.1016/j.jaccpubpol.2009.06.006>
- Hoyt, R. E., & Liebenberg, A. P. (2006). The Value of Enterprise Risk Management: Evidence from the U.S. Insurance Industry. Available at: http://www.aria.org/meetings/2006papers/Hoyt_Liebenberg_ERM_070606.pdf
- Hoyt, R. E., & Liebenberg, A. P. (2008). The Value of Enterprise Risk Management: Evidence from the U.S. Insurance Industry. Available at: http://www.risknet.de/typo3conf/ext/bx_elibrary/elibrarydownload.php?&downloaddata=537
- Hoyt, R. E., and A. P. Liebenberg. 2011. The value of enterprise risk management. *Journal of Risk and Insurance* 78(4): 795-822.
- Hoyt, Robert E., and Liebenberg Andre P. (2006), "The Value of Enterprise Risk Management: Evidence from the U.S. Insurance Industry", *Journal of Risk and Insurance*, *Forthcoming*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1440947.
- Hutchinson M., Seamer M., & Chapple L., (2015), "Institutional Investors, Risk/Performance and Corporate Governance" *International Journal of Accounting*. 50(1):31-52
- Jabbour, M., & Abdel-Kader, M., (2016), "ERM adoption in the insurance sector: Is it a Regulatory Imperative or Business Value Driven?", *Qualitative Research in Accounting & Management*, Vol. 13 Issue: 4, pp.472-510.
- Jamal, K.M., Hussain, D., & Mehmood, W., (2016) "Why do firms adopt enterprise risk management (ERM)? Empirical evidence from France", *Management Decision*, Vol. 54 Issue: 8, pp.1886-1907.
- Lang, L. H. P., & Stulz, R. M. (1994). Tobin's q, corporate diversification, and firm performance. *Journal of Political Economy*. <http://doi.org/10.1086/261970>
- Li, Q., Wu, Y., Ojiako, U., Marshall, A. & Chipulu, M. (2014). *Enterprise risk management and firm value within China's insurance industry*. *Acta Commercii* 14(1), Art.#198, 10 pages. <http://dx.doi.org/10.4102/ac.v14i1.198>
- Lindenberg, E., and Ross, S. 1981. "Tobin's q ratio and industrial organization." *Journal of Business* 54: 1-32.
- Lovero, E. M. (2000). *The Strategic Impact of Quality And Relative Market Share On Intellectual Capital Deployment And Shareholder Value Maximization: An Empirical Study*. Unpublished DBA Thesis, UMI.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Manab, N., & Ghazali, Z. (2013). Does Enterprise Risk Management Create Value. *Journal Of Advanced Management Science*, 358-362. <http://dx.doi.org/10.12720/Joams.1.4.358-362>
- McShane, M., Nair, A., & Rustambekov, E. (2011). Does Enterprise Risk Management Increase Firm Value?. *Journal Of Accounting, Auditing & Finance*, 26(4), 641-658. <http://dx.doi.org/10.1177/0148558x11409160>
- Meulbroek, L. (2002). Integrated Risk Management for the Firm: A Senior Manager's Guide. *SSRN Electronic Journal*. <http://dx.doi.org/10.2139/ssrn.301331>
- Mule, R.K, Mukras, M.S & Oginda, M.N (2013). *Corporate size, profitability and Market Value: An econometric panel analysis of listed firms in Kenya*. *European Scientific Journal*, 11 (13), 1857–7881
- Nocco, B., & Stulz, R. (2006). Enterprise Risk Management: Theory and Practice. *SSRN Electronic Journal*. <http://dx.doi.org/10.2139/ssrn.921402>
- Olson, D., & Dash Wu, D. (2010). A review of enterprise risk management in supply chain. *Kybernetes*, 39(5), 694-706. <http://dx.doi.org/10.1108/03684921011043198>
- Ozgulbas, N., Koyuncugil, A. S., & Yilmaz, F. (2006). *Identifying the effect of firm size on financial performance of SMEs*. *The Business Review, Cambridge*, 6 (1), 162– 167
- Pagach, D. & Warr, R., (2011), "The Characteristics of Firms That Hire Chief Risk Officers", *Journal of Risk & Insurance*, Vol. 78 Issue 1, p185-211.
- Razali, A.R., Yazid, A.S. & Tahir, I.M. (2011). *The determinants of Enterprise Risk Management (ERM) practices in Malaysian public listed companies*. *Journal of Social and Development Sciences* 1(5): 202-207
- Smithson, C. W., & Simkins, B. J. (2005). Does risk management add value? A survey of the evidence. *Journal of Applied Corporate Finance*, 17(3), 8–17. <http://doi.org/10.1111/j.1745-6622.2005.00042.x>
- Soltanizadeh, S., Rasid, S., Golshan, N., Quoquab, F., & Basiruddin, R. (2014). Enterprise Risk Management Practices among Malaysian Firms. *Procedia - Social And Behavioral Sciences*, 164, 332-337. <http://dx.doi.org/10.1016/j.sbspro.2014.11.084>
- Stephen Gates, Jean-Louis Nicolas, Paul L. Walker. Enterprise risk management: A process for enhanced management and improved performance. *Management Accounting Quarterly*, 2012, 13 (3), pp.28-38.
- Tahir, I. & Razali, A. (2011). *The Relationship between enterprise risk management (ERM) and firm value: Evidence from Malaysian public listed companies*. *International Journal of Economics and Management Sciences* 1(2), 32–41

A Study of the Factors Affecting China Tourist Arrival in the United States

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Abstract

This study sought to find the relationship between tourist arrival from China to the United States with the economic and non-economic variables such as exchange rate, income (GDP growth per capita), terrorism and natural disaster over the period from year 1990 to year 2014. Autoregressive Distributed Lag (ARDL) method is applied in the research model in order to investigate the long run relationship between tourist arrival, exchange rate, income, terrorism and natural disaster. In the findings, we found that higher exchange rate, growth in income (GDP growth per capita), increase in number of terrorism and increase in number of natural disaster have a negative impact to the tourist arrival from China to the United States. Besides, there is a long run relationship between the tourist arrival, exchange rate and terrorism. These factors play a crucial role in the tourism demand and it should be strategically focused by the government of the United States and related parties.

Keywords: Tourism Demand, Autoregressive Distributed Lag (ARDL)

INTRODUCTION

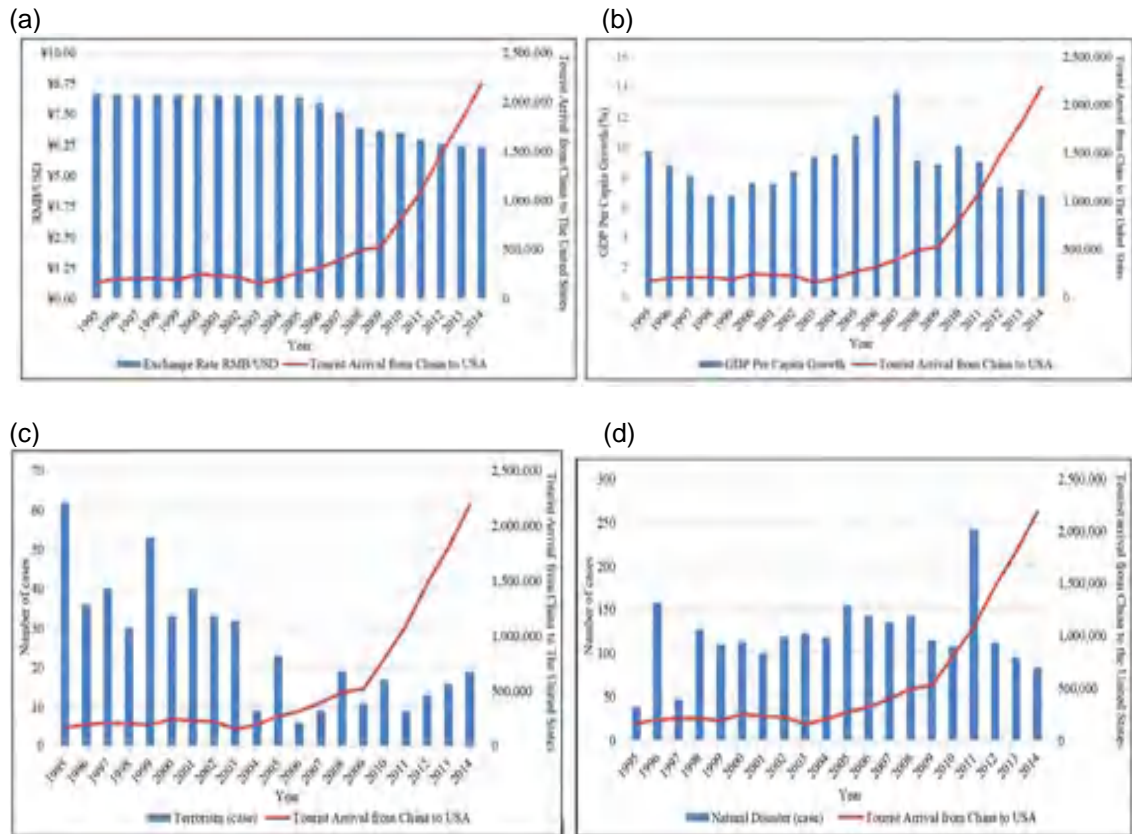
There is no denying that travel and tourism industry can bring an enormous impact to the economic, financial and social development of a country. According to the World Travel & Tourism Council (WTTC)'s report on the travel and tourism sector contribution to the country in the year of 2014, the direct contribution of travel and tourism to the Gross Domestic Product (GDP) in the United States was USD457.9 billion (2.6% of GDP). The direct contribution includes the tourism-characteristic sectors such as hotels, airports, airlines, leisure, recreation services and travel agents. The travel and tourism sector has a huge contribution to the economy of the country indeed; moreover, the rapid growth of the tourism sector can be attributed to a number of factors. Therefore, in this study, we are trying our best to expose the factors that affecting the number of China tourist arrival in the United States. We had generally focused on how the determinants of tourism demand affect China tourists travel to the United States. This is because China has increased its outreach with the other countries globally since the early 1990s and ranked first in the world in total population. Not only that, China surpassing the United States in 2014 for the first time in modern history.

According to the International Trade Administration (ITA), China' tourist has contributed an amount of \$23,770 million out of the total tourism expenditure (\$235,396) in the United States in year 2014, and shown an increasing trend from year 2003 to 2014, yet it expected to be rise in further year. This has proven that tourists from China are important to the United States' tourism industry due to their spending power. Therefore, the exchange rate of RMB/USD and Chinese income will be used in this study in order to examine the determinants of the tourism demand in the US by China tourists. (See Figure 1(a) & (b)). Nevertheless, tourism industry is persisting infirm and defenseless to the uncertainty factors like natural disasters and terrorism. Nowadays, the safety of the tourist destination is one of the necessities the tourist anticipated and this has been supported by the researchers in the tourism industry.

In fact, the fright of terrorist brutality is no longer a new thing, yet the intensify awareness it has received from the researchers could be track down in the incident of terrorist attacks that happened in US in 11th September 2001. There is 2 billion US dollar loss disclosed by the US tourism industry in the period of two weeks after the terrorism incident (Blake & Sinclair, 2002). Such terrorism act has inhibiting the likely tourists from choosing US as a travel

destination for a certain period. Figure 1 (c) illustrates the number of tourist arrivals from China to the United States from year 1995 to 2014. It indicates that the tourist arrival in the United States shown a decreased trend from the year 2001 to 2003, it had declined approximately 75 thousands tourists from China. This is due to the safety concerns of tourists come after the incident of 911 in year 2001, as the tourists has considered the risk of it and this lead to a poor image to the country affected. Besides, the number of China tourist arrival continued to increase regardless the fluctuating of the number of natural disaster cases (see Figure 1 (d)).

Figure 1: Relationship Between the China Tourist Arrivals in US and its factors in year 1995 -2014.



Notes: Adopted from various sources²⁰

A strange phenomenon happened where there is a significant growth trends in tourist arrival from China to the United States along with the growth cases in terrorism and natural disaster in the United States from year 2011 to year 2014. This has given us an intention to conduct this study in order to identify the factors that contribute to the tourist arrival in the United States and examine the impacts that given by these factors.

LITERATURE REVIEW

From previous studies, most of the countries has initiate to give a serious advertence to the tourism development where this sector carries the benefits to a variety of economy sector (Kusni, Kadir & Nayan, 2013). Hanafiah and Harun (2010) examined regarding the tourism demand based on a few of economic determinants included exchange rate as one of their key determinants and the focused country was in Malaysia. The study has found that exchange rate was as hypothesized negatively correlated with the tourist arrival in Malaysia. As a result from the Gravity Model, the tourist arrival in Malaysia will fall by 0.156% when there is a growth of 1%

20 Number of China Tourist Arrivals adopted from U.S. Department of Commerce, ITA, National Travel and Tourism Office
 Exchange rate and GDP adopted from World Bank
 Terrorism adopted from Global Terrorism Database (GTD)
 Natural disaster adopted from Department of Homeland Security (FEMA)

of the exchange rate of Malaysia. However, the researchers also claimed that the outcome from the indices of the exchange rate can be both positive and negative. This is all relying on whether the relative value of the based country has comparatively raised or drop. In other words, travellers from the richer countries will be more likely to choose to travel to a country which is less wealthy due to the lower exchange rate of the money currency of the country the travellers decided to travel (Lean, Chong & Hooy, 2014). Peace (2016) examined the relationship between real effective exchange rate fluctuation and the dedication of the tourism sector outcome in Nigeria by using the share of tourism sector as the data for 20 years. In the result of the vector error correction model (VECM), there is a significant and negative relationship between the real effective exchange rate fluctuation and the dedication of the tourism sector outcome in Nigeria. In other words, when there is a decrease in the exchange rate fluctuation, it will in turn to decrease the dedication of the tourism sector outcome in Nigeria and vice versa. This result also indicates that the decision of the prospective travellers, tour agents and tour operators are regularly been influenced by the selection of the travel countries by the volatility of the exchange rate.

According to the study of Vencovská (2014), income plays a vital role in travelling decision. Many researchers find that income is the most common used independent variable for tourism demand. This statement is supported by Lim (1997), which discover that out of 118 surveys of tourism modelling, about 83 studies on tourism demand has applied income as one of the explanatory variables in their research. And this result is corresponding to another survey done by Lim (2004), which stated that income is the most popular variable, at about 81 percent. Lan, Lin and Lin (2015) investigates the impact on tourism industry when Chinese tourists were allowed in Taiwan in 2001. In long-run, the result shows that the income of Chinese tourists is positively related with the number of China tourists in Taiwan. Chinese tourists will first concern about their income before travelling. Other than that, Chinese tourists consider travel to Thailand is luxury good as it income elasticity is 1.37 (Untong, Ramos, Mingsarn & Javier, 2015). Song, Li, Witt and Fei (2010) find that tourists' incomes mainly affect tourist arrivals in Hong Kong.

Based on the study of Gallego, Nadal and Fourie (2016), terrorism is defined as "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation". In 1986, there were over 28 million of the United States tourists travelled abroad and 162 people were found that killed in an innumerable terror acts. Eventually, these circumstances had brought impact to two million Americans by changing their travel plans to other safer destinations and this had eventually caused the number of tourist arrival in Europe decreased approximately 30% in 1986 (Boger, Varghese & Rittapirom, 2005). After the 9/11 attack happened on the "Twin Towers" of the World Trade Center in New York, the negative impact of the 9/11 terrorist attacks toward the tourism industry had emphasizes long and short-term timelines. In short-term effect, the world tourism industry had suffered a downturn of over 10% globally in the first few months after the attacks (Belau, 2003). The United States was no denying had the worst downturn in the number of tourist arrivals which with a loss of 6.8% in year 2002 (Belau, 2003). The domestic tourism industry in the United States experienced a radical decrease and losses in their economy industry such as travel, hospitality, leisure and restaurant. Unfortunately, this negative impact had lasted for around two years depending on the industry (Bysyuk, 2010). Besides that, other countries such as Canada, Austria, Germany, Mexico, Egypt, the United Kingdom, the Dominican Republic and Australia also reported severe losses in tourist arrivals (Blake & Sinclair, 2002).

According to FEMA (1990), natural disaster is defined as a phenomenon that has triggered in the property destruction, injuries to community, or demise. The influences of natural disasters on tourism can be categorized into two corresponding aspects which are the effect on tourism demand (e.g., number of the domestic and international tourist arrivals) and the effect on tourism supply (e.g., tourism authorities, tourism enterprises and tourism destination) (Wu & Hayashi, 2013). Due to the occurrence of natural disaster has increased significantly, and this has created a global awareness about the natural disasters and its impact to all dimensions. The literature on natural disaster in the tourism industry has multiply remarkably from the last few decades. Despite that, the studies or research on natural disaster in the tourism industry persist in being restricted (Faulkner, 2001). In previous, there are many studies have examined

that the tourism demand is influence by various type of natural disasters which consist of tsunamis (Carlsen & Hughes, 2008; Birkland et al., 2004), earthquakes (Yang et al., 2008; Mazzocchi & Montini, 2001; Huang & Min, 2012) and climate extreme (Bigano et al., 2005; Breiling & Charamza, 1999).

RESEARCH METHODOLOGY

The main issues of the research are exchange rate, income, terrorism and natural disaster as independent variables that will influence number of China tourist arrivals in the United States. Logarithm transformation in a linear regression model is stated as follows:

$$LNTA_t = \beta_0 + \beta_1 LEXR_t + \beta_2 LINC_t + \beta_3 LTER_t + \beta_4 LND_t + \varepsilon_t$$

Where,

LNTA= Natural logarithm of number of China's tourist arrivals in the United States.

LEXR= Natural logarithm of the United States' exchange rate. (RMB/USD)

LINC= Natural logarithm of China's income. (GDP growth per capita)

LTER= Natural logarithm of the United States' terrorism. (Number of cases)

LND = Natural logarithm of the United States' natural disaster. (Number of cases)

This study has used Autoregressive Distributed Lag (ARDL) model and Wald test to examine the relationship between dependent variable (tourist arrival from China to the United States) and independent variables (exchange rate, income, terrorism and natural disaster). Before that, Unit Root test is used to determine the stationary of the variables in a set of time series data.

Unit Root Test

One of the popular methods in unit root test is augmented Dickey-Fuller (ADF) test. ADF test is a version of Dickey-Fuller test for larger sample size of a set of time series data. ADF test analyses the null hypothesis that a time series data is I(1) against I(0) (Zivot & Wang, 2006). In this study, the null hypothesis for ADF test is H₀: the set of data is non-stationary data. The alternative hypothesis is H₁: the set of data is stationary data. The decision rule of ADF test is to reject H₀ when t-statistic is greater than critical value. Otherwise, do not reject H₀.

Another frequently used method in unit root test is Phillips-Perron (PP) test. According to Zivot and Wang (2006), role of PP test is used to determine serial correlation and heteroscedasticity in the errors which is different from ADF test. To explain this, ADF test uses autoregressive process to approximate the autoregressive moving average model (ARMA) of the errors in the test regression, while PP test ignores any serial correlation in the test regression. In this study, the null hypothesis for PP test is H₀: the set of data is not stagnant. Another possible hypothesis is H₁: the set of data is stagnant. The decision rule of PP test is when t-statistic is greater than value of critical, then reject null hypothesis.

Autoregressive Distributed Lag (ARDL)

Autoregressive distributed lag (ARDL) model is used to test cointegration, as well as to calculate the variables in composition of stationary and non-stationary time-series data (Giles, 2013). The ARDL model can be written as follows:

$$LNTA_t = \alpha + \sum_{i=1}^p \beta_1 LEXR_{t-i} + \sum_{i=1}^q \beta_2 LINC_{t-i} + \sum_{i=1}^r \beta_3 LTER_{t-i} + \sum_{i=1}^s \beta_4 LND_{t-i} + \varepsilon_t$$

In this study, the null hypothesis is H₀: the explanatory variables (exchange rate, income, terrorism and natural disaster) do not have long-run relationship with explained variable (tourist arrival from China to the United States). The alternative hypothesis is H₁: the explanatory variables (exchange rate, income, terrorism and natural disaster) have long-run relationship with explained variable (tourist arrival from China to the United States). The decision rule of ARDL model is to reject H₀ when p-value is less than significant level. Otherwise, do not reject H₀.

Wald Test

Wald test is known as Wald Chi-Squared test, used to identify the significance of independent variables in a model. In this study, the null hypothesis is H_0 : the regressors (exchange rate, income, terrorism and natural disaster) do not have long-run relationship with explained variable (tourist arrival from China to the United States). Another possible hypothesis is H_1 : the regressand (exchange rate, income, terrorism and natural disaster) have long-run relationship with explained variable (tourist arrival from China to the United States). The decision rule of Wald test is, when level of significance is greater than p-value, reject null hypothesis, H_0 ; when level of significance is lesser than p-value, do not reject null hypothesis, H_0 .

DATA ANALYSIS

In order to determining both the dependent and independent variables whether are stationary or not, the unit root test which included the Augmented Dickey Fuller Test and the Philips Perron Test has been applied to verify the stationary status. Based on Table 1, ADF shows the figures of T-statistic for each of the variables in the unit root test. It explains that income, natural disaster and terrorism are at integrated level form meanwhile tourist arrivals and exchange rate are stationary at first difference form at $\alpha = 5\%$ and 1% respectively.

Table 1: Unit Root Analysis Result

Augmented Dickey Fuller (ADF)				
Variables	Level		First Differences	
	Constant no trend	Constant trend	Constant no trend	Constant trend
TA	0.5691 (0)	-0.5729 (0)	-3.7183** (0)	-3.8724** (0)
EXR	-2.4502 (0)	-2.3991 (1)	-4.2636*** (0)	-5.1600*** (0)
INC	-5.9420 *** (0)	-5.7790*** (0)	-6.5405** (0)	-5.8339*** (0)
ND	-3.3458** (0)	-4.4837*** (0)	-10.6425*** (0)	-6.3741*** (1)
TER	-1.1147 (1)	-3.7361** (0)	-9.3203*** (0)	-9.0942 *** (0)
Phillips-Perron (PP)				
Variables	Level		First Differences	
	Constant no trend	Constant trend	Constant no trend	Constant trend
TA	0.4343 (1)	-0.8913 (2)	-3.7183** (0)	-3.8277** (2)
EXR	-2.4437 (1)	-3.5383 (11)	-4.2596*** (1)	-5.2373*** (3)
INC	-5.1211 *** (2)	-4.8602*** (3)	-7.9317 *** (8)	-6.9727*** (8)
ND	-3.2866** (2)	-4.5433*** (2)	-12.2915*** (10)	-29.2812*** (14)
TER	-2.1403 (2)	-3.7735** (2)	-9.3203*** (0)	-9.0942*** (0)

Note: ***, ** and * denotes significant at 1%, 5% and 10% significance levels, respectively.

In addition, PP test's result are similar to ADF test result where tourist arrivals and exchange rate are stationary at first difference level at $\alpha=5\%$ and 1% respectively; income, natural disaster and terrorism are at integrated level form at $\alpha=5\%$ and 1% .

Autoregressive Distributed Lag (ARDL) has been carry out in order to verify the long run relationship between tourist arrivals from China to the United States and exchange rate in

RMB/USD, income in China (GDP growth), natural disaster and terrorism then. The ARDL approach is being selected in this study due to the reason of certain explanatory variables are integrated at level form whereas other is integrated at first difference.

Table 2: Results of ARDL

Variables	Coefficient	Probability
C	15.55490	0.0189**
LNTA(-1)	-0.518660	0.0295**
LNEXR(-1)	-2.367489	0.0261**
LNINC(-1)	-0.935961	0.1351
LNTER(-1)	-0.610254	0.0590*
LNND(-1)	-0.023196	0.9310
D(LNEXR)	-0.940719	0.2227
D(LNEXR(-1))	0.987971	0.1968
D(LNEXR(-2))	1.348128	0.1050
D(LNINC)	-0.546877	0.2371
D(LNINC(-1))	0.277760	0.4017
D(LNINC(-2))	-0.570690	0.0636*
D(LNTER)	-0.237474	0.0803*
D(LNTER(-1))	0.082161	0.5261
D(LNND)	-0.066625	0.7037
R-square	0.778187	

Note: ***, ** and * denotes significant at 1%, 5% and 10% significance levels, respectively.

Since there is a significant long run relationship at 10% significance level (See Table 3), the estimated long run model is interpreted as follow:

$$LNTA_t = 15.5549 - 4.5646LNEXR_t - 1.8046LNINC_t - 1.1766LNTER_t - 0.0447LNND_t$$

The independent variables of exchange rate and terrorism are significant at 5% and 10% significance level respectively in the long run. $\beta_1 = -4.5646$ indicates that when there is an increase 1% on the exchange rate in RMB/USD, on average, tourist arrivals from China to the United States will decrease by 4.5646%, holding other variables constant (See Table 2). This result is supported by Yusup, Kanyan, Kasuma, Kamaruddin and Adlin (2016), which they stated unfavourable changes in exchange rate to tourists, will lead to reduction of the number to travel and resulting in decreasing the number of tourist arrival. This is because when the USD appreciates, the China tourists have to spend more RMB to exchange USD and it may cause a burden to the China tourists. Hence, the China tourists will shift their decision of the travel destination from the high exchange rate to the lower one (Wang, Chen, Lu, Hwang & Tseng, 2008).

Moreover, $\beta_2 = -1.1766$ represents when there is an increase 1% on the terrorism in the United States, on average, tourist arrivals from China to the United States will decrease by 1.1766%, holding other variables constant. result are supported by Gallego, Nadal and Fourie (2016), which they stated that terrorism is having an inverse relationship with the tourism sector and the effect can still be seen in the future years. This is because safety and security was rated as the most important factor in selecting a travel destination by 54% of tourists in the worldwide (Ironside, 2016). Baker (2014) has also stated that terrorism may cause the tourists to have anxiety towards the destination which eventually cause the tourists change their travel destination. Therefore, the safer the country, the higher the number of tourists arrival.

Table 3: Wald Test Results

Test Statistic	Value
F-statistic	3.528271
Chi-Square	14.11308
Probability	0.0701*

However, the independent variables of income and natural disaster are not significant in the long run. The negative relationship between the income variables indicates that when the income (GDP per capita growth) in China increases, the number of tourist arrival from China in the United States will decrease and vice versa. In this case, we have found out the reason why the actual sign is surprisingly inconsistent with the expected sign. According to Mohd Salleh, Law, Ramachandran, Shuib and Mohd Noor (2008), they stated that rich tourists are preferable to travel to a better place when their income increases. In this case, according to the study from HSBC, they surveyed of more than 2000 wealthy Chinese in major cities with annual household income above RMB120, 000 in the age range of 18 to 34 years old for their new lifestyle (He, 2016). The result shows that the top three most favourable destinations for the respondents are Hong Kong, South Korea and Macau while Australia and France were positioned in 4th and 5th. This is because China tourists have common cultures and language with most of the Asia countries such as Hong Kong and Macau (Gentlemen Marketing Agency, 2014). Therefore, most of the wealthy and young Chinese tourists are preferable to Asia countries to avoid miscommunications when they are travelling.

Lastly, natural disaster in the United States is also showing a consistent result with the theory, which is a negative relationship. It means that when the natural disaster cases that happened in the United States decreases, the number of tourist arrival from China in the United States will increase. The result of our study is supported by Wang (2009), he stated that when there is any effects on safety regardless of internationally or domestically, are negatively relationship to the tourism demand. This statement is similar to the Maslow theory of 'Hierarchy of needs' which illustrates that safety needs is an important need by human before they are going to pursue for the self-fulfillment (Boeree, 1998). Since natural disasters may cause risk and threaten to the tourists, therefore, they will prefer to travel to a safer country and lead to a negative relationship to the number of tourist arrival. In overall, there is 77.82% of variation in predicted tourist arrivals is explained by the variation in the exchange rate in RMB/USD, income of GDP growth in China, terrorism in the United States and natural disaster in the United States.

CONCLUSION AND DISCUSSION

The long run relationship between the tourist arrivals and two of the independent variables which are exchange rate and terrorism are significant at 5% and 10% significance level respectively in the results of ARDL. Therefore, long run implication is needed for the variables of exchange rate and terrorism. In order to stabilize the exchange rate of the United States and at the same time, to improve the tourist arrivals to the United States, the United States government should emphasize in enhancing the exchange rate regimes. Exchange rate regime is a kind of system that will be adopted by the central bank of the particular country in order to control and stabilize the exchange rate to avoid the fluctuation. The most commonly used of the type of the exchange rate regimes are monetary policy and fiscal policy. However, vulnerability still exist in these kind of policy such as the future revenue can be the unforeseen reason that cannot be exactly determined thus the policies cannot be effectively applied in all the situations. Thus, a more appropriate policy is suggested to be implemented by the government and central bank could help to stabilize the exchange rate and thus improve the number of tourist arrivals to the United States.

For the implication of terrorism variable in long run, the United States government should formulate a national strategy to overcome the terrorism of the country before it causes a worse impact to the tourism sector. Despite the challenges, The United States was first published National Strategy for Combating Terrorism in February 2003 to protect and defend the home country, the American people, and their living (U.S Department of State, 2006). Their

strategy is to pinpoint that 'War on Terror' is a different kind of war for them and they will set the course to win the 'War on Terror' by extend their defenses and disrupt terrorist operations. Until now, the United States has put so much effort in degrade al-Qaida network that executed the terrorist attacks on 11st September, 2001 and to weaken the perceived legitimacy of terrorism. Not only that, the United States also liberated 50 million Afghans and Iraqis from terrorism and helped their countries to build a democratic government. U.S Department of State (2006) also stated that they will continue to improve their strategy to meet the hazard, attack the terrorism and its principle, as well as to bring hope and freedom to the people globally to will win the War on Terror along with their partners.

REFERENCES

- Baker, D. M. (2014). The effect of terrorism on the travel and tourism industry. *International Journal of Religious Tourism and Pilgrimage*, 2(1), 58-67.
- Belau, D. (2003). The impact of the 2001-2002 crisis on the hotel and tourism industry. *International Labor Organization (ILO)*.
- Bigano, A., Gorla, A., Hamilton, J., & Tol, R. (2005). The effect of climate change and extreme weather events on tourism.
- Birkland, T. A., Herabat, P., & Little, R. G. (2006). The impact of the December 2004 Indian Ocean tsunami on tourism in Thailand. *Earthquake Spectra*, 22, 889-900.
- Blake, A., & Sinclair, M. T. (2002). Tourism Crisis Management. US response to September 11. *Annals of Tourism Research* 30(4), 813-832.
- Boger, C. A., Varghese, N., & Rittapirom, S. (2005). The impact of the September 11 Attacks on airline arrivals and conventions in nine major U.S. cities. *Journal of Convention & Event Tourism*, 7(2).
- Boeree, G. (1998). *Abraham Maslow*. Retrieved from <http://webpace.ship.edu/cgboer/maslow.html>
- Breiling, M., & Charamza, P. (1999). The impact of global warming on winter tourism and skiing: a regionalized model for Austrian snow conditions. *Regional Environmental Change*, 1, 4-14.
- Bysyuk, V. (2010). Impact of 9/11 terrorist attacks on US and international tourism development.
- Carlsen, J. C., & Liburd, J. J. (2008). Developing a research agenda for tourism crisis management, market recovery and communications. *Journal of Travel & Tourism Marketing*, 23, 265-276.
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism Management*, 22, 135-147.
- Federal Emergency Management Agency. (2017). *Disaster declarations by year* [Data file]. Retrieved from <https://www.fema.gov/disasters/year>
- Gallego, M. S., Nadal, J. R., & Fourie, J. (2016). The effect of terrorism, crime and corruption on tourism. *Economic Research Southern Africa*, Working Paper: 595.
- Giles, D. (2013, March 6). ADRL models – part 1. Retrieved from <http://davegiles.blogspot.my/2013/03/ardl-models-part-i.html>
- Hanafiah, M. H. M., & Harun, M. F. M. (2010). Tourism demand in Malaysia: a cross-sectional pool time-series analysis. *International Journal of Trade, Economics and Finance*, 1(1), 80-83.

- He, L. (2016). Young, wealthy Chinese choose entertainment, travel and health ahead of shopping. Retrieved from South China Morning Post: <http://www.scmp.com/business/companies/article/2017616/young-wealthy-chinese-choose-entertainment-travel-and-health>
- Huang, J. H., & Min, J. C. H. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23, 145–154.
- Ironside, Robyn. (2016). Safety and security is Australian tourism's main strength in an uncertain world. Retrieved from <http://www.news.com.au/travel/travel-updates/safety-and-security-is-australian-tourisms-main-strength-in-an-uncertain-world/news-story/897b93792b281b07c42cec024fa55c10>
- Kusni, A., Kadir, N., & Nayan, S. (2013). International tourism demand in Malaysia by tourists from OECD countries: a panel data econometric analysis. *Procedia Economics and Finance*, 7, 28-34.
- Lan, Y. W., Lin, D., & Lin, L. (2015). The determinants of tourism demand by mainland China in Taiwan. *Asian Journal of Humanities and Social Studies*, 3(3), 258-265.
- Lean, H. H., Chong, S. H. & Hooy, C. W. (2014). Tourism and economic growth: comparing Malaysia and Singapore. *International journal of economics and management*, 8(1), 139 – 157.
- Lim, C. (1997). Review of international tourism demand models. *Annals of Tourism Research*, 24, 835-849.
- Lim, C. (2004). The major determinants of Korean outbound travel to Australia. *Mathematics and Computers in Simulation*. 64, 477–485.
- Mazzocchi, M., & Montini, A. (2001). Earthquake effects on tourism in central Italy. *Annals of Tourism Research*, 28(4), 1031-1046.
- Mohd Salleh, N. H., Othman, R., & Ramachandran, S. (2007). Malaysia's Tourism Demand from selected countries: the ARDL approach to cointegration. *International Journal of Economics and Management*, 1(3), 345-363.
- Peace, O. E. (2016). Exchange rate fluctuation and tourism sector output in Nigeria. *International journal of management science and business administration*, 3(1), 48-55.
- Song, H., Li, G., Witt, S. F., & Fei, B. (2010). Tourism demand modelling and forecasting: how should demand be measured?. *Tourism Economics*, 16(1), 63-81.
- The World Bank, World Development Indicators (2017). *GDP per capita growth* [Data file]. Retrieved from <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?end=2014&location=CN&start=1995>
- The World Bank, World Development Indicators (2017). *Official exchange rate* [Data file]. Retrieved from <http://data.worldbank.org/indicator/PA.NUS.FCRF?end=2014&locations=CN&start=1995&view=chart>
- TIA (Travel Industry Association). (n.d.). International travel to the U.S. Retrieved from tia.org/researchpubs/itnl_tourism_travel_us
- Untong, A., Ramos, V., Kaosa-Ard, M., & Rey-Maqueira, J. (2015). Tourism demand analysis of chinese arrivals in Thailand. *Tourism Economics*, 21(6), 1221-1234.

- U.S. Department of State. (2006). National strategy for combating terrorism. Retrieved from <https://2001-2009.state.gov/s/ct/rls/wh/71803.htm>
- Vencovská, J. (2014). The determinants of international tourism demand.
- Wang, H. C., Chen, N. H., Lu, C. L., Hwang, T. C., & Tseng, S. W. (2008). Tourism demand and exchange rates in Asian countries: new evidence from Copulas Approach.
- Wang, Y. S. (2009). The impact of crisis events and macroeconomic activity on Taiwan's International inbound tourism demand. *Tourism Management*, 30, 75-82
- Wu, L. H., & Hayashi, H. (2013). The impact of the Great East Japan Earthquake on bound tourism demand in Japan. *Journal of Institute of Social Safety Science*, 21, 109-117.
- Yang, W., Chen, G., & Wang, D. (2008). Impact of the Wenchuan earthquake on tourism in Sichuan, China. *Journal of Mountain Science*, 5(3), 194-208.
- Yusup, M. F., Kanyan, A., Kasuma, J., Kamaruddin, H., & Adlin, J. (2016). Determinants of factors and the growth of tourism industry in Langkawi Island. *Journal of Scientific Research and Development*, 3(2), 13-20.
- Zivot, E., & Wang, J. (2007). Modeling financial time series with S-Plus® (Vol. 191). Springer Science & Business Media.

Customer Interface Quality (CIQ) of Online Fashion Website and Brand Loyalty among Generation Y in Malaysia

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ABSTRACT

Online fashion purchase becomes increasingly popular among generation Y. While this virtual trend improves ease of business transactions and information dissemination to the customers, it also creates challenges to businesses in retaining customers' brand loyalty. These customers are more likely to switch brand due to the ease of information access in a virtual environment, as well as their internet literacy that facilitates exploration of alternative competitive brands. Hence, it is crucial that an online fashion website possesses characteristics that are favourable to customers' purchasing experiences, for retaining customers' brand loyalty. This study adopts customer interface quality (CIQ) model to define website characteristics and examine its effects on brand loyalty among generation Y in Malaysia. Regression analysis was performed on survey data collected from 343 respondents of generation Y in the Klang Valley. Findings reported three factors of CIQ: customization, convenience, and character are positively associated with brand loyalty. On the other hand, interactivity is found to have no relationship with brand loyalty. This paper provides empirical evidences to validate CIQ model in fashion industry among generation Y in Malaysia. The findings provide insights on effective online fashion website design to researchers, e-retailers as well as for educational purpose. Implications and limitations of the study are discussed.

Keywords: Customer Interface Quality, Brand Loyalty, Online Fashion, Generation Y.

INTRODUCTION

Online purchasing becomes popular and is fast growing in Malaysia (San, Omar, & Thurasamy, 2015), a result of widespread of e-commerce that connected people from all around the world (Franco & Regi, 2016). Particularly, online fashion purchase becomes increasingly popular among generation Y in Malaysia. However, generation Y's brand loyalty is changing rapidly according to fashion, trend, and brand popularity (Lissitsa & Kol, 2016). Inevitably, e-retailers face increased challenges to retain brand loyalty online when faced with rapid developments in information and communication technologies (Morgan-Thomas & Veloutsou, 2013). This study focuses on analysing online brand loyalty among generation Y in fashion industry and adopts definition of Pew Research Center (2017) to define generation Y as peoples who are born between year 1981 and 1998 (Brown, 2017). Generation Y are highly sociable, technology literate, and savvy (Bilgihan, 2016; Morton, 2002; Mundel, Huddleston, & Vodermeier, 2017). According to Lissitsa and Kol (2016), generation Y are highly fashionable and brand conscious; they show different reactions to brands compared to other generations (Bilgihan, 2016). Further, generation Y are brought up in an era where shopping is not just regarded as a simple act of purchasing (Lissitsa & Kol, 2016). Instead, generation Y are more headed into status seeking consumption as a mean of displaying wealth and purchasing power (Eastman & Liu, 2012), besides than searching solely for the value brought by the established brands (Sheares, 2013). As a result, marketers are finding increasing difficulty in retaining generation Y's brand loyalty due to they are unpredictable and less brand loyal than other generations (Kim & Kandampully, 2012; Lissitsa & Kol, 2016).

This study raises the question of how to maintain generation Y's interest on a particular brand. Brand loyalty is a vital instrument to sustain in a fierce competition market (Ahmed, Rizwan, Ahmad, & Haq, 2014), when customers are exposed to different brands in fashion industry from all over the world (Khan, Rahmani, Hoe, & Chen, 2015). Recently, researchers

have shown an increased interest in online shopping as it is a critical channel for e-retailers (Insley & Nunan, 2014), however, there are little such studies and researchers have not treated generation Y's brand loyalty in fashion industry in much detail.

Literature suggests customer interface quality (CIQ) during online shopping is highly important for gaining customer loyalty (Chang & Chen, 2008; Wong, 2014). A website equipped with high level of CIQ reflect e-retailers' ability to capture more customers and to retain existing customers (Chang & Chen, 2008; Wong, 2014). Underpinned by Oliver (1999) model of loyalty, Chang and Chen (2008) postulate key attributes of websites that enhance customers interface quality and postulate positive role of CIQ in enhancing customers' loyalty. However, empirically, researches have relied on Oliver (1999) model of loyalty to explain customers' loyalty (Ahmed et al., 2014; Isoraite, 2016), with little discussion on how CIQ affect online brand loyalty. This study adopts CIQ as the theoretical lens for analyzing the link between online fashion website characteristics and online brand loyalty among generation Y in Malaysia. Findings provide empirical evidences to validate CIQ model in fashion industry among generation Y in Malaysia. This paper provides insights on effective online fashion website design to researchers, e-retailers as well as for educational purpose. The e-retailers could benefits from enhanced online brand loyalty when adopting CIQ characteristics into their fashion website, thus contributes to long-term business growth and profits. Education institutions may include CIQ as part of their study syllabus.

LITERATURE REVIEW

Chang and Chen (2008) articulate CIQ as a diversify concept that represents shoppers' sum of perceived quality of a transaction from pre-to-post purchase. CIQ was developed based on Oliver (1999) four stages of loyalty; consist of cognitive loyalty, affective loyalty, conative loyalty, and behavioral loyalty. Oliver (1999) postulates that customers' loyalty is sequentially created, based on the information they have on a brand, the positive attitude toward the brand, their commitment to buy, and eventually customers transform their intentions into action to buy (Qiu, Ye, Bai, & Wang, 2015). Numerous studies have adopted elements of CIQ as the key variables in studying customers' loyalty (Lee & Benbasat, 2004; Ma et al., 2008; Mutum & Ghazali, 2006; Srinivasan et al., 2002).

Brand Loyalty

Brand loyalty refers to customers' preference to buy the same brand of goods rather than competing brands (Kumar, 2016). According to marketing literature, customers' repeat purchase behavior arises as a result of their loyalty held toward a specific brand (Yoshida, Heere, & Gordon, 2015). Online brand arises as a result of developments in information and communication technologies (Morgan-Thomas & Veloutsou, 2013).

Customization

Customization refers to the ability of a website in allowing customers to access services personalized to their individual needs (Chang & Chen, 2009; Srinivasan et al., 2002; Xu et al., 2014). As such, customization represents provisions of information that matched customers' needs (Wong et al., 2014). Online fashion websites via social media platforms allows information searching on the fashion products which are customize according to customers' needs (Kim & Ko, 2012). By personalizing the online fashion website, a fashion brand is expected to be able to build stronger brand loyalty (Godey et al., 2016). Several researchers study the effects of customization on loyalty (Yoo & Park, 2015; Delmaghani & Ghalandari, 2014; Xu et al., 2014). These studies concluded a positive relationship between customization and brand loyalty. In line with existing literature, this study proposes the following hypothesis:
H1. Customization of a fashion website is positively associated with online brand loyalty.

Interactivity

Chang and Chen (2009) denote interactivity as the degree of engagement and communication between a website and its customers (Ou, Pavlou, & Davison, 2014). Website interactivity deals with the influence of engagement, interest, and appeal that form the intrinsic characteristic in technology-mediated groups (Palla, Tsiotsou, & Zotos, 2013). In this sense, website interactivity is important for building brands online (Voorveld, Noort, & Duijn, 2013).

Sedeke (2012) stressed that interactivity through fashion blogs provides platforms for customers' active participation, which contributes to their purchase decisions eventually. Several empirical studies reported that interactivity affects brand loyalty positively (Lin & Lee, 2012; Zhang, Benyoucef & Zhao, 2016). However, others (Lee, Moon, Kim, & Yi, 2015; Pileliene & Grigaliunaite, 2016) concluded a negative association between interactivity and brand loyalty. In view of the conflicting empirical evidences, this study aims to further validate the relationship between a website's interactivity and brand loyalty in the context of online fashion. Following past studies (Lin & Lee, 2012; Zhang, Benyoucef & Zhao, 2016), this study advances the following hypothesis:

H2. Interactivity of a fashion website is positively associated with online brand loyalty.

Convenience

Chang and Chen (2009) denote convenience as the ease of use and user-friendliness of a website. Srivastava and Kaul (2014) refer convenience as the ability of a website in reducing time, energy and effort of customers when obtaining goods and services via the website (Farquhar & Rowley, 2009). In this sense, customers ought to be guaranteed of information convenience and transaction simplicity (Park, 2012). Several empirical studies have examined the relationship between convenience and loyalty (Choi, Heo, & Kim, 2012; Kaura, Durga Prasad, & Sharma, 2015; Lee, Hsu, & Fu, 2013). These studies concluded a positive relationship between convenience characteristic of website and online brand loyalty. In line with existing literature, this study proposes the following hypothesis:

H3. Convenience of a fashion website is positively associated with online brand loyalty.

Character

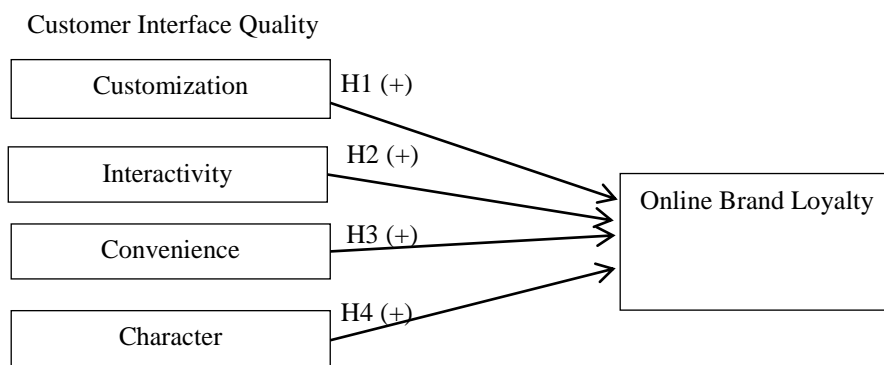
Character is the visual and functional look-and-feel of a website, achieved through the use of inputs such as text, style, graphics, colors, logos, and multimedia (Chang & Chen, 2008). Graphics, designs, and logos on a website is a part of character appeals to the customer to have a pleasant experience (Arya & Srivastava, 2014; Srinivasan et al., 2002). According to Sung, Choi, Ahn, and Song (2015), a symbol or logo in luxury fashion brand signifies the uniqueness of the entity concerned. It represents the reputation, image, or personality that e-retailer reveals to its customers (Dickinson, 2014). Numerous studies have concluded a positive relationship between website character and brand loyalty (Dickinson, 2014; Franzak, Makarem, & Jae, 2014; Wong et al., 2014). In line with existing literature, this study proposes the following hypothesis:

H4. Character of a fashion website is positively associated with online brand loyalty.

Literature review showed CIQ affects online brand loyalty in different aspects and the conceptual framework is established as below:

CONCEPTUAL FRAMEWORK

Figure 1.0: Proposed Conceptual Framework



Source: Adapted from Chang and Chen (2008); and Wong et al. (2014).

RESEARCH METHODOLOGY

This research adopts a cross-sectional survey study where data are collected at a single point in time from the respondents of the targeted population. Research design and procedures are as below:

Sampling Design

The targeted respondents are generation Y born during year 1981 to 1998 (Brown, 2017). They are within age range of 19 to 36 years old, and are experienced in online fashion shopping. A non-probability sampling technique was adopted due to non-availability of sampling frame for the generation Y. Purposive sampling is employed in this study whereby only those who had online purchasing experience were asked to fill in the questionnaires. Data was collected by face-to-face questionnaires distribution to targeted respondents. This study distributed 400 questionnaires and received 343 usable questionnaires. According to Clarke and Dunlap (2008) and Lim and Ting (2012), a total of 300 survey responses is considered as adequate sample size.

Research Procedure

Measurement of variables was adapted from survey instruments utilised in past studies. Customization, interactivity, convenience, and character were measured using five items adapted from Srinivasan et al. (2002). Online brand loyalty was measured using seven items adapted from Shim, Forsythe, and Kwon (2015). All measurement items were based on five - point Likert scales, ranged from "strongly disagree" to "strongly agree". Pilot test was based on data collected from 35 respondents of generation Y and results of data analysis indicates questionnaires are reliable for measuring the variables under study. Actual data was gathered during April 2017 to May 2017 via self-administered questionnaire distributed to the targeted respondents of generation Y at five locations within the Klang Valley, including Berjaya Times Square, Suria KLCC, Nu Sentral, One Utama and Lot 10. A total of 343 usable responses were collected.

DATA ANALYSIS

Data collected from 343 respondents of generation Y were analysed using descriptive analysis and inferential analysis via SAS software. The demographic data of respondents was analysed using frequency analysis whereas the data relating to independent and dependent variable were examined using Cronbach's Alpha, Pearson Correlation, Anova and Multiple Linear Regression analysis. Descriptive analysis indicates respondents' gender is represented by 35% male and 65% female. 85% of the respondents are between 19-25 years old, and 89% of them are having a monthly income below RM 3,000. Majority of the respondents have a diploma or degree level of education. 71% of the respondents have at least spent 2 to 4 hours online daily, and 77% of them have purchased online within the last 3 months.

Reliability Test

Measurements of all variables are reliable as indicated by Cronbach alpha values of above 0.70 for each respective variable (Lai & Chen, 2011). As shown in table 1.0 below, Cronbach's alpha value of customization, interactivity, convenience, character, and online brand loyalty is 0.82, 0.76, 0.78, 0.88, and 0.89 respectively. The highest Cronbach's Alpha value being online brand loyalty at 0.89 and the lowest is Interactivity with Cronbach's Alpha value of 0.76.

Table 1.0: Reliability Test

Variable	Cronbach's Alpha
Customization	0.82
Interactivity	0.76
Convenience	0.78
Character	0.88
Online Brand Loyalty	0.89

Inferential Analysis

Two inferential analyses were conducted on the data collected and they are Pearson Correlation Coefficient and Multiple Linear Regression analysis.

Pearson Correlation Coefficients

Referring to the table 2.0, the Pearson Correlation Coefficients between all the variables are in between 0.58 to 0.72 and all are significant with significant value below 0.0001. These readings showed that all the variables have significant relationships.

Table 2.0: Pearson Correlation Coefficients

	Customization	Interactivity	Convenience	Character	Online Brand Loyalty
Customization	1.00000 *				
Interactivity	0.65743 *	1.00000 *			
Convenience	0.58294 *	0.71930 *	1.00000 *		
Character	0.64277 *	0.61203 *	0.68307 *	1.00000 *	
Online Brand Loyalty	0.68360 *	0.61203 *	0.67133 *	0.70437 *	1.00000 *

* $\alpha < 0.0001$

The data were further analysed using multiple linear regression and the following are the result of the test.

Multiple Linear Regression

From the Anova analysis (Table 3.0 and Table 4.0), the result showed that this model is significant with $R^2 = 0.6264$ with significant value < 0.001 , these values showed that the model is significant and the model is able to explain 62.64% of the relationships between independent variables and the dependent variable.

Table 3.0: Model Summary

Model	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.6264	0.6220	0.4169

Table 4.0: ANOVA Analysis

Model	Sum of Square	DF	Mean Square	F	Sig
Regression	98.50639	4	24.62660	141.69	<.0001
Residual	58.74678	338	0.17381		
Total	157.25317	342			

Table 5.0 below shown the result of multiple linear regression. The result shows that all the variables except interactivity are significant. The parameter estimate shown that Character has the highest parameter estimate value ($\beta=0.30184$) and followed by Customization ($\beta=0.26779$), Convenience ($\beta=0.25182$) and Interactivity ($\beta=0.11070$) but since interactivity is insignificant therefore is excluded from the regression formula.

Table 5.0: Result of Multiple Regression Analysis

Variable	DF	Parameter Estimate	Standard Error	t-value	Pr>(t)	Standardized Estimate	Decision
Intercept	1	0.23545	0.16241	1.45	0.1480	0	-
Customization	1	0.26779	0.04372	6.12	<.0001	0.29556	Supported
Interactivity	1	0.11070	0.06097	1.82	0.0703	0.09612	Not Supported

Convenience	1	0.25182	0.06041	4.17	<.0001	0.22257	Supported
Character	1	0.30184	0.04983	6.06	<.0001	0.30353	Supported

Dependent Variable: Online Brand Loyalty.

Independent Variable: Customization, Interactivity, Convenience, and Character.

From the above result, the multiple linear regression model is formulated as below:

Online Brand loyalty = 0.23545 + 0.26779 (CZ) + 0.25182 (CV) + 0.30184 (CR)
 Where, CZ = Customization; CV = Convenience; CR = Character.

And from the above formula, it shows that:

One unit increase of CZ would increase Online Brand Loyalty by 0.26779 units,

One unit increase of CV would increase Online Brand Loyalty by 0.25182 units,

One unit increase of CR would increase Online Brand Loyalty by 0.30184 units.

Hypothesis Testing

Referring to table 5.0, data analysis using multiple linear regression points to the following findings:

First, customization is positively associated with brand loyalty with ($\beta=0.26779$, P value $<.0001$), thus H1 is supported. The study is in line with the findings of Weinberg and Abramowitz (2002); and Polosa et al., (2016). Second, Interactivity showed no relationship with brand loyalty ($\beta=0.11070$, p value= 0.0703), as p value is larger than 0.05, the data fails to reject null hypothesis, thus H2 is unsupported. Third, convenience shows a significant positive relationship with brand loyalty with $\beta=0.25182$ and significant value $p<.0001$, thus H3 is supported. This result is in line with findings of Weinberg and Abramowitz (2002); and Polosa et al., (2016). Fourth, Character shows a positive significant relationship with brand loyalty ($\beta=0.30184$, p value $p<.0001$), thus H4 is supported. This result is in accordance with findings of Weinberg and Abramowitz (2002); and Polosa et al., (2016). In this study, character constitute the strongest predictor of brand loyalty (0.30353), follows by customization ($\beta=0.29556$); and convenience ($\beta =0.22257$). The findings indicate that customers of generation Y emphasise the most on character of a website when making online fashion purchases, follows by website customization and lastly, the convenience offer by a website.

CONCLUSION AND DISCUSSION

This research examines the factors of CIQ that enhance brand loyalty for online fashion industry among generation Y. Pearson Correlation test concludes a significant correlation among the four CIQ factors and brand loyalty. However, multiple linear regression analysis concludes only three CIQ factors: customization, convenience and character; as predictors that positively influence the dependent variable of online brand loyalty. Whereby, interactivity does not show any significant influence on dependent variable. Based on the result obtained, a multi linear regression model was formulated as brand loyalty= 0.23545 + 0.26779 customization + 0.25182 convenience + 0.30184 character.

Findings revealed that customization, convenience and character are positively associated with online brand loyalty. According to Chang and Cheng (2009), website interface provides cues with regard to online environment and triggers customers' emotional responses. This is because website quality is positively related with trusting belief and trusting intentions. Thus, if customers perceive that the e-retailer website interface is of high quality, they are more likely to trust the website's capability, integrity, and in turn to have a brand loyalty toward the website. Further, among all the variables in this study, character shows the strongest effects on brand loyalty. This result indicates that character is particularly important for e-retailer in designing their website interface. This is due to website could be rather impersonal and boring without person to person interaction. As such, e-retailers should ensure products images contain in their website are of high quality graphics in order to stimulate customers' positive emotions, leading to enhanced brand loyalty.

In sum, this study validated a CIQ model that offers empirical evidences on how customer interface quality affects online brand loyalty. Brand loyalty is a tool for business to survive in a fierce completion (Ahmed, Rizwan, Ahmad, & Haq, 2014). However, it is difficult to build customer loyalty in e-commerce because customers are exposing to different brands and their preferences are changing rapidly according to the trend and popularity. Therefore, e-retailer should focus more on customer interface quality as a marketing strategy in improving website customization, convenience and character. The conceptual framework adds as a reference model to future studies for examining brand loyalty in a variety of other context. Future researchers could evaluate the antecedents of brand loyalty for other industries, as well as expand data collection to other states in Malaysia for studies relating to brand loyalty of online fashion. The empirical findings are also useful for education purpose for better alignment of e-commerce education and practical aspects of website design, particularly relating to brand loyalty.

REFERENCES

- Ahmed, Z., Rizwan, M., Ahmad, M., & Haq, M. (2014). Effect of brand trust and customer satisfaction on brand loyalty in Bahawalpur. *Journal of Sociological Research*, 5(1), 306-326.
- Arya, S., & Srivastava, S. (2014). E-loyalty in websites: User domain perspective. *The International Journal of Business & Management*, 2(6), 302-308.
- Bilgihan, A. (2016). Gen Y customer loyalty in online shopping: An integrated model of trust, user experience and branding. *Computers in Human Behavior*, 61, 103-113.
- Brown, E. N., (2017, 22 March). Welcome to adulthood, gen Z. Retrieved from <http://reason.com/blog/2017/03/22/welcome-to-adulthood-gen-z>.
- Chang, H. H., & Chen, S. W. (2008). The impact of customer interface quality, satisfaction and switching cost on e-loyalty: Internet experience as a moderator. *Computers in Human Behavior*, 24(6), 2927-2944. 3.
- Chang, H. H., & Chen, S. W. (2009). Consumer perception of interface quality, security, and loyalty in electronic commerce. *Information & Management*, 46(7), 411-417.
- Choi, W. S., Heo, J. S., & Kim, M. J. (2012). Effects of physical environment on brand loyalty and moderated effects of brand image. *International Proceedings of Economics Development and Research*, 56, 57.
- Clarke, S., & Dunlap, G. (2008). A descriptive analysis of intervention research published in the Journal of Positive Behavior Interventions: 1999 through 2005. *Journal of Positive Behaviour Interventions*, 10(1), 67-71.
- Delmaghani, S., & Ghalandari, K. (2014). The effect of e-retailing attribute on e-satisfaction and e-loyalty: The moderating role of customers' individual and firms' business level factors in purchase online. *Science Road Journal*, 2(2), 157-171.
- Dickinson, J. B. (2014). Customer loyalty: A multi-attribute approach. *Research in Business and Economics Journal*, 9, 1.
- Eastman, J. K., & Liu, J. (2012). The impact of generational cohorts on status consumption: An exploratory look at generational cohort and demographics on status consumption. *Journal of Consumer Marketing*, 29(2), 93-102.
- Escobar, A. (2016). The impact of the digital revolution in the development of market and communication strategies for the luxury sector. *Central European Business Review*, 5(2), 17.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Farquhar, J. D., & Rowley, J. (2009). Convenience: A services perspective. *Marketing Theory*, 9(4), 425–438.
- Franco, C. E., & Regi, S. B. (2016). Advantages and challenges of e-commerce customers and businesses: In Indian perspective. *International Journal of Research Granthaalayah*, 4(3), 7-13.
- Franzak, F., Makarem, S., & Jae, H. (2014). Design benefits, emotional responses, and brand engagement. *Journal of Product & Brand Management*, 23(1), 16-23.
- Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R., & Singh, R. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, 69(12), 5833-5841.
- Insley, V., & Nunan, D. (2014). Gamification and the online retail experience. *International Journal of Retail & Distribution Management*, 42(5), 340–351.
- Isoraite, M. (2016). Customer loyalty theoretical aspects. *Ecoforum Journal*, 5(2).
- Kaura, V., Durga Prasad, C. S., Sharma, S. (2015). Service quality, service convenience, price and fairness, customer loyalty, and the mediating role of customer satisfaction. *International Journal of Bank Marketing*, 33(4), 404-422.
- Khan, N., Rahmani, S. H. R., Hoe, H. Y., & Chen, T. B. (2015). Causal relationships among dimensions of consumer-based brand equity and purchase intention: Fashion industry. *International Journal of Business and Management*, 10(1), 172-181.
- Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research*, 65(10), 1480-1486.
- Kim, M., & Kandampully, J. (2012). The service imperative in the retailing industry. *Service Management*, 7–24.
- Kumar, K. (2016). An analysis on brand loyalty: A Case Study on Starbucks. Retrieved from <http://hdl.handle.net/10211.3/173524>
- Lai, H. M., & Chen, C. P. (2011). Factors influencing secondary school teachers' adoption of teaching blogs. *Computers & Education*, 56, 948-960.
- Lee, K. Y., Hsu, Y. C., Fu, S. H. (2013). The effect of service convenience, satisfaction, commitment on loyalty to retail service brand. *Chaoyang Business and Management Review*, 13(2), 43-67.
- Lee, D., Moon, J., Kim, Y. J., & Mun, Y. Y. (2015). Antecedents and consequences of mobile phone usability: Linking simplicity and interactivity to satisfaction, trust, and brand loyalty. *Information & Management*, 52(3), 295-304.
- Lee, Y. E., & Benbasat, I. (2004). A framework for the study of customer interface design for mobile commerce. *International Journal of Electronic Commerce*, 8(3), 79–102.
- Lim, W. M., & Ting, D. H. (2012). E-shopping: An analysis of the uses and gratifications theory. *Modern Applied Science*, 6(5), 48.
- Lin, M. Q., & Lee, B. C. (2012). The influence of website environment on brand loyalty: Brand trust and brand affect as mediators. *International Journal of Electronic Business Management*, 10(4), 308.
- Lissitsa, S., & Kol, O. (2016). Generation X vs. generation Y: A decade of online shopping. *Journal of Retailing and Consumer Services*, 31, 304–312.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Morgan-Thomas, A., & Veloutsou, C. (2013). Beyond technology acceptance: Brand relationships and online brand experience. *Journal of Business Research*, 66(1), 21-27.
- Morton, L.P. (2002). Targeting generation Y. *Public Relations Quarterly*, 47(2), 46–48.
- Mundel, J., Huddleston, P., & Vodermeier, M. (2017). An exploratory study of consumers' perceptions: What are affordable luxuries? *Journal of Retailing and Consumer Services*, 35, 68-75.
- Mutum, D. & Ghazali, E. (2006). Online shoppers vs non-shoppers: A lifestyle study of Malaysian internet users. *Proceedings of AGBA 3rd World Congress, Advances in Global Business Research*, 3(1), 43-54.
- Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63, 33-44.
- Ou, C. X., Pavlou, P. A., & Davison, R. M. (2014). Swift Guanxi in online marketplaces: The role of computer-mediated communication technologies. *MIS Quarterly*, 38(1), 209-230.
- Palla, P., Tsiotsou, R. H., & Zotos, Y. T. (2013). Is website interactivity always beneficial? An elaboration likelihood model approach. *Advances in Advertising Research*, 4, 131-145.
- Park, S. R. (2012). The role of interactivity in internet business on customer experiential values and behavioral intentions. *Dissertations and Theses from the College of Business Administration*.
- Pilelienė, L., & Grigaliūnaitė, V. (2016). A model of website quality-based e-commerce satisfaction index. *Scientific Annals of Economics and Business*, 63(1), 29-46.
- Polosa, R., Morjaria, J. B., Caponnetto, P., Caruso, M., Campagna, D., Amaradio, M. D., Ciamp, G., Russo, C., & Fisichella, A. (2016). Persisting long term benefits of smoking abstinence and reduction in asthmatic smokers who have switched to electronic cigarettes. *Discovery Medicine*, 21(114), 99-108.
- Qiu, H., Ye, B. H., Bai, B., & Wang, W. H. (2015). Do the roles of switching barriers on customer loyalty vary for different types of hotels? *International Journal of Hospitality Management*, 46, 89–98.
- San, L. Y., Omar, A., & Thurasamy, R. (2015). Online purchase: A study of generation Y in Malaysia. *International Journal of Business and Management*, 10(6), 1-7.
- Sedeke, K. (2012). *Effective fashion blogs and their impact on the current fashion industry*. Erasmus University.
- Sheares, A. (2013). Want to market to millennials? Get nostalgic. *Cision Best Practices*. Retrieved from <http://www.cision.com/us/2013/11/market-to-millennials-get-nostalgic/>.
- Shim, S. I., Forsythe, S., & Kwon, W. S. (2015). Impact of online flow on brand experience and loyalty. *Journal of Electronic Commerce Research*, 16(1), 56.
- Sung, Y., Choi, S. M., Ahn, H., & Song, Y. A. (2015). Dimensions of luxury brand personality: Scale development and validation. *Psychology & Marketing*, 32(1), 121-132.
- Srinivasan, S. S., Anderson, R., & Ponnnavolu, K. (2002). Customer loyalty in e-commerce: An exploration of its antecedents and consequences. *Journal of Retailing*, 78(1), 41-50.
- Srivastava, M., & Kaul, D. (2014). Social interaction, convenience and customer satisfaction: The mediating effect of customer experience. *Journal of Retailing and Consumer Services*, 21(6), 1028–1037.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Voorveld, H. A. M., Noort, G. V., & Duijn, M. (2013). Building brands with interactivity: The role of prior brand usage in the relation between perceived website interactivity and brand responses. *Journal of Brand Management*, 20(7), 608-622.
- Weinberg, S. L., & Abramowitz, S. H., (2002). *Data analysis for the behavioural sciences using SPSS*. Cambridge, UK: Cambridge University Press.
- Wong, W. P. M. (2014). customer interface quality on customer e-loyalty and e-satisfaction in Malaysia with the effects of trustworthiness. *An Online International Research Journal*, 2(1), 2311-3170.
- Wong, W. P. M., Lo, M. C., & Thurasamy, R. (2014). Antecedents of customer e-loyalty with the effect of trustworthiness in Malaysia context. *China-USA Business Review*, 13(11), 709-727.
- Yoo, J., & Park, M. (2016). The effects of E-Mass customization of luxury brands: Perceived value, satisfaction, and loyalty. *Journal of Business Research*, 69(12), 5775–5784.
- Yoshida, M., Heere, B., & Gordon, B. (2015). Predicting behavioral loyalty through community: Why other fans are more important than our own intentions, our satisfaction, and the team itself. *Journal of Sport Management*, 29(3), 318-333.
- Zhang, K. Z., Benyoucef, M., & Zhao, S. J. (2016). Building brand loyalty in social commerce: The case of brand microblogs. *Electronic Commerce Research and Applications*, 15, (14-25).

A Study on Factors that Affect Effectiveness of Communication in Hotel Industry in Penang

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Abstract

Penang is a state under UNESCO and communication play an important role in hotel industry as it is a place needed by tourist when travelling. Effective communication is essential as it helps in process of sharing knowledge and information as well as develop relationship with others especially within hotels. The main objective of this study is to determine the factors that affect the effectiveness of communication in hotel industry in Penang. In this research study, the main focus of the factors are emotional intelligence, teamwork, training, and trust (independent variables) which affect effectiveness of communication (dependent variable). The primary data had been gathered by distributing the questionnaires to the employees currently working in hotel industry in Penang with a sample size of 385 respondents. Cronbach's Alpha was used to test the reliability of each variable. Pearson Correlation Coefficient and Multiple Linear Regression Analysis are used to determine the relationship between independent variables and dependent variable. The research findings revealed that the factors under the study had a positive effect and significant relationship towards effectiveness of communication. This research was conclude with the discussion of findings, implications and limitations of the study as well as recommendations for future research.

Keywords: Effectiveness of communication, Emotional Intelligence, Teamwork, Training and Trust.

INTRODUCTION

Communication is defined as sending and receiving of messages by means by symbols in general and in theoretical aspects (Spaho, 2011) while effective communication is defined as giving the relevant information, in a way and form that it is clearly understandable, to the right person at the right time (Goutam, 2013). A good internal communication systems especially between the management and employees, will help to encourage employees, innovate, and become more discipline then increase the organization's performance. However if communication systems of an organisation is bad, the organization is probably having some problems (Goldhaber, 1979). Effective communication is a major skill as the person know how to connect with others in a more flexible, skilful and responsible way then able to know each other more deeply, build a high level of trust and learn more about themselves as well as how people feel on them (Brennan, 1974). Every upper management must know how important effective communication that helps in reaching the company's goals (Spaho, 2011) especially with hotels (Lahap, O'Mahony, & Dalrymple, 2016). Hotel industry in Malaysia had put a lots of effort in helping the Malaysian tourism industry in providing a better accommodation environment to cater for more foreign visitors and maintain or even improve the standard of services at the same time (Shi & Azmi, 2015). Thus, hotel employees are required to develop effective communication skills in order to communicate effectively with the related party and reach the standard performance especially hotel employees in Penang. There is a lot of visitors not only nationally but also globally visited Penang over the years. The number of visitors raises up dramatically, especially after the declaration of the state capital - George Town as The United Nations Educational, Scientific and Cultural (UNESCO) World Heritage Site on the 7th July 2008 (Golden Emperor, 2015). Hotel acts as the main character for assisting in tourism industry as it helps providing a good accommodation to the travellers. So effective communication stands a very important role as the skills of dealing with people around still act as key factors to increase the overall performance among employees in hotel industry. It is believed that an effective communication system between hotel top management and lower level employees can

help in building high self-disciplined and knowledgeable employees, then lead to improve the service quality and meet customers' satisfaction (Itang, 2015).

According to Hogan & Hogan (1992), hotels that do not focus on effectiveness of internal communication will cause the lack of motivation happen. Hotel employee needs information and emotional support to increase their management skills and tourism knowledge and this situation was found in hotel industry in Malaysia (Salleh, Hamid, Hashim, & Omain, 2010). Negative feedback received on services provided by one of the hotel in Penang where the travellers are unable to get the shuttle service and therefore needed to take a taxi service but they get additional charges because one of the hotel employee told them that services have been upgraded so took additional charges however another employee refuse the statement of upgraded service. This situation would not happen if the employees of the hotel communicate well with their management and give the right information to travellers (TripAdvisor, 2010). Travellers was clearly not satisfied with the service and that hotel can actually prevent this dissatisfaction from happening if the hotel have a good internal communication system so the employees can get the correct information from their management.

Although there are problems caused by ineffective communication, but there is still lack of understanding on factors that affects effectiveness of communication in hotel industry. Several studies were conducted by other researchers on factors that affect effectiveness of communication on different industries in several countries such as forest service industry in Kenya (Karimi & Arasa, 2014), bank industry in Iran (Jorfi, Jorfi, Yaccob & Nor, 2014), education industry in Iran (Jorfi & Jorfi, 2012) and food processing industry in Australia (Zeffane, Tipu & Ryan, 2011) but none of the researchers do research on this topic in hotel industry in Penang, Malaysia. Thus, there is a gap in the factors that affect the communication effectiveness among employees in hotel industry in Penang.

LITERATURE REVIEW

The purpose of literature is to explore the relationship of effectiveness of communication with the factors that will affect it which is emotional intelligence, teamwork, training and trust.

Effectiveness of Communication

According to Lunenburg (2010), communication is a data or information transmitted through common understanding from an individual to others. Communication can be defined as the most important factor that shapes the human destiny and it is a process that can convey and assign the meaning to create a shared understanding between people. Besides, communication requires interpersonal and intrapersonal skills in listening, speaking, observing, questioning, analyzing and also evaluating (McFarlane, 2010). Communication effectiveness is a vital element to a company's performance and success. Communication effectiveness can be defined as the usage of suitable interpersonal style for the information exchange which is able to increase the conceptualization of the sender. Effectiveness of communication is a process whereby the information is delivered and understood appropriately between two or more persons. According to Ochieng, Achieng, Moronge and Makori (2014), effective communication is the understanding of the emotion behind the information and it enhances the relationships at the workplace, home and also in social situation by depending on the connections to others.

Emotional Intelligence

Emotional intelligence is to picture the person's capability to know, feel, control, and use emotions to assist oneself perform well (Salovey & Mayer, 1990; Amitay & Mongrain, 2007). Emotional intelligent competencies include: self-awareness, self-regulation (self-management), social awareness (empathy) and social skills (relationship management) (Goleman, 2001; Lucas et al., 2008). The concept of emotional intelligence (EI) is linked to emotions consciousness and affections and how those affections can interact with mental intelligence (IQ) (Mustafa, Buntat, Razzaq, Daud, & Ahad, 2014). The EI has social intelligence concept and personal intelligence concept, (Amitay & Mongrain, 2007) which means that social intelligence is an ability to understand and manage people (Salovey & Mayer, 1990).

Teamwork

Teamwork is an interrelated knowledge, skills and ability that stimulate reinforced and adaptive performance (Baker et al., 2006; Salas, Bowers, & Cannon-Bowers, 1995). Teamwork focuses on the attitudes, shared behaviours and cognitions which are needed for teams to perform the jobs (Morgan, Salas, & Glickman, 1994; Salas et al., 2014). Teams must pass through five stages in the team development in order to reach optimal performance. The five stages are forming, storming, and norming, performing and adjourning (Karimi & Arasa, 2014). Teamwork is very significant in order to bring effective and efficient work (Adams, Cain, Giraud, & Stedman, 2012; Bruce and Ricketts, 2008). Teamwork increases the productivity and performance of the organization once it has combined different skills or abilities from different persons and clear visions should be stated or communicated to perform those assignments.

Training

Training is the 'possession and development of the knowledge, skills and attitudes needed by workers to properly carry out a duty in working' (Tharenou, Saks & Moore 2007). Training not only can change individual attitudes and action to be better (Tannenbaum, Mathieu, Salas, & Cannon-Bowers, 1991; Bhatti & Kaur 2009), and also change an organisation's performance and revenues (Hussein Nabil Ismail, 2016). Adeniyi's study (as cited in Olaniyan & Ojo, 2008) claimed that training and development is vital to promote an overall effectiveness of organization and make profit. Besides, training aids to develop a positive culture which leads to performance improvement in the organization. In addition, training also enhances capabilities of the workers in the organization. Training programs affect their motivation (Maurer&Tarulli, 1994; Noe & Wilk, 1993). Motivation is positively related to training (Bhatti, Kaur, & Battour, 2013; Blume, Ford, Baldwin, & Huang, 2010; Grohmann, Beller, & Kauffeld, 2014).

Trust

Trust means 'willingness to be vulnerable' in one's relationship (Mayer, Davis, & Schoorman, 1995; Whitener, Brodt, Korsgaard, & Werner, 1998; Norman, Avolio, & Luthans, 2010) with another person depend on positive expectations on that person's behaviour (Rousseau, Sitkin, Burt, & Camerer, 1998). Moreover, in communication, trust refers to the generalized anticipation that a true message is sent and reliable and the transmitter delivers illustrate ability and sincerity by delivering precise, target, and also full information (Renn & Levine, 1991). According to Hoy & Moran (1999), trust is essential for effective cooperation and communication as trust is a basic for cohesive and productive relationship in organization. According to Renn and Levine (1991), there are five components which trust can be sub-structured. Firstly, perceived competence. It is a level of technical expertise sent to a message or a source. Second, objectivity which mean lack of prejudice in information as sensed by others. Third, fairness (recognition and adequate representation of all related arguments). The next component is consistency. Consistency as predictability of discussion and behaviour based on last experience yet communication efforts. Faith is the fifth component (sensitivity of "good will" in forming information). Trust is important because trust hidden the potential to create chances for the man to gain meaning, hope and faith in life (Rortveit, Hansen, Leiknes, Joa, Testad, & Severinsson, 2015).

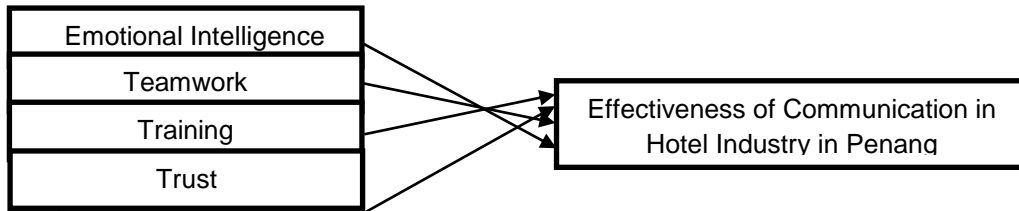
CONCEPTUAL FRAMEWORK

H₁: There is a significant relationship between emotional intelligence and effectiveness of communication

Jorfi, Jorfi, Yaacob & Nor (2012) and Jadhav & Gupta (2014) mentioned that emotional intelligence involves elements of self-regard and self-awareness. According to Jorfi et al. (2012), hotel employees with self-regard feel good about themselves and respect themselves in certain value. The higher possibility they are having self-confidence and self-esteem level while having communication with their colleagues in a satisfactory way. According to Jadhav, & Gupta (2014), hotel employees with high emotional intelligence are normally high in self-awareness too. They are able to understand their own behaviors and precisely read other employees' emotions and nonverbal cues, furthermore avoiding happening communication glitches in work place. According to Troth, Jordan, & Lawrence (2012), effective communication shall occur among hotel employees if the hotel top management teams who have higher emotional

intelligence will definitely engage in more positive interpersonal behaviours and also influence their hotel subordinates' communication behaviours. This allows the hotel employees can communicate freely to each other and enhances the satisfactory communication.

Figure 1: Proposed Conceptual Framework



H₂: There is a significant relationship between teamwork and effectiveness of communication.

Teamwork significantly affects the communication effectiveness of hotel by enabling their management to have their teams work together through understanding their strengths and weaknesses. Before they get to know their teammates' attributes, they certainly need to have an effective communication (Armstrong, 2008). Karimi and Arasa (2014) mentioned the importance of teamwork in developing each other's attributes to overcome problems and solve tasks in the workplace. The sense of togetherness through teamwork improves the working relation among hotel employees and accelerates the communication effectiveness in hotel industry. Gluck (n.d.) stated effective communication is the determination of success that requiring teamwork. Hotel employees are able to build trust and harmony in work place more easily when the team members interact open-mindedly with each other and rather than making assumptions, they ask question instead.

H₃: There is a significant relationship between training and effectiveness of communication.

Karimi and Arasa (2014) gave training a definition of a systematic modification of employees' behavior which consists of effective communication which allows the hotel employees to have the sense of belonging to the hotel firm. Most communication failed because lack of skills, working capability and organization commitment. Agarwal & Garg (2012) found that a communication barrier which is attitudinal barriers result in the poor organization management or in the mean of lack of employees training. Thus, hotel employees might be due to lack of motivation from management training that hotel offered and lead them to work dissatisfaction which will discourage them from conducting a satisfactory communication with other hotel employees.

H₄: There is a significant relationship between trust and effectiveness of communication.

Trust can only exists among hotel employees when there are distinctive effects such as superior performances levels, better attitudes and high cooperation level occur. Trust can only be conveyed through effective communication in the help of those attributes (Husain, 2013). Trust is indeed an essential factor for a hotel to have effective communication because when there is no trust, nobody is willing to voice out their opinions or ideas to a person they do not trust and hence there will be zero cohesion.

H₅: The four variables (emotional intelligence, teamwork, training, and trust) are significant in explaining the variances of effectiveness of communication.

Since emotional intelligence affects hotel employees to be able to communicate well with their co-workers, effective communication can be achieved in hotel industry. Teamwork helps to develop the strength among hotel employees to enhance effective communication in hotel. In addition, training provided by hotel management to hotel employees which enables them to know the correct and advance skills to communicate well with other employees,

furthermore increase the satisfaction of communication of hotel environment. Lastly, trust is significant in affecting communication effectiveness in hotel because hotel employees will never voice out opinions which causes a barrier in hotel's effective communication.

RESEARCH METHODOLOGY

Sampling Design

The target samples for this study are the employees currently working in hotel industry in Penang. According to Department of Statistics (2016), there are 79200 people of employees in hotel industry in Penang. The sampling size consists of 385 respondents based on Table for Determining Sample Size of Known Population by Krejcie and Morgan (1970). Non-probability sampling such as convenience sampling was used as there is no sampling frame.

Research Procedure

A pilot study was conducted to test the reliability of measurement scales and it was satisfactory. The origin and source of measurement scale for effectiveness of communication was derived from Beverly (2005) and Jeremy (2016); emotional intelligence from Belinda (2013); teamwork from Hinda & Herbert (2011); training from Raja & Kumar (2016), Rashi (2013) and trust from Doreen, Law, Lim, Low (2008), Lynn (2009). The questionnaires has three sections which are Section A, Section B and Section C. Section A comprise of 9 questions related to dependent variable whereas Section B consists of 27 questions related to independent variable and Section C is the demographic profile.

DATA ANALYSIS

The demographic profile of the research respondents consists of 385 respondents who are currently working in hotels in Penang that participated in answering the questionnaire. Female are more than male which were 55.32% while male were 44.68%. The age of the respondents mostly falls between 21 to 30 years old 53.77% followed by 4.93% below the age of 20 years old, 31 to 40 years old 34.03%, 41 to 50 years old 6.23% and lastly 1.04% aged above 51 years old. The ethnic group indicated that 46.75% were Chinese, 33.25% were Malay, 18.44% were Indian, and 1.56% from other ethnic groups. For job position, 8.05% were Executive Chefs, 17.66% were Managers, 39.74% were Front Desk Clerks, 6.75% were Housekeeping, 7.01% were Room Service, 7.01% were Waiter or Waitress 3.12% were Kitchen Managers, 5.98% were Kitchen Staff, 3.38% were Security Jobs and 1.30 % fall under others category such as receptionist and accountant. Most of the respondents works in hotel industry for 1 to 5 years which 62.34%.less than 1 year is 13.76%, 21.56% work 6 to 10 years, and 3.34% work more than 10 years. There are 69.87% of the respondents earn RM 3000 or below per month, 19.22% earn RM 3001 to RM 5000 per month, 8.05% earn RM 5001 to RM 7000 per month, 2.08% earn RM 7001 to RM 9000 per month and lastly 0.78% earn above RM 9000 per month. The education level indicated that 14.55 were less than high school, STPM 25.25%, Foundation 9.35%, Diploma 25.97%, Bachelor Degree 19.74%, Master Degree 4.94% and no Doctorate Degree respondents.

Table 1 highlights the reliability analysis results which states that trust have a Cronbach Alpha value of 0.877726, followed by training 0.840662, effectiveness of communication 0.812020, emotional intelligence 0.810134 and lastly teamwork 0.770326.

Table 1: Reliability Analysis Results

	Variables	Cronbach Alpha
Dependent Variable	Effectiveness of Communication	0.812020
Independent Variables	Emotional Intelligence	0.810134
	Teamwork	0.770326
	Training	0.840662
	Trust	0.877726

Table 2 highlights the Pearson Correlation of Effectiveness of Communication with emotional intelligence, teamwork, training and trust and all indicated a positive and significant relationship. Table 3 is the results of Multiple Linear Regression Analysis and Table 4 is the Parameter Estimates Results. Both results showed a positive and significant relationship for all five hypotheses tested. Emotional intelligence, teamwork, training and trust were significantly related to effectiveness of communication. It can be concluded that H₁, H₂, H₃, H₄ and H₅ were accepted in this study.

Table 2: Pearson Correlation Results

	Effectiveness of Communication
Emotional Intelligence	Significant
Teamwork	Significant
Training	Significant
Trust	Significant

Table 3: Multiple Linear Regression Analysis Results

Model	Sum of Squares	Mean Square	F Value	Pr > F
Regression	43.26259	10.81565	116.29	<.0001
Error	35.34366	0.09301		
Corrected Total	78.60625			

Table 4: Parameter Estimates Results

Variable	Estimates Parameter	Standard Error	t Value	Pr > [t]
Intercept	0.90353	0.15219	5.94	<.0001
Emotional Intelligence	0.33445	0.04386	7.63	<.0001
Teamwork	0.16204	0.04750	4.41	0.0007
Training	0.11606	0.03947	2.94	0.0035
Trust	0.17090	0.03155	5.42	<.0001

CONCLUSION AND DISCUSSION

The purpose of this study is to identify the factors that affect effectiveness of communication in hotel industry in Penang. Emotional intelligence, teamwork, training and trust are the independent variables in this research and effectiveness of communication in hotel industry in Penang is considered as the dependent variable. For hypothesis test, Statistical Analysis System (SAS) Enterprise Guide 7.1 was used to run the validity test and analyse the connections between both groups of variables. The validity of the questionnaire was evaluated by Cronbach's alpha of the reliability test. Pearson's Coefficient Correlation and Multiple Linear Regression were used to analysed and explain the present research. Based on the results obtained, the relationship between emotional intelligence and effectiveness of communication was accepted. The results were consistent with the finding obtain by Jorfi and Jorfi (2012). Therefore, when hotel employees manage their emotional intelligence well, the higher the effectiveness of communication will form within the hotel. Next, the relationship between teamwork and effectiveness of communication was accepted. The result were consistent with the finding derived by Karimi and Arasa (2014), which is when teamwork is develop well among the hotel employees, it will improve working relations and relatively increase the effectiveness of communication in the hotel. Thirdly, the relationship between training and effectiveness of communication was accepted. The result were also consistent with the finding obtained by Karimi and Arasa (2014). According to Karimi and Arasa (2014), training has a significant and positive relationship with effectiveness of communication. Thus, if the hotel employee was trained well, he or she will able to obtain the interpersonal skills and knowledge to communicate in more effective way with other employees and decrease level of misunderstanding. Lastly, the relationship between trust and effectiveness of communication was accepted. The finding were consistent to finding obtain by Hussain (2013), which is trust can result a distinctive effect in

develop higher level of cooperation among the hotel employees and increase their positive attitude when doing their jobs then increase the effectiveness of communication.

Over the results has shown there is a significant and positive relationship between independent variables (emotional intelligence, teamwork, training, and trust) and effectiveness of communication in hotel industry in Penang. From the results of the study, present researcher and conclude that the hotel industry in Penang should pay more attention to the four factors that will affect the effectiveness of communication. However, there are still some limitations that cannot be avoided even the objectives of the research had been achieved. Firstly, the R square shown in the analysis shown that there are still 44.96% of variations could not explain in the study. Second, different data and results may get from different sampling techniques even same independent variables used. Hence, future researchers are recommended to explore more independent variables and use other sampling techniques to improve the accuracy of the study.

REFERENCE

- Adams, B. L., Cain, H. R., Giraud, V., & Stedman, N. L. (2012). Leadership, motivation, and teamwork behaviours of principal investigator's in interdisciplinary teams: A synthesis of research. *Journal of Leadership Education*, 11(2), 176-191.
- Agarwal, S., & Garg, A. (2012). The importance of communication within organizations. *Journal of Business and Management*, 3(2), 40-49.
- Amitay, O. A., & Mongrain, M. (2007). From emotional intelligence to intelligent choice of partner. *The Journal of Social Psychology*, 147(4), 325-343.
- Baker, D. P., Day, R., & Salas, E. (2006). Teamwork as an essential component of high-reliability organizations. *Health Services Research*, 41(4), 1576-1598. doi: 10.1111/j.1475-6773.2006.00566.x
- Belinda, D. Emotional intelligence questionnaire. *The Consortium for Research on Emotional Intelligence*.
- Beverly, M. (2005). Communication within the workplace. Master's thesis, University of Wisconsin-Stout, Menomonie, Wisconsin, U. S.
- Bhatti, M. A. and Kaur, S. (2009). The role of individual and training design factors on training transfer. *Journal of European Industrial Training*, 34, 656-672.
- Bhatti, M. A., Kaur, S. and Battour, M. M. (2013). Training transfer and transfer motivation in the Malaysian banking sector. *Global Business and Organizational Excellence*, 33(1), 40-57.
- Blume, B., Ford, J., Baldwin, T. and Huang, J. (2010). Transfer of training: A meta-analytic review. *Journal of Management*, 36(4), 1065-105.
- Bruce, J. A., & Ricketts, K. G. (2008). Where's all the teamwork gone? A qualitative analysis of cooperation between members of two interdisciplinary teams. *Journal of Leadership Education*, 7(1), 65-75.
- Department of Statistics Malaysia, Official Portal (2016). Retrieved 5 July 2017, from https://www.dosm.gov.my/v1/uploads/files/3_Time%20Series/Labour_Force_Survey_Time_Series_Statistics_by_State_1982-2016/TABLE%2012.pdf
- Doreen, B. H. R., Law, L. Y., Lim, M. M., & Low, P. F. (2008). Organization climate and organizational commitment in the banking industry. Unpublished Degree Research Project, University Tunku Abdul Rahman.

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Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Gluck, S. (n.d.). Effective Communication & Team Work. Retrieved June 26, 2017, from <http://smallbusiness.chron.com/effective-communication-team-work3167.html>
- Golden Emperor – Penang hospitality market growth. Retrieved March 29, 2017, from <http://goldenemperor.com/thailand/news/20150814eng1/>
- Goldhaber, G. M. (1979) *Auditing organizational communication systems: The ICA communication audit*. Kendall/Hunt Pub. Co
- Goleman D. (2001). Working with Emotional Intelligence. Bantam Books, New York.
- Goutam, A. A., (2013). Effective Communication at Workplace. *IRC's International Journal of Multidisciplinary Research in Social and Management Science*; ISSN:23208236, Vol 1(2).
- Grohmann, A., Beller, J. and Kauffeld, S. (2014). Exploring the critical role of motivation to transfer in the training transfer process. *International Journal of Training and Development*, 18(2), 84–103.
- Hinda, K. S. & Herbert, L. S. (2011) *Teamwork effectiveness self-assessment questionnaire*. Retrieved July 22, 2017, from <http://www.sterlingselesnick.com/Downloads/Teamwork%20Effectiveness%20Self%20Assessment%20Questionnaire.pdf>.
- Husain, Z. (2013). Effective communication brings successful organizational change. *The Business & Management Review*, 3(2), 44-50.
- Hussein Nabil Ismail. (2016). Training and turnover: The mediating role of commitment. *ABL*, 42(1), 62-92.
- Ifidon, E., I. & Ugwuanyi, N., C. (2013). Effective communication in academic libraries: An imperative for knowledge delivery. *International Journal of Library and Information Science*, 5(7), 203-207.
- Itang (2015). Work discipline and work competence with quality of service in the Office of Religious Affairs (KUA) District of Mount Kencana Lebak regency of Banten. *Journal of Management and Sustainability*, 5(3)
- Jadhav, T., & Gupta, S. K. (2014). Global communication skills and its relationship with emotional intelligence. *American Journal of Management*, 14(4), 8288.
- Jeremy, F. (2016). Professional Communication and Team Collaboration. *Agency for Healthcare Research and Quality (US)*.
- Jorfi, H., & Jorfi, M. (2012). Management: A study of organizational culture and the relationship between emotional intelligence and communication effectiveness (case study in organizations of Iran). *Journal of Management Research*, 4(1), 1-14.
- Jorfi, H., Jorfi, S., Yaccob, H. F., & Nor, K. M. (2014). The impact of emotional intelligence on communication effectiveness: Focus on strategic alignment. *African Journal of Marketing Management*, 6(5), 82-87.
- Karimi, N. G., & Arasa, R. (2014). Factors affecting effective communication in state corporations in Kenya: A case of Kenya forest service. *Strategic Journals*, 2(19), 362-380.
- Krejcie R.V., Morgan D. W. (1970). *Determining sample size for research activities*. Retrieved 1 July 2017, from https://home.kku.ac.th/sompong/guest_speaker/KrejcieandMorgan_article.pdf

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Lahap, J., O'Mahony, B., Dalryple, J. (2016). The importance of communication in improving service delivery and service quality in the Malaysian hotel industry. 213-220
- Lenenburg, F., C. (2010). Communication: The Process, Barriers, and Improving Effectiveness. *Schooling, 1(1)*, 1-11.
- Lucas, V., Laschinger, H. K. S., & Wong, C. A. (2008). The impact of emotional intelligent leadership on staff nurse empowerment: The moderating effect of span of control. *Journal of Nursing Management, 16*, 964–973. doi:10.1111/j.1365-2834.2008.00856.x
- Lynn, K. T. H. (2009). Measuring level of trust. *Journal of Research in Personality, 31(3)*, 319-336
- Maurer, T. J. and Tarulli, B. A. (1994), Investigation of perceived environment, perceived outcome, and person variables in relationship to voluntary development activity by employees. *Journal of Applied Psychology, 79(1)*, 3–14.
- Mayer, R. C., Davis, J. H., Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review, 20(3)*, 709–734.
- McFarlane, D., A. (2010). Social communication in a technology-driven society: A philosophical exploration of factor-impacts and consequences. *American Communication Journal, Volume 12*.
- Mohamad Zaid Mustafa, Yahya Buntat, Abdul Rasid Abdul Razzaq, Nordiyana Daud, & Rosnee Ahad. (2014). Emotional intelligent and job satisfaction among technical and vocational teachers: A case study on Malaysia southern zone technical and vocational college. *Business Management Dynamics, 3(9)*, 01-09.
- Morgan, B. B., Salas, E., & Glickman, A. S. (1994). An analysis of team evolution and maturation. *Journal of General Psychology, 120(3)*, 277–291.
- Noe, R. and Wilk, S. L. (1993). Investigation of the factors that influence employees' participation in development activities. *Journal of Applied Psychology, 78(2)*, 291–302.
- Norman, S. M., Avolio, B., & Luthans, F. (2010). The impact of positivity and transparency on trust in leaders and their perceived effectiveness. *The Leadership Quarterly, 21(3)*, 350-364. doi: 10.1016/j.leaqua.2010.03.002
- Ochieng, Achieng, A., Moronge, D. & Makori (2014). Determinants of effective communication and performance of health training institutions in Kenya. *International journal of Social Sciences Management and Entrepreneurship, 1(2)*, 68-64.
- Olaniyan, D. A., & Ojo, L. B. (2008). Staff training and development: A vital tool for organisational effectiveness. *European Journal of Scientific Research, 24(3)*, 326-331.
- Raja, V. A. J. & Kumar, R. A. R. (2016). A study on effectiveness of training and development in Ashok Leyland all over India. *Journal of Management (JOM) 3(1)*1-12
- Rashi, J. (2013). Evaluating training programs: development and correlates of the Questionnaire for Professional Training Evaluation. *International Journal of Training and Development, 17(2)*, 135-155
- Renn, W. k., & Moran, M. T. (1999). Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of school leadership, 9*, 185-209
- Renn, O., & Levine, D. (1991). *Credibility and trust in risk communication*. In Kasperson, R. E., & Stallen, P. J. M. (Eds.), *Communicating Risks to the public* (pp. 175-218).

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Rortveit, K., Hansen, B. S., Leiknes, I., Joa, I., Testad, I., & Severinsson, E. (2015). Patients' experiences of trust in the patient-nurse relationship – A systematic review of the qualitative studies. *Open Journal of Nursing*, 5, 195-209.
- Rousseau, D.M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, 23, 393–404.
- Salas, E., Bowers, C. A., & Cannon-Bowers, J. A. (1995). Military team research: 10 years of progress. *Military Psychology*, 7, 55–75.
- Salas, E., Shuffler, M. L., Thayer, A. L., Bedwell, W. L., & Lazzara, E. H. (2014). Understanding and improving teamwork in organizations: A scientifically based practical guide. *Human Resource Management*, 1-24. doi: 10.1002/hrm.21628
- Salleh, N. Z. M., Hamid, A. B. A., Hashim, N. H, Omain, S. Z. (2010). *Issues and challenges in Malaysian hotel operations*. Paper presented at the conference on 3rd Asia-Euro Tourism, Hospitality and Gastronomy, Taylor's College, Subang, Malaysia.
- Salovey, P., & Mayer, J. D. (1990). *Emotional intelligent*. 185-211.
- Shi, M. K., & Azmi N. A. M. (2015). *Tourism moving Malaysia's industries forward*. Retrieved 4 August, 2017 from <http://www.starproperty.my/index.php/articles/property-news/tourism-moving-malaysias-industries-forward/>
- Spaho, K. (2011). Organizational communication as an important factor of company success: Case study of Bosnia and Herzegovina. *Business Intelligence Journal*, 4(2), 390-393
- Tannenbaum, S. I., Mathieu, J. E., Salas, E. and Cannon-Bowers, J. A. (1991). Meeting trainees' expectations: The influence of training fulfilment on the development of commitment, self- efficacy, and motivation. *Journal of Applied Psychology*, 76, 759-769.
- Tharenou, P., Saks, A. M., & Moore, C. (2007). A review and critique of research on training and organizational-level outcomes. *Human Resource Management Review*, 17, 251-273.
- Troth, A. C., Jordan, P. J., & Lawrence, S. A. (2012). Emotional intelligence, communication competence and student perceptions of team social cohesion. *The Journal of Psychoeducational Assessment*, 1-23.
- TripAdvisor - Review of Hotel Equatorial Penang*. (2010, December). Retrieved March 24, 2017, from https://www.tripadvisor.com.my/ShowUserReviews-g1193625-d301675-r89791747-Hotel_Equatorial_Penang_Bayan_Lepas_Penang_Island_Penang_Island_Penang.html#
- Whitener, E, Brodt, S., Korsgaard, M. A., Werner, J. (1998). Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behaviour. *Academy of Management Review*, 23, 513–530.
- Zeffane, R., Tipu, S. A., & Ryan, J. C. (2011). Communication, commitment & trust: Exploring the triad. *International Journal of Business and Management*, 6(6), 77-87.

Factors Affecting Default Payment Among Young Graduates in Malaysia: A Perspective of Car Loan

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Abstract

The purpose of this study is to determine factors affecting default payment among young graduates in Malaysia in a perspective of car loans. This study provides theoretical evidences that will benefit the financial institutions in the improvement of borrowing and lending by avoiding excessive debt among customers. In addition, it will expand the current knowledge and increase awareness of bankruptcy among young graduates. There are five variables used in testing the aspects of this study, namely gender, commitments, education, lifestyle, and occupation. The dependent variable is set as the total default on car loan repayment. This is because the total default payment of loans will destroy the credit history of young graduates which leads to bankruptcy. The lack of discipline regarding financial management is the reason why many youth in Malaysians today carry major debts and face a high probability of going bankrupt.

Keywords: Default Payment, Young Graduates, Car Loan

INTRODUCTION

Factors Affecting Default Payment: A Perspective of Car Loan

At a time when the economies around the world are facing unprecedented unemployment percentages, grim job prospects, and high inflation rates, individuals who once had great credit and made payment of bills on time now face the fear of defaulting on their loans. Currently, the most common issue on young graduate's monthly budgets after the mortgage loan is the car loan. The problem starts when a customer, focusing on young graduates repeatedly fails to make the agreed car loan payments to the lender or bank that lent the money for its purchase which may leads to bankruptcy in future. In today's world, bankruptcy is a common issue throughout the world. Malaysia is one of the country is suffering from bankruptcy phenomena that slap the nation. Bankruptcy is known as a legal proceeding relating to an individual inability of paying the debt. According to the statistics from the Insolvency Department, total of 101,537 cases handled by the department in the period of five years (2011 to 2015). Besides, there was a rise in cases between 2011 and 2014, from 19,167 cases to 22,351 cases, however, the figure dropped in 2015, with only 18,547 cases. It reflect that number of bankruptcy cases still need a vast attention to curb the situation. The statistics shows that 35.24% of the bankruptcy cases comprised individuals aged between 35 and 44 years old and 22.52% of cases are aged between 25 and 34 years old, while only 1.25% are below 25 years old (The Sun, April 2016). The statistic indicates that young adults are the one who involved in bankruptcy cases in Malaysia. It's clearly shows that Gen Y are affected directly in this situation as there are increasing numbers among people under the age of 35. Yuen 2014, argue that the number of bankruptcy cases are increasing remarkably in recent years, (cited in Mahiswaran, Uma and Wong, 2016). Furthermore, Chow 2015 opined that nowadays people are accumulating debts faster and easier compared the growth in income which leads to bankruptcy because of difficulties in repaying the debts, (cited in Mahiswaran, Uma and Wong, 2016).

According to Insolvency Department statistic on 2015, purchase of vehicles is the first reason of bankruptcy with 27.94% or about 28,374 cases, second followed by housing loans (with 21,697 cases or 21.36%), personal loans (20,727 cases or 20.41%), and business loans (11,899 cases or 11.71%) from the year of 2011 to year of 2015 (The Sun, April 2016).

Moreover, in 2014 Malaysia Digest had stated the rise of bankruptcy among young Malaysians are due to failure to repay loans and credit cards debts due to poor financial planning and spending habits. According to Cheong and Vikneswaran, (2016), majority of Malaysians involved in bankruptcy are university graduates and young working adults, and the reason they were caught bankrupt is because of study loan default, failure to settle vehicle loan and also credit card debt (The Star Online, 2014). According to Selvarani (2011), the number of bankruptcy cases occur due to defaulting of car loans about 105, 519 people in Malaysia, cited in Lim and Siew, 2017. Defaulting in payment is known as failure to perform the obligations under the law. In Finance, default is failure to meet the legal obligations of a loan. It can be said that nowadays, youths are unable to repay the large amount of car instalment as they just started the work. According to (Shaliza,2013), one of the reason of personal bankruptcy is poor management of money.

Studies conducted by (Warren 2003) to investigate characteristics of youth (focus on Generation Y) and bankruptcy, agree that Generation Y was born and grew up amidst a prosperous growing economy and they have more opportunities and a better quality of life as compared to previous generations (cited in Diana-Rose and Zariyawati, 2015). The researchers found that Generation Y are coping with pressure to meet the social expectations and “fit in” with their peers and current trends (cited in Diana-Rose and Zariyawati, 2015). Besides, the researchers also found that the Generation Y having the credit mentality of “own now, pay later”. Young graduates having the mentality of buying the goods they intended without thinking about the consequences of repaying and so on (Urbis, Rintoul, Power & Keevy, 2008). This study is to examine the factors affecting default payment of car loan among young in Malaysia. Besides, the objectives of this study is to provide a clear perspective of young graduates’ attitudes towards the factors of default payment which can leads to bankruptcy.

LITERATURE REVIEW

Default Payments on Car Loans.

A Hire Purchase agreement involving vehicles principally is an agreement to rent the vehicle and also to purchase it at a later time. In a hire purchase agreement, you agree to hire the vehicle until you fully pay off what you owe. The glitches happen when the hirer cannot afford the instalments, which may lead to default payments. Estimating the determinants of a loan applicant’s probability of default is very crucial for a bank. The probability of default indicates the ability of the loan borrower to fulfil repayments in the future. An inaccurate prediction of loan default will lead to a wrong approval of loan and consequently becomes a non-performing loan. Thus, according to Gurny (2013) it is not surprising at all that predicting or estimating the determinants of loan default probability is one of the main study focuses in finance and banking institutions. According to Selvarani (2011), she found that the number of bankruptcy cases is increasing and a quarter of these (or 105,519 people) are due to defaulting car loans. In order to lower the risk of bad debts, banks are reported to have tighten up their loan application process and are rejecting almost 60% of car loan applications (Kong, 2014). This high loan rejection rate will have an impact not only on the banking industry but also the growth of the Malaysian automobile industry. According to Alfaro and Gallardo (2013), they found that repayment burden or repayment ability related variables are one of the major determinants of loan default. The result is consistent with the ability to pay, study by Tanninen (2013) where she found that inability to control the finances among individuals would result in in equilibrium of the source of money and the demand of the expenses will create various financial problems.

Lifestyle

In the view of Shaliza (2013), one of the factors that trigger default on car loans that leads to bankruptcy are luxury lifestyle and thoughtless spending cited in Mahiswaran, Uma and Wong, (2016). Lifestyle is known as the way of an individual live, their attitudes, and their personal styles. Nowadays, youth are more competing among the peers in boast up themselves by show off their lifestyles. According to Credit Counselling and Debt Management Agency CEO of Azaddin Ngah Tasir, having just graduated and found a job, the generation aged below 30 embarks on a lavish lifestyle to keep up with peers. Associate Professor Dr. Zahari Ishak from University of Malaya (UM) said that bankruptcy among youth can be viewed more from the

internal causes, which are the family background and the way the child is being brought up (Malaysian Digest, 2014). She explained that child is growing up in the comfort zone where all their needs and necessity have been provided easily by their parents. Its gives more priority for them to live the life they intended and it also leads to borrowing and default in payment and finally bankruptcy.

Besides, Dr Zahari Ishak opined that due to reckless spending habits among youths, credit cards became as an easy way to obtain their desired needs that lead them toward a lavish lifestyle, while it also can leads to social and moral problems such as abuse of alcohol and drugs, or online gambling's" (Malaysian Digest, 2014). In the current trends, young graduates choose to pursue luxurious life rather than think about future due to materialistic society who love to brag each and everything to another. Furthermore, Credit Counselling and Debt Management Agency CEO Azaddin Ngah Tasir identified that leading an extravagant lifestyle is one of the root causes of bankruptcy among fresh graduates today (The Star Online, 2016). In addition, Dr Azhari Ishak said that nowadays young graduates have the mindset of spending their money like kings and queens, as the money earn by their hard work (Malaysian Digest, 2014). According to Azaddin Ngah Tasir, young graduates thought nothing when swiping of their credit cards in order to acquire the latest gadgets, cars, and fashion or embark on holidays (The Star Online, 2016). Young graduates usually will spend more on the stuff like branded goods, expensive cars, expensive foods and travelling because they want to boast their lifestyle among their peers. However, they are not aware of the consequences of having debts which can leads them to broke when they can pay back their money (Malaysian Digest, 2014), but they much more prefer to live their dream live. An individual can turn out to be materialistic with the mentality to encourage people to beat each other with expensive vehicles, larger houses and the latest fashion items (The Star Online, 2016).

Education

According to Lachance, Beaudoin & Robitaille, (2010) young graduations are accustomed to debt and easy availability of credit resulted in high rates of financial debt and credit card. This is supported by Jorensen and Savla (2013) who contended that lack of financial knowledge among the youngsters can affect the adolescent's ability to make positive decision regarding financial matters in their life. Furthermore, Scheresberg (2013) found that young people lack basic knowledge on finances and only one third of the respondents had basic knowledge regarding interest rate, inflation and various risks. Thus, youngsters reported high rates of financial difficulties and dissatisfaction (Roberts & Jones 2001) and the low level of financial knowledge resulted in weak financial management. In terms of socio-demographic variables, previous studies identified that potential determinants of loan default include gender, and level of education. Specifically, a borrower who is married, older, female, and with higher education are found to be less likely to default (Alfaro & Gallardo, 2012; Avery, Calem, & Canner, 2004; Sharma & Zeller, 1997; Stavins, 2000). This finding is not surprising as the socio-demographic variables could represent the underlying factors of tastes, preferences, productivity, and ability. Nevertheless, it is important to note that there are also a few contradictory studies which found the insignificance of socio-demographic variables, such as Okumu, Mwalili, and Mwita (2012) who found that gender and level of education has no explanatory power on the probability of default in payments in car loans.

Occupation

Occupation s known as a job or profession. Every individual needs job to endure their daily life. Occupation plays a huge impact in every individual life as it determines the amount of income each individual earn to continue the living. Some job offer high incomes and some jobs offer low and medium incomes. The specific incomes earns by an individual will be used to buy goods, products, car, house and use to apply loan for themselves. According to Cheong and Vikneswaran (2016), individual with high income level and high financial wealth (earning power of 500 thousands euro) are associated with greater financial literacy, where these people are more financially knowledgeable, while, individual with low-income is tend to be less financial sophisticated (Guiso and Jappelli, 2008). In the view of (Ching Hwa, Siaw Bei, Wai Ying, Gah Hee and Yun Cheng 2013), one's financial planning decision has been affected by the limited amount of income generated (cited in Cheong and Vikneswaran, 2016). An individual with a job has more security compare to those who does not have job. Cheong and Vikneswaran, (2016), view that income is important predictors of financial literacy, because it increases sharply with

the level of income. Besides, the researchers found that income is positively associated, when individual with high income is less likely to use high-cost methods of borrowing because they had savings and planned for retirement, while, individual who are using high-cost borrowing method and less likely to have a backup emergency funds have experienced a large income shock due to uncertain incidents (Cheong and Vikneswaran, 2016). In the study of Lim and Siew (2017), the length of employment service of borrowers had a significant effect on probability of default, such as the increase of length of service of borrowers will decrease the tendency of being default and the decrease of length of service will increase the tendency of default. Scheresberg (2013), suggested it is important to have an emergency fund and to improve individuals' retirement security.

Gender

The relation between gender and repayment of car loan has been analyzed in a number of studies. However, the evidence is mixed and usually stimulating or very limited in geographical and institutional scope. On the one hand, a number of studies find that women consistently outperform men in terms of repayment. For instance, Armendariz and Morduch (2005), report that in its initial faze the Grameen Bank also included men as customers. However, the bank decided to move over to a nearly full concentration on women due to repayment problems related to male customers. Furthermore study findings by R. Nyahende (2013), reveal that there is an association between gender and the students' loans default rate, that is as supported by some literatures, the chance of defaulting among students' loans decreases by being a female than being a male due to emotional role distribution among female and males as explained by cultural theory. The theory contents that males are more materialist, competitive and they are power oriented they put less value on relationships and quality of life, so defaulting becomes easy for them as they find no need of maintaining good credit history to improve the quality of life. Roslan and Karim (2009) examine the determinants of loan repayment among borrowers of Agrobank, a commercial bank in Malaysia, which is founded as a development finance institution directly involved in financing the agriculture sector. Regarding gender, their analysis shows that the probability of default is lower among female borrowers and this study thus seem to support the argument that women represent a lower credit risk. Besides, Appel and Karlan (2011), provide different reasons where they claimed that women are simply more responsible, while some argue that women, having fewer borrowing options than men, are careful of jeopardizing their relationship with their financial institutions by defaulting.

Commitment

Student debt is becoming the norm for young adults in Malaysia. Aggregate student loan debt has more than tripled over the past decade, as both the number of borrowers and the size of the average balance have increased. In other words, young graduates is currently facing high commitment since they have to pay their study loans right away after they finished their studies and at the same time they have to bear with the repayment of their car loan. According to Hershbein, Harris and Kearney (2014), roughly 70 percent of American bachelor's graduates leave college with debt. As borrowing for higher education becomes increasingly common, it is important that young graduates have a good understanding of how they will repay their study loans as well as their car loans. With young graduates typically experiencing low income and earnings immediately after graduation, more than half of graduates will spend at least 10 percent of their earnings repaying loans in the first two years after graduation. They further clarify that the traditional structure of loan repayment represents a fundamental mismatch with graduates' early-career earnings patterns. Fortunately, there are now alternative repayment plans, including several that are based on graduates' incomes. Such plans may be preferable for graduates with low initial earnings. These plans can potentially ease the burden of debt payments by deferring payments later into a worker's career when earnings are higher.

Eam and Yeok (2017), has performed the determinants of vehicle loan default in Malaysia found that more than half of the respondents were earning less than RM5,000 per month and only around 10 percent of them were earning more than RM10,000 per month. For those who were married, the majority of their spouses were earning less than RM4,000 per month. They also revealed that, from vehicle characteristics, the purchase price was found to have a significant and U-shape quadratic effect on probability of loan default. Thus, the increase of purchase price will decrease the underlying tendency of being default initially until the price of RM80,000 - RM90,000, where the increase of purchase price will increase the tendency of

default at lower rates. This finding has summarised that vehicle with lower purchase price will have lower risk of default until RM80,000. This finding of strong and significant impact of car price is consistent with previous research, such as Tanninen (2013). This is not surprising because vehicle price could influence the repayment burden, especially at higher prices because it will lead to high commitment.

Credit Default Theory

The term "credit default" has been used with many different meanings in practice. It can mean something as minor as a late payment of a debt obligation, so that a bank can apply a penalty "default" interest rate between the due date and the actual payment date. It can also mean something as serious as a bankruptcy or insolvency where the lender initiates a recovery process to limit loss from a collateralised loan. In spite of an extensive literature on credit defaults there are few clearly stated definitions of credit default. This theory has employed two concepts known as delinquency and insolvency which underlie most definitions of credit default. Delinquency is defined as a failure to meet a loan payment by a due date, whereas insolvency is defined as a situation where assets are less than liabilities. Most usages of the term credit default really revolve around the concept of delinquency. On the other hand, the structural approach to credit default theory uses implicitly the insolvency definition of credit default. Loan delinquency is a condition of liquidity failure or having insufficient cash flow to service the loan. Delinquency triggers a solvency assessment which may lead to a conclusion of negative equity position causing loan termination and an expectation of loss by the lender.

Model of Delinquency

Delinquency occurs when a borrower is unable to make a loan payment by the due date, caused by liquidity failure. Negative cash flow is considered one of the main causes of liquidity failure. For a corporation, debt payments are usually made from operating cash flows. Liquidity failure tends to occur when there is insufficient income from operating a business which is running at a loss. As a simplification liquidity failure is modelled by a situation of negative cash flow. In the analogous situation of a household with a home loan liquidity failure occurs when total disposable income after allowing for cost of living and other expenses is insufficient to meet debt payments. For an investor of a rental property with an investment loan cash flow before debt payment is determined by rental income plus the tax benefit from possible negative gearing.

Model of Insolvency

In the original Merton model for insolvency the random variable which determines credit default risk is the assets to liabilities ratio, which defines a situation of negative equity if it is less than one.

IMPLICATIONS AND CONCLUSION

This article which focused on the default payment in car loans among young graduates in Malaysia revealed inability to manage finances well as the main source of bankruptcy. In conjunction with that, many did not attend any financial education prior to their loan approval while not many of them only learnt financial management through own reading or mass media. Furthermore, they were in general having a moderate financial status before declared bankruptcy. Being a male and a graduate would result in having a better financial status before being bankrupt. Vehicle loan, business loan and personal loan were among the loans that are most potential in leading to their bankruptcy. Hence, providing financial education for loan applicants before they are granted the loan should be a necessary step. Furthermore, from the government perspective, most of researcher agreed that the government should have made compulsory for loan applicants to attend financial education program. This is to control from experiencing low financial status after receiving the loan due to financial mismanagement which may result in bankruptcy. Hence, the government should impose the requirement to attend a financial education program for loan applicants. A financial program that would facilitate their bankruptcy release would also be needed

From the financial stability perspective, as household lending continues to play an important role in the banking system, a more comprehensive and responsive risk management system is critical in preserving the soundness of each banking institution and the resilience of the banking

sector as a whole. This is to ensure that banking institutions are able to effectively manage the risks at all times and under all economic conditions. In terms of monetary policy, when setting the policy rate it is imperative to take into account the increased potency of monetary policy as a result of the increased sensitivity of household consumption and debt servicing capability to interest rate changes.

REFERENCES

- Cheong, P.S & Vikneswaran, M. (2016). Factors Affect Financial Planning Among the Young Adults in Klang Valley, Imperial Journal of Interdisciplinary Research (IJIR) Vol-2, Issue-10, 2016.
- Diana-Rose, F. & Zariyawati M.A. (2015). Factors Affecting Youth Bankruptcy in Malaysia, UPM-SAGE Publication Young Writers Award 2015.
- De Bassa Scheresberg, C. (2013) "Financial literacy and financial behavior among young adults: Evidence and implications", Numeracy. 6(2) p.5.
- Guiso, L. and Japelli, T. (2008) "Financial Literacy and Portfolio Diversification", European University Institute. (9) pp.01-36.
- Jorgensen, BL & Savla, J 2010, 'Financial literacy of young adults: The importance of parental socialization', Family Relations, vol. 59, pp. 465-478.
- Kong, S.H (2014). Credit squeeze hits auto Industry. The sun Daily, September2,2014, retrieved on Aug 31,2015, from <http://www.thesundaily.my/news/1158234>
- Lachance, MJ, Beaudoin, P & Robitaille, J 2006, 'Quebec young adults' use of and knowledge of credit', International Journal of Consumer Studies, vol. 30, pp. 347-359.
- Lim, H. E & Siew, G.H (2017). Estimating the Determinants of Vehicle Loan Default in Malaysia: An Exploratory Study, IJMS 24 (1), 73–90 (2017)
- Mahiswaran, S., Uma, D. K. & Wong, C. W. (2016). Factors Effecting Towards Personal Bankruptcy among Residents: Case Study in Klang Valley, Malaysia, International Journal of Human Resource Studies, 2016, Vol. 6, No. 3
- Malaysia Department of Insolvency. (2013). Personal Bankruptcy. Retrieved from Malaysia Department of Insolvency Web site: <http://www.insolvensi.gov.my/about-us/core-business/core-business/personal-bankruptcy>
- Malaysian Digest Retrieved on Aug 1, 2017 from <http://www.thestar.com.my/news/nation/2015/06/22/becoming-bankrupt-before-35-worrying-trend-of-about-25000-gen-y-msians-in-debt-over-the-last-five-ye/#TZVbEg24TYMfhhbpd.99>
- Othman, M. A., Rahim, H. A. & Sabri, M. F.(2015). Differences in Financial Information and Financial Status Among Malaysian Bankrupts, Australasian Conference on Business and Social Sciences 2015, Sydney.
- Okumu, A.W., Mwalili, S., & Mwita, P. (2012). Modelling Credit Risk for Personal Loans Using Product-Limit Estimator. International Journal of Financial Research, 3(1), 22-32
- Roberts, JA & Jones, E 2001, 'Money attitudes, credit card use, and compulsive buying among American college students', Journal of Consumer Affairs, vol. 35, pp. 213-240.
- Shaliza, A.M., Hilwa, H., Norasyikin, A.F. (2013). Factors Affecting Bankruptcy: The Case of Malaysia. International Journal of Undergraduate Studies, 2(3), 4-8.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Scheresberg, CDB 2013, 'Financial literacy and financial behavior among young adults: Evidence and implications, numeracy', vol. 6, no. 2, article 5. DOI: <http://dx.doi.org/10.5038/1936-4660.6.2.5>
- Sohn, SH, Joo, SH, Grable, GE, Lee, S. & Kim, M 2012, 'Adolescents' financial literacy: The role of financial socialization agents, financial experiences and money attitudes in shaping financial literacy among South Korean youth', *Journal of Adolescence*, vol. 35, pp. 969-980.
- Selvarani, P. (2011). Driven to bankruptcy. *New Straits Times*. Online news November 13, 2011, retrieved on Aug 31, 2015 from [http:// www2.nst.com.my/top-news/driven-to-bankruptcy-1.5124](http://www2.nst.com.my/top-news/driven-to-bankruptcy-1.5124)
- The Star Online, 21 June 2016.
- The Sun Daily, 20 April 2016.
- Armendariz, B. & J. Morduch (2005). *The Economics of Microfinance*, Cambridge: MIT.
- Veronica R. Nyahende. The Influence of Students' Loans Borrowers' Characteristics on Default Rate in Tanzania. *Canadian Center of Science and Education. Higher Education Studies*; Vol. 3, No. 4; 2013.
- Roslan, A. and M. Karim (2009). "Determinants of microcredit repayment in Malaysia: the case of Agrobank." *Humanity & Social Sciences Journal* 4(1): 45-52.).
- Appel J, and Karlan D.S. (2011). *More than good intentions*, Penguin Group (U.S.A.) Inc.
- Brad Hershbein, Benjamin Harris, and Melissa Kearney (2014). Major Decisions: Graduates' Earnings Growth and Debt Repayment. *Economic Analysis*.
- Lim Hock-Eam and Siew Goh Yeok (2017). Estimating The Determinants Of Vehicle Loan Default In Malaysia: An Exploratory Study. 24 (1), 73–90 (2017) . School of Economics, Finance and Banking Universiti Utara Malaysia.
- Tanninen, M. (2013). Determinants of credit risk in secured loans – Evidence from the auto loan industry. Unpublish Master thesis, School of Business, Lappeenranta University of Technology, Finland.

Mediating Role of Intention in Cyber Entrepreneurship Adoption Among the Undergraduates in Malaysian Higher Education Institutions (HEIs)

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Abstract

This study aim is to develop an understanding on the role of mediator in Behavioural framework in testing the Cyber Entrepreneurship (CE) adoption among the undergraduates in Malaysian Higher Education Institutions (HEI's). Well established variables were used as Independence Variables (IV's) and the role of Intention (I) as mediator. Test were done based on 323 samples obtained from HEI's throughout Malaysia. All the model was tested using Partial Least Square (PLS) and the mediator was tested using two well establish mediation testing approaches: Baron and Kenney's (1986) mediation analysis and the Preacher and Hayes (2008) approaches. The research finding shows that all the hypotheses, results show significant results and were accepted.

Keywords: Cyber Entrepreneurship, PEOU, Attitude, PU, Intention, Mediator

INTRODUCTION

Intentions widely accepted antecedent when refer to it mediating roles in research, especially the social sciences dimension. Pairing to that, Technology Acceptance Model (TAM), Theory of Planned Behaviour (TPB) as well as its origin Theory of Reason Action (TRA), Intention always positioned as mediating role. In an area of cyber entrepreneurship (CE) for instance, there are many research done using Intention as mediating role (Hadi and Sentosa, 2016). A mediator can be analyses using many approach. Noor UL Hadi, (2016) introduced three mediating analyses which are Baron and Kenney's (1986) Mediating analyses, The Sobel Test (1982) and The Bootstrapping approaches using Preacher and Hayes (2008) mediating approaches. The matter fact, there are many other analysis exists. Each analysis method comes with its own strength and advantages. For the purpose of this study, two analysis method will be adopted.

Research Objective and Research Question

The research Objective of this research is to Analyse the Mediating Role of Intention in CE Adoption among the undergraduates in higher education institutions in Malaysian HEI's. Meanwhile, this research comes with research question which is What is the role of Intention in Mediating PEOU, Attitude as well as PU with Intention to Adopt CE in HEIs.

LITERATURE REVIEW AND DEVELOPMENT OF RESEARCH HYPOTHESIS

Having full acknowledgement on all the IV's M and DV is very crucial. It established the literature as fundamental for further studies, crystal clear on the logical relationships, and in hypotheses development. It helps the researcher to test the relationship between all the IV's and DV. This help researcher to test the relationship by developing appropriate statement call Hypotheses (Kim et al., 2014).

Perceived Ease Of Use (PEOU)

Previous researchers have shown an association between perceived ease of use (PEOU) and behavioural intention (Ajzen, 1991; Mathieson, 1991). In the entrepreneurship context, several studies have shown significant associations between PEOU and entrepreneurial intention such as (Kansal, 2014; Autio et al., 2001; Gelderen et al., 2008; Gird and Bagraim, 2008; Kolvereid, 1996; Krueger et al., 2000; Souitaris et al., 2006). PEOU was shown to have a significant effect on Intention, either directly or indirectly (Agarwal and Prasad, 1999; Davis, 1989 and Sentosa et al., 2012). The concept was seen as a factor that affects user satisfaction in having to fulfil what has been desired (Rupak et al., 2014; Norshima and Vimala, 2015; Doll and Torkzadeh, 1998). It can be explained as the degree to which a person believes that using a particular system would be free from effort (Davis, 1989). PEOU also has been studied by many other researchers such as (Venkatesh and Davis, 2000). Other research suggests PEOU would strengthen the Intention of entrepreneurship on the Net (Gafen et al., 2000) due to easily, number of online entrepreneurship activity has increased.

It also explained the degree to which a person believes that using a particular system would be free from effort (Wei-Han G Tan Boon 2011; Sulistiyansih, M., Tambotoh, J., J., & Tanaamah, A., R. 2014). Some other studies which have concerned the action to do business on an internet platform, such as effectiveness of PEOU; (Tantiponganant, P., & Laksitamas, P. 2014). For instance, a study by Autio et al. (2001) found that PEOU is the most important influence on intention among Swedes to go into business. A similar study done in Norway and China is also concerned with fostering positive and creative student attitudes and intentions towards starting a new business venture (Gong, W., Stump, R., L., and Maddox, L., M. 2013). For individual constructs, researchers (Davis et al., 1989; Davis, 1993; Igbaria et al., 1997; Venkatesh et al., 2003). PEOU is considered an important determinant of BI in the early adoption period, but its effect becomes less important in the post-adoption period (Davis et al., 1989; Adams et al., 1992; Chau, 1996). While many previous research treats PU and PEOU as the starting point to explain and predict system usage, this research begins from a different perspective – by exploring the ultimate drivers of system usage – the external variables. There have been attempts to modify the TAM. The authors of the original TAM paper (Davis et al. 1992). Other researchers (Chau, 1996; Mathieson et al., 2001; Lu et al., 2005; Calantone et al., 2006) suggested various ways to extend or modify the TAM. Most of the early TAM studies were conducted in the context of private organisations and universities. In other research, Roberts and Henderson (1999) and Spacey et al. (2004) extended the TAM's application to government and public sector contexts. Clearly we can suggest that Perceived Ease of Use (PEOU) towards cyber entrepreneurship is closely associated with the Intention. This assumption will lead toward the following hypothesis.

H1a- There is a relationship between PEOU and Intention in determining the CE adoption among the undergraduates in Malaysian Higher Education Institutions.

Attitude

Any research on intention must be paired with attitude or behavioural attitude to fulfil the intention. Sentosa and Kamariah (2012) define Attitude as an individual's positive or negative feeling associated with the action of displaying specific behaviour. Similarly Celik (2008) linked Attitude to a person's own favourable attitude towards giving behaviour. Ajzen (1987) explained Attitude towards performing a behaviour refers to the perception of personal desirability to perform the behaviour. Meanwhile, Arifatul Husna et al. (2010), sees the attitude towards performing a behaviour refers to the perception of personal desirability to perform the behaviour. In the case of entrepreneurship, Kavereid (1996) explains the attitude towards entrepreneurship refers to the level of an individual is desired to become an entrepreneur. Manjeet et al. (2011) claims that there is evidence that the process of entrepreneurship initiates the demand for work assignments, interpersonal relations and social obligations. Similarly, Douglas and Shepherd (2002) found that a more positive attitude toward risk and independence leads to stronger entrepreneurial interest. Attitude is seen as close association with motivation in many research areas such as in education (Wu and Wu, 2008); willingness to be self-employed and favorable relationships (Gelderen et al., 2008); conducive university environment (Gaddam, 2008); Family influence (McLarty, 2005); and the desire to create a new venture (Veciana, Aponte and Urbano, 2005). Recent studies show Attitude has emerged as the most important antecedent of the intention to become self-employed (Chau et al., 2011). Other

research has shown that a person's decision and intention to start up their business and a person's desirability to become an entrepreneur is an indicator of their intention to become self-employed (Arifatul Husna et al., 2010). Vestergaard et al. (2012) sees a similar pattern of attitude towards entrepreneurship on Dutch students. Meanwhile Liv Anne Storan (2014); Packham et al. (2010) on the other hand found that entrepreneurship education had a positive impact towards an attitude of entrepreneurship.

In Malaysian context, research by Manjeet et al. (2011) found that students in Malaysia among those who are working, and perceiving in entrepreneurship activity as it is shameful if fail in business. This due to cultural factors and some how their behavioural impact and action can vary in their avoidance of uncertainty, creating different rituals and having different values regarding formality, punctuality, and legal-religious-social requirements. Meanwhile, Hofstede's study of cultural values, shows uncertainty avoidance in Malaysia is considerably high compared to other developed nations such as Singapore and Manjeet et al. (2011) argued, it is seen as an indicator of high fear of failure among Malaysians. Research also shows, graduates, those who are lack of entrepreneurial attitude are oriented to working and being promoted within large corporations (Braidot, 2001). In a study conducted in University Utara Malaysia (UUM), Afiruddin and Armanurah (2006) found that only 32.8 percent of the participants turned out to be entrepreneurs after graduation. In earlier research, Praag and Cramer (2001) found that undergraduates would consider becoming entrepreneurs if the expected rewards surpass the income of employment. Even with the appropriate attitude, their success or failure all relies on how there sees the opportunity. In the recent studies show there is a great interest in online business. There has been some research carried out on online activities and motivation to start a cyber entrepreneurship activity (Millman et al., 2010). Looi (2005) claimed IT Knowledge plays an important role in internet based entrepreneurship activity adoption. The level of IT Knowledge will determine the level of IT adoption in entrepreneurship activities. Means while, Thong & Yap (1995) focused on employee characteristics as important factors that affecting IT adoption in business activities. In this scenario to use the IT in implementing the cyber entrepreneurship. access to markets and availability of information technology (Basu and Virick, 2008). In order to study and answer the above issues, we can hypothesise that:

H1b- There is a relationship between Attitude and Intention in determining the CE adoption among the undergraduates in Malaysian Higher Education Institutions.

Perceived Usefulness (PU)

PU has been well studied in many perspectives such as mobile course (Woof and Wang, 2005); Internet buying (Pikkerman et al., 2004) and many others derived from the TAM. Chee et al. (2012) defined PU as the degree to which a person believes that using a particular system would enhance his or her job performance. Meanwhile, Sentosa et al (2012) defined PU as the extent to which a person believes that using a particular system will enhance their job performance. In early studies by Cheng et al. (2006) PU was determined by cost and productivity. Meanwhile, Davis (1989) defines PU as "degree to which a person believes that using a particular system would enhance his or her job performance. If the activity was perceived to reduce the cost and seen as useful to them, then the chances for them to adopt such activity would be higher. Some studies identified PU in other areas such as, users' desired results in an online search or the web base purchase (Lim et al., 2015) and motivation to do online shopping (Cha, 2009; Hasbullah et al., 2015; Lim et al., 2015). Extensive research shows evidence of the significant effect of PU on usage intention (Celik, 2008; Venkatesh and Davis, 2000). Celik (2008) on the other hand, suggested that PU has a significant impact on Internet banking Intention. Applying PU to CE activities may reflect undergraduates' views of involvement in cyber entrepreneurship and help them to start as self-employed entrepreneurs, while they are still studying. If undergraduates perceive the performance of CE activities as easy and useful, it will stimulate their perception towards starting a cyber entrepreneurship activity while still on campus.

Perceived usefulness (PU) is very important variable which is being applied in many studies, especially when conducting studies on behaviour as well as technology acceptance. (Ajzen, 1987; past experience as well as anticipated obstacles (Ajzen, 1991). If a person perceives a behaviour as easy, to perform they will be motivated to perform the action. Meanwhile a person's viewpoint towards Perceived Usefulness (PU) on performing online

activity may vary, subject to his/her motivation to perform said online activity. Whereas if they perceive it negatively then the outcomes may not be as desired. Chee et al. (2012) sees PU as "the degree to which a person believes that using a particular system would enhance his or her job performance". Similarly, Kim et al. (2008) indicated that PU has a significant relationship to motivate towards involvement in cyber entrepreneurship. Research carried out in Taiwan by Liao and Hsieh (2010) also proved that PU has a positive relationship with performing cyber entrepreneurship. Other researchers (Chau, 1996; Mathieson et al., 2001; Van Der Sluis and Van Praaq 2004; Lu et al. 2005; Calantone et al. 2006) suggested various ways to extend or modify the TAM. However, these have not been successful and, although there are several modified TAM models, the only consistent findings are related to the original TAM (Calantone et al., 2006). In an attempt to study and answer the above issues, this research proposes the following hypothesis.

H1c- There is a relationship between PU and Intention in determining the CE adoption among the undergraduates in Malaysian Higher Education Institutions.

Intention

Intention to get involves in entrepreneurs can be identified as a key factor that will determine the undergraduates' move towards fulfilling their desire in entrepreneurship. In further explaining Intention it has been widely applied in various theoretical models, such as in Shapero's Model of the Entrepreneurial Event (SEE); Ajzen's Theory of Planned Behaviour (TPB) (Lim et al., 2015). Intention can play an interchangeable role. It can be translated into action by those who really want to start up entrepreneurship activities (Krueger et al., 2000). Meanwhile TPB focuses on attitude as the best predictor of intention. It used three factors to predict entrepreneurial intention, which are attitude toward the act, social norms and perceived behavioural control. Attitude towards the activity are often aligned with perceived desirability and perceived behavioural control approximates perceived feasibility (Autio et al., 2001). Ajzen (1991) suggest there are some differences when applying Intention in the models to suit the nature of the research framework development. It has been tested on students' intentions to start a business. Unfortunately, research has faced a dilemma when required to determine whether to focus on the Intention in one model or both, these include (Krueger, 1993; Krueger and Brazeal, 1994 and Autio et al, 2001). In addition to that, Sonnenfeld and Kotter (1982) concluded that personality and lifestyle can affect a person's decision to become involved in entrepreneurship. Besides that, other factors such as financial stress and uncertainty in an individual's future, can affect their intention to perform entrepreneurship activities.

When studying undergraduates entrepreneurial behaviour, social scientists have widely researched entrepreneurship intention, such as education (Kolvereid, 1996; Ismail et al., 2009), personality traits (Ismail et al., 2009), perceived feasibility (Krueger, 1993) and education and training (Nabi and Holden, 2008). In studying undergraduate entrepreneurship behaviours. TPB has been proven successful in explaining intention, from various perspectives, towards performing a particular behaviour (Ajzen and Driver, 1992; Krueger, Reilly and Carsud, 2000) which covers various fields such as health, leisure choice, psychology, sociology and Information technology (Ajzen, 1987; Cooke and French, 2008; Taylor and Todd, 1995). Krueger (1993) in his study indicated early entrepreneurs were seen as willing to take risks in order to gain and achieve their objective in entrepreneurship activities. As well as that, Gaddam (2008) revealed that the university environment is a major underlying dimension which influences entrepreneurial intentions. Codurus et al. (2008) stated that universities need to establish supportive measures to create favourable environments for entrepreneurship. Ahmed (1985) suggests that entrepreneurs wish to have full control of their entrepreneurial life. Intention to venture into entrepreneurship is also seen by graduates as a way to improve their social status (Cromie, 1987). Research on Intention towards entrepreneurship adoption by undergraduates are well established, even in current / recent times. There are a number of studies focusing on the intention on current modern era entrepreneurship such as (Cope, 2005; Corbett, 2005; Deikins et al., 2000; Erikson, 2003; Minnitgi and Bygrave, 2001; Politis, 2005; Rae and Carswell, 2000). Entrepreneurship intention has been extensively researched in the past few decades and continues to be of interest to researchers due to its importance to development, for many countries (Karr, 1985; Hart and Harrison, 1992; Graham and McKenzie, 1995; Mazzarol et al., 1999; Nabi and Holden, 2008; Ismail et al., 2009). Likewise Arifatul Husna et al. (2010), found that intention is an indication of how hard people are willing to try or

how much effort they are planning to accomplish in order to perform the intended behaviour. Research on entrepreneurial intention has also identified a number of other factors influencing the entrepreneurial decision, including the willingness to take risks in order to gain (Krueger, 1993), personal wealth creation (Holcombe, 1998), social goals (Brush, 1992), family tradition (Dubini, 1989), a need for independence (Scheinberg and MacMillan, 1988), to gain autonomy (Roynalds and Miller, 1988); and a need to improve social status (Cromie, 1987). Due to the wide diversity in entrepreneurship intention, we can further classify entrepreneurship in three dimensions, which are as follows. Harris and Gibson's (2008) argue that attitudes that underpin entrepreneurial intentions can be measured and changed, thus allowing for the possibility of attitude change and shaping through exposure to educational programmes in HEIs. The second assumption is that intention, intentionally translates the action to entrepreneurial behaviour. The third dimension that enterprise education and training can make a difference in terms of capability and hence increases the likelihood of business success. In order to examine the above, this research would propose the following hypothesis.

H1d- There is a relationship between Intention and the CE adoption among the undergraduates in Malaysian Higher Education Institutions.

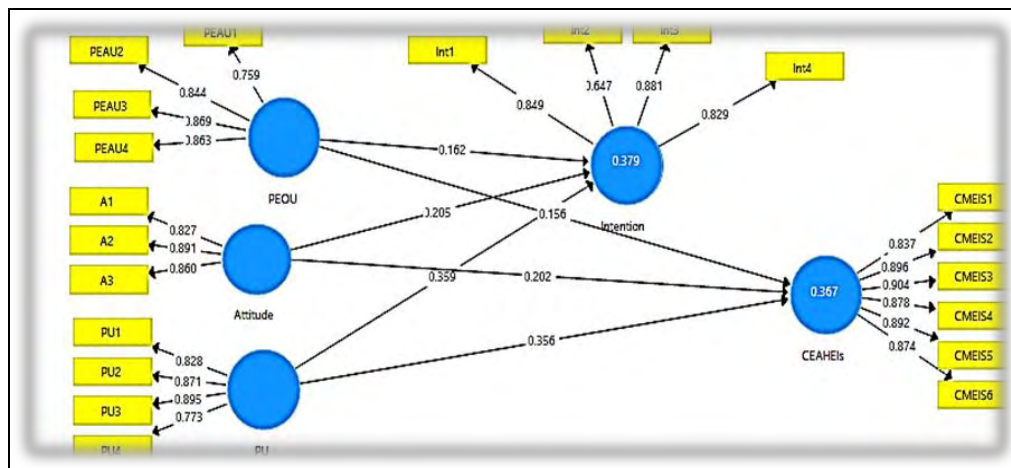
Selecting appropriate mediating analysis approaches

In the model developed for this study, Intention played a mediating role between PEOU to Intention to CEAHEIs, Attitude to Intention to CEHEIs and PV to Intention to CEAHEIs. Hadi and Sentosa, (2016) and Noor H (2016) proposed following approaches towards conducting mediating analysis. In this research, we discussed two analytical approaches: Baron and Kenney's (1986) and the bootstrapping approach of Preacher and Hayes (2008). The first mediating analysis method was selected because Baron and Kenney's is a well established analysis method. Baron and Kenney's (1986) have been cited more than 8120 times, mostly on the ISI Web of Science (Osman and Sentosa, 2013). In order to validate the analysis output, this research run another mediating analysis with the aim to do a comparison on the outcome of the analysis. Therefore, this study used Preacher and Hayes (2008). To do the second mediating analysis.

Baron and Kenny mediating approaches

In Baron and Kenney's (1986) mediating analysis approach, it involved a four step, activity. In the first step, this follows with the researcher must establish evidence that there is a statistical significance between IV's and DV. In third steps, researcher then must establish statistical significance between IV's and the Mediator (M). Meanwhile, in final steps, there must also be statistical significance between M and the CEHEI's. The last steps in Baron and Kenney's approach are researcher must look at the direct effect after controlling the mediating variable. Analysis of Baron and Kenney's approaches was done via Analysis on model displayed in Figure 1.

Figure 1 Inner and Outer Value without the Mediator

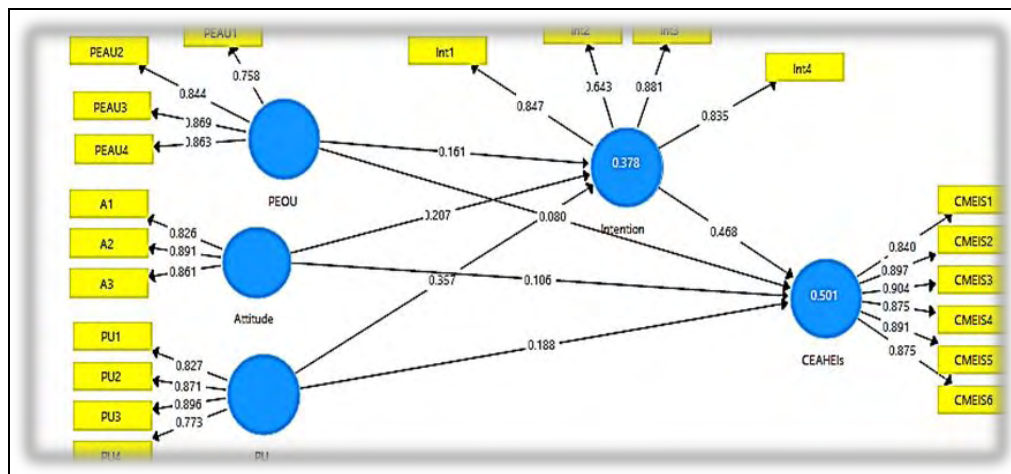


Designing the direct path between IV's to mediate and IV's to DV analysis output. The model in Figure 1 can be summarised in the table as shown in Table 1 Summary Analysis without influence of Mediator. There are the direct path between all the IV's and the DV. Referring to both Figure 1 and Table 1. All the paths show positive values. The path value between PEOU to Intention shows value of 0.162. The direct path between PEOU to CEHEIs shows value of 0.156. Meanwhile the path value between Attitude to Intention and Attitude to CEHEIs showed values of 0.205 and 0.202. The last variable which is PU, a path value between PU to Intention and PU to CEHEIs showed a path value of 0.359 and 0.356. The above analysis fulfilled the steps a, b and c in Baron and Kenney's analysis approach. Step d was to add the mediating role between Intention to CEHEIs as shown in Figure1.

Table 1 Summary analysis without influence of Mediator

IV's	Path Coefficient (a)	Mediator	DV
PEOU	0.156	-	CEAHEI's
PEOU	0.162	Intention	CEAHEI's
Attitude	0.202	-	CEAHEI's
Attitude	0.205	Intention	CEAHEI's
PU	0.356	-	CEAHEI's
PU	0.359	Intention	CEAHEI's
Intention	-	-	CEAHEI's

Figure 2. Inner and Outer Values With the Mediator



The mediator of Intention to CEHEIs showed the path coefficient value at 0.468. Introduction of a mediator does affect other variables. The path value from PEOU to Intention decreased to 0.161 and the direct path PEOU to CEHEIs reduced to 0.80. Path value Attitude to Intention does slightly increase to 0.207. The indirect path decreased to 0.106. PU to Intention path value reduced to 0.357 and the indirect path decreased to 0.188. The analysis outcomes fulfilled steps in Baron and Kenney's mediating approaches.

Preacher and Hayes mediating approaches

Preacher and Hayes (2008) mediating approach use the bootstrapping technique twice, first without the presence of the mediator and second, with the presence of the mediator. Hair et al. (2014) mentioned a few indicators which should be observed when doing model analysis. If the direct path is not significant, this means there is no mediating effect.

- a. If the direct path is significant, then researchers can include the mediating variable and run the bootstrapping.
- b. It is considered no mediation if the indirect path is not significant after running the bootstrapping.

- c. If the indirect path is significant, then the researcher is advised to do the Variance Accounted for (VAF) analysis.

Table 2 Summary Analysis with mediating roles.

Independence Variables (IVs)	Path Coefficient (a)	Mediator	Path Coefficient (b)	Dependence Variable (DV)
PEOU	0.080	-	-	CEAHEI's
PEOU	0.161	Intention	0.468	CEAHEI's
Attitude	0.106	-	-	CEAHEI's
Attitude	0.207	Intention	0.468	CEAHEI's
PU	0.188	-	-	CEAHEI's
PU	0.357	Intention	0.468	CEAHEI's
Intention	-	-	0.468	CEAHEI's

To compute the VAF, this research referred Table 1 for explanation. Analysis of these approaches comes in four steps a, b, c, and d. All the output in Figure 2 show significant values and fulfil steps a, b and c. For the final step in verifying the model, Preacher & Hayes suggest performing the Variance Accounted for (VAF) analysis. The steps to perform VAF analysis are as shown in Table 3. The calculation for VAF can be summarized as shown in Table 3.

Table 3 VAF Calculation Formula

Steps	Item	Formula
a.	Indirect Effect (IE)	Indirect values * Mediator
b.	Total Effect (TE)	IE + Direct Effect
c.	VAF	(IE/TE)*100

CONCLUSION AND DISCUSSION

To compute the VAF, this research referred Table 4 for explanation. Analysis of these approaches comes in four steps a, b, and c. All the output in Figure 4.8 show significant values and fulfil steps a, b and c. For the final step in verifying the model, Preacher & Hayes suggest performing the Variance Accounted for (VAF) analysis. The steps to perform VAF analysis are as shown in Table 4. The calculation for VAF can be summarized as shown in Table 4.

Table 4 VAF Calculation Results

Construct	Item	Formula	VAF Output
PEOU	IE	0.161 * 0.468	48.49%
	TE	0.0753 + 0.080	
	VAF	(0.0753/0.1553) * 100	
Attitude	IE	0.207 * 0.468	47.76%
	TE	0.0969 + 0.106	
	VAF	(0.0969/0.2029) * 100	
PU	IE	0.357 * 0.468	47.04%
	VAF	(0.167/0.355)*100	

According to Hair et al. (2014), if there is a VAF value of greater than 80%, then there is full mediation. A value between 20 to 80%, would be partial mediation and there is considered to be no mediation if the value is less than 20%. Referring to Table 4 we can

summarise the calculation on the VAF for each IV, which link to the M and DV's as shown in Table 5.

Table 5 VAF calculations Results

Construct	Final VAF Values	Type of Mediation
PEOU	48.49	Partial Mediation
Attitude	47.76	Partial Mediation
PU	47.04	Partial Mediation

REFERENCES

- Adams, D.A., Nelson, R.Y., Todd, P.A. (1992), "Perceived usefulness, ease of use, and usage of information technology: a replication", *MIS Quarterly*, Vol. 16 No.2, pp.227-47.
- Afiruddin, T., & Armanurah, M. (2006). Kajian pengesanan bekas peserta Kursus Asas Keusahawanan Siswazah (KAKS): Kes UUM [Tracer study on ex-participants of Graduate Entrepreneurship Basic Course: UUM Case]. Proceeding of the IKS2006 National Conference, Kuala Lumpur, 364-375.
- Agarawal, R., & Prasad, J. (1999). Are Individual differences germane to the acceptance of new information technologies? *Decision Sciences*, 30(2), 361 -391.
- Ajzen, I. (1987), "Attitudes, traits, and actions: Dispositional prediction of behaviour in social psychology", *Advances in Experimental Social Psychology*, Vol. 20, pp. 1-63.
- Ajzen, I. (1991), "The Ajzen theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211.
- Arifatul Husna Mohd Ariff , Zainol Bidin (2010), " Predicting Entrepreneurship Intention Among Malay University Accounting Students in Malaysia". *Unitar E-Journal* Vol. 6, No. 1, January 2010.
- Autio, E., Keeley, R.H., Klofsten, M., Parker, G.G.C., and Hay, M., (2001), "Entrepreneurialham, UK and Northampton, MA, USA: Edward Elgar, pp. 6-7
- Baron, R.M., Kenney, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No.6, pp.1173-82.
- Basu, A., & Virick, M. (2008). "Assessing Entrepreneurial Intention Among Students: A Comparative Study.". Retrieved February 7, 2011, from <http://nciia.org/conf08/assets/pub/basu2.pdf>
- Calantone, R.J., Griffith, D.A., Yalcinkaya, G. (2006), "An empirical examination of a technology adoption model for the context of China", *Journal of International Marketing AMA*, Vol. 14 No.4, pp.1-22.
- Celik, H. (2008) "What determines Turkish customer's acceptance of internet banking?". *International Journal of Bank Marketing*, Vol.26 No. 5, pp. 353-369.
- Cindy Millman, Zhengwei Li, Harry Matlay, Wang-chan Wong, (2010), *Entrepreneurship education and students' internet entrepreneurship intentions Evidence from Chinese HEIs*, *Journal of Small Business and Enterprise Development* Vol. 17 No. 4, 2010 pp. 569-590
- Chee, Lim, Teo, Teoh, Wong (2012), *Factors Influencing The Intention to Accept Social Network Advertisement From Malaysian Youth's Perspective. Bachelor of Commerce (Hons) Accounting, University Tunku Abdul Rahman (UTAR)*

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Cha, J. (2009). Shopping on Social Networking Web sites: Attitude towards real versus virtual items. *Journal on Interactive Advertising*, 10(1), 77-93
- Chau, Lim, Teng, Wong, Yeow (2011), Cyber entrepreneurship Intention Among undergraduate Business Students in Malaysia: A Comparison Between Public and Private Higher Education Institution., Bachelor of Commerce (Hons) Accounting, University Tunku Abdul Rahman (UTAR)
- Chau, P.Y.K. (1996), "An empirical assessment of a modified technology acceptance model", *Journal of Management Information System*, Vol. 13 No.2, pp.185-204.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13 (3), 319-340.
- Doll, WJ & Torkzadeh, G (1991), "The Measurement of end-user computing satisfaction: theoretical and methodological issues", *MIS Quarterly*, vol. 15, no. 1., pp. 5-10.
- Douglas, E.J. and Shepherd, D.A. (2002), "Self-employment as a career choice: attitudes, entrepreneurial intentions, and utility maximization", *Entrepreneurship Theory & Practice*, Vol. 26 No. 3, pp. 81-90.
- Gafen, D., Straub, D. & Boudreau, M. C. (2000). Structural equation modeling and regression: guidelines for research practice. *Communications of the Association for Information Systems*, 4(7), 1-77.
- Gelderen, M.V., Brand, M., Praag, M.V., Bodewes, W., Poutsma, E., and Gils, A.V. (2008), "Explaining entrepreneurial intentions by means of the theory of planned behaviour", *Career Development International*, Vol. 13, No. 6, pp. 538-559.
- Gird, A., & Bagraim, J. (2008). The theory of planned behavior as predictor of entrepreneurial intent amongst final-year university students. *South African Journal of Psychology*, 38(4), 711-724.
- Gaddam, S. (2008). Identifying the relationship between behavioral motives and entrepreneurial intentions: An empirical study based on the perceptions of business management students. *The Icfai Journal of Management Research*, 7(5), 35-55
- Gong, W., Stump, R., L., & Maddox, L., M. (2013). Factors Influencing Consumers' Online Shopping in China. *Journal of Asia Business Studies*, 7(3), 214-230
- Hadi, N.U., Abdullah, N., & Sentosa, I. (2016). An Easy Approach to Exploratory Factor Analysis; Marketing Perspective. *Journal of Educational and Social Research*, 6(1), 215-223.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. Retrieved from <http://www.afhayes.com/public/process2012.pdf> (Accessed on 22.5.2012)
- Hasbullah, N., A., Osman, A., Abdullah, S., Salahuddin, S., N., Ramlee, N., F., & Soha, H., M. (2015). The relationship of attitude, subjective norm and website usability on consumer intention to purchase online: an evidence of Malaysia Youth. *Procedia Economics and Finance*, 35, 493-502.
- Henderson, R. & Robertson, M., (1999). Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career, *Education + Training*, 41(5), 236-245.
- Igbaria, M., Zinatelli, N., Cragg, P., Cavaye, A.L.M. (1997), "Personal computing acceptance factors in small firms: a structural equation model", *MIS Quarterly*, Vol. 21 No.3, pp.279-305.

- Joo, J., & Sang, Y. (2013). Exploring Koreans' smartphone usage: An integrated model of the technology acceptance model and uses and gratifications theory. *Computers in Human Behavior*, 29(2013), 2512-2518.
- Kansal, P (2014). Online privacy concerns and consumer reactions: insights for future strategies. *Journal of Indian Business Research*, 6(3), 1990-212.
- Kim, G. (2008), "Entrepreneurship and self-employment: the state of the art and directions for future research", *New England Journal of Entrepreneurship*, Vol. 11 No. 1, pp.39-52.
- Kolvereid, L. (1996), "Prediction of entrepreneurial employment status: choice intentions", *Entrepreneurship Theory and Practice*, Vol. 21 No. 1, pp. 47-57.
- Krueger, N.F. Jr, Reilly, M.D. and Carsrud, A.L. (2000), "Competing models of entrepreneurial intentions", *Journal of Business Venturing*, Vol. 15 No. 5/6, pp. 411-32.
- Lim, Y., J., Osman, A., Salahuddin, S., N., Romle, A., R., & Abdullah, S. (2015). Factors influencing online shopping behavior: the mediating role of purchase intention. *Procedia Economics and Finance*, 35, 401-410.
- Looi, H. C. (2005). E-commerce in Brunei Darussalam: "A quantitative analysis of factors influencing its adoption. *Communications of the Association for information Systems*, 15, 61-81.
- Mathieson, K. (1991). Predicting user intentions: Comparing the technology acceptance model with the theory of planned behavior. *Information System Research*, 2(3), 173-199.
- Millman, C., Wong, W.C., Li, Z.W. and Matlay, H. (2010), "Educating students for e-entrepreneurship in the UK, the USA and China", *Industry & Higher Education*, Vol. 23 No. 3, special issue, pp. 243-55.
- Mclarty, R. (2005). Entrepreneurship among graduates: towards a measured responses. *Journal of Management Development*, 24(2), 135- 147.
- Veciana, J. M., Aponte, M. and Urbano, D. (2005), "University student's attitude towards entrepreneurship: a two countries comparison", *International Entrepreneurship and Management Journal*, Vol. 1 No.2, pp.165 -182.
- Manjeet S. Sandhu , Shaufique F. S. and Shoib R (2011), "*Entrepreneurship barriers and entrepreneurial inclination among Malaysian postgraduate students* ". *International Journal of Entrepreneurial Behaviour & Research*, Vol. 17 No. 4, 2011 pp. 428-449.
- Norshima & Vimala (2015). Leadership Styles and Information Security Compliance Behaviour: The Mediator Effect of Information Security Awareness. *International Journal of Information and Education Technology*, Vol.5. No. 4, April 2015.
- Praag, C.M. and Cramer, J.S. (2001), "The roots of entrepreneurship and labor demand: individual ability and low risk", *Economica*, Vol. 68 No. 269, pp. 45-62.
- Rupak Raunier Greg Rawski Jei Yang Ben Johnson, (2014), "Technology acceptance model (TAM) and social media usage: an empirical study on Facebook", *Journal of Entee3rprise Information Management*, Vol. 27 Iss 1 pp. 6-30.
- Sentosa, I., Ming, W.C., Soebyakto, B.B., Nik Mat, N.K. (2012). *A Structural Equation Modeling of Internat Banking Usage in Malaysia*. *Journal of Arts, Science and Commerce (E-ISSN 2229-4686; ISSN: 2231-4172)*, Vol.III Issue 1, pp. 75-86.

- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), *Sociological methodology*, 1982 (pp.290-312). Washinton, DC: American Sociological Association.
- Souitaris, V., Zerbinati, S., & Al-Laham, A. (2006). Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22(4), 566-591.
- Sulistiyaningsih, M., Tambotoh, J., J., & Tanaamah, A., R. (2014). Technology Acceptance Model and online learning media: An empirical study of online learning application in a private Indonesian university. *Journal of Theoretical and Applied Information Technology*, 69(1),136-144.
- Venkatesh, V., Davis, F.D. (2000), "Modeling the determinants of perceived ease of use", *Proceedings of the International Conference on Information Systems*, Vancouver, pp.213-27.
- Venkatesh, V., Morris, M., Davis, G.B. and Davis F.D. (2003), "User acceptance of information technology:towards a unifiedview", *MIS Quarterly*, Vol., 26 No. 4, pp.425-78.
- Van der Sluis, J. and M. Van Praag. (2004), "Economic returns to education for entrepreneurs: The development of a neglected child in the economics of education", *Swedish Economic Policy Review*, Vol. 11, No. 2, pp. 183- 225.
- Wu, S., Wu, L. (2008), "The impact of higher education on entrepreneurial intentions of university students in China", *Journal of Small Business and Enterprise Development*, Vol. 15 No.4, pp.752-74.

Determinant of Factors Influence Saving Behaviour among Generation Y Women Educator in Perak State

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Abstract

The ascending of bankruptcy rate in Malaysia involved young Malaysians because they grappling with higher and uncontrollable debts. This phenomenon increased the risk of young Malaysians unaware of financial planning in their saving behaviour. Saving behaviour is a vital way of improving financial well-being, preparedness for retirement and having a better life after fixed income decline. There are plenty of studies conducted on the determinants of saving behaviour among university students and employees rather than Generation Y (Gen Y) women educator. This study is aim to investigate the determinant of factors influence saving behaviour among Gen Y women educator and examine the relationship between independent variables towards saving behaviour as dependent variable. Therefore, Life Cycle Theory will be used in this study to support the factors influence saving behaviour. This study is targeted Gen Y women educator in Perak state as they are receiving monthly fixed income, spend and save. The primary data is collected through self-administered questionnaire and all data collection will be analysed using descriptive analysis, reliability test, Pearson Correlation Coefficient analysis and Multiple Linear Regression analysis. Practically, this study can help to create financial awareness among Gen Y women educator and strengthen the financial management.

Keywords: saving behaviour, life cycle theory, generation Y, women educator

INTRODUCTION

In this 21st century era, money management plays a vital role for every individual (Seifert & Gonenc, 2015). This is because most people will spend more than half of their income on food, fuel and pay monthly commitments such as car loan, housing loan, personal loan, study loan, credit card and insurance. Thaler (1999) stated that money could be categorised as how the money is received and to be spent. Therefore, a proper way in managing cash and the wise usage of monthly income are required for every individual. Saving can be defined as when people spend their monthly income and put aside the balance amount of money for saving (Ahmad, Yunus, Baharudin, Johari & Ripain, 2015). Individual and households saving become one of the key factors in improving long-term economic growth (Ahmad et al., 2015; Mahdzan & Tabiani, 2013; Gedela, 2012). Ahmad et al. (2015) explained that saving should be consistent with the good financial planning and financial management so people will have freedom in spending their money for personal desires and make investment for future. Besides, Ayenew (2014) mentioned that inadequate saving and lack of funds during retirement will make people life uncomfortable.

The higher cost of living and an extreme price hikes for basic goods and supplies have given more severe impact to every individual. It showed that these people are suffering and burdened with all the daily expenses and monthly commitments. Due to that, the increment of household debt and non-performing loans showed that households might lack of knowledge to manage their finances (Beckmann, 2013). Recently, the usage of credit card over cash in purchasing online and offline becomes a trend. Even though they have cash in hand and pay the minimum amount of credit card every month but they are actually still involve with debt. According to Zaminor, Azila, Zamanira and Rusuli (2016), individual who is failed in managing their financial in order to satisfy their desires and needs are tend to be recognised bankruptcy. Nowadays, single and married women are also working and earning fixed income every month

to assist their husband and family members as well as to reduce burden and monthly commitments. However, Bashir, Hassan, Nasir, Baber and Shahid (2013) expressed that women have less saving compared to men because women like to spend more than men. They also mentioned that women are likely to save for short term while men are likely to save for long term. Elangkovan and Ahmed (2013) contended that women will have higher tendency to be influenced by the media-marketing and tend to overspend on unexpected and unnecessary expenses compared to men. Besides that, media-marketing environment could affect the ability and willingness of individual to delay in saving money (Te'eni-Harari, 2016). The objective of this study is to investigate the determinant of factors including one demographic variable (income level) and three psychometric variables (financial literacy, self-control and peer influence) that influence saving behaviour among generation Y (Gen Y) women educator in Perak State. This study is also to examine the relationship between independent variables that are the factors influence and dependent variable which is saving behaviour. In this regards, this study is aim to contribute comprehensive understanding on the significant of financial literacy among the respondents. It will help the respondents to make a long-term financial decision including saving, investment and retirement planning. It also will help the respondents to control their purchases behaviour and to make saving. At the same time, this study will help the respondents to manage their money and reduce the debt to avoid bankruptcy.

LITERATURE REVIEW

Life Cycle Theory (LCT)

Life cycle theory (LCT) was used in this study to investigate the relationship between income level, financial literacy, self-control and peer influence towards saving behaviour. LCT was developed by Franco Modigliani and Richard Brumberg in year 1954 to identify the saving behaviour. Meanwhile, Bazhenova and Krytsun (2013) stated that this theory also linked to total consumption to total income, total income expectations, and aggregate assets that affected by population's demographic structure. This theory predicts domestic saving, saving depends on the growth rate of domestic income (Bazhenova & Krytsun, 2013). Generally, it seeks to explain how much people spend throughout whole lifespan. According to Deaton (2005), there is a positive relationship between a growth population and saving behaviour among youngster which is refer to Gen Y. The elderly may save more so they can leave bequests to their children (Prinsloo, 2000). In addition, LCT consists of two important assumptions in saving behaviour. There are the characteristics of the individual's utility function and the age structure of the population. The utility function is referred to the individual receives an additional income and will plan to save or use the amount. Second is the age of the population which individual will spend wisely for their future (Modigliani, 2005, p. 7). Therefore, LCT was adapted to measure the determinants of factors which are income level, financial literacy, self-control and peer influence. These are used to investigate whether there are contributing factors that influence saving behaviour among Gen Y women educator.

Income Level (IL)

Monthly fixed income would give impact on individual saving behaviour. According to Mahdzan and Tabiani (2013), possibility of having more income enables people to save more and they found that higher income level give a positive impact on individual saving behaviour. Ayenew (2014) investigated the income level towards saving behaviour among women in Arba Minch Town, Ethiopia and found that higher income level has positive effect and significant on saving behaviour. However, Bashir et al. (2013) examined the gender dissimilarities and determinants of saving behaviour between males and females in Pakistan. They found that single males with higher level of income are save more while married males are less saving compared to females. It showed that males have to spend more for households and less for unnecessary expenses (Bashir et al., 2013).

Financial Literacy (FL)

People need to have financial literacy to own a strong financial status. According to Huston (2010), financial literacy is a skill that enable people to make financial decisions effectively. Besides that, financial literacy act as a measurement tool to identify the degree of understanding towards the key financial concept (Remund, 2010). Hence, Delafrooz and Paim (2011) studied the degree of financial literacy towards saving behaviour among employees in

the public and private sectors. They found that financial literacy significantly influence the saving behaviour. Whilst, Sabri and MacDonald (2010) showed that financial literacy has a positive and significant effect on saving behaviour among university and college students.

Self-control (SC)

Self-control referred to an ability in identifying and regulating people emotions and desires. In order to achieve success in life endeavors, self-control is a critical element. People with low self-control are likely to spend more money and ended up having money management and credit problems. Lim, Sia, and Gan (2011) examined the self-control towards saving behaviour in Klang Valley, Malaysia. The study found that individual need to maintain the self-control through budgeting and cost assessment for saving. Furthermore, Esenvalde (2011) investigated the relationship between self-control and saving behaviour and the result proved that self-control and achievement motivation are positively associated with saving behaviour. In addition, Otto (2009) aimed to enhance youngster's understanding on saving because youngster spends a lot of money and could not resist temptation. The study found that youngster's self-control was positively associated with saving behaviour.

Peer Influence (PI)

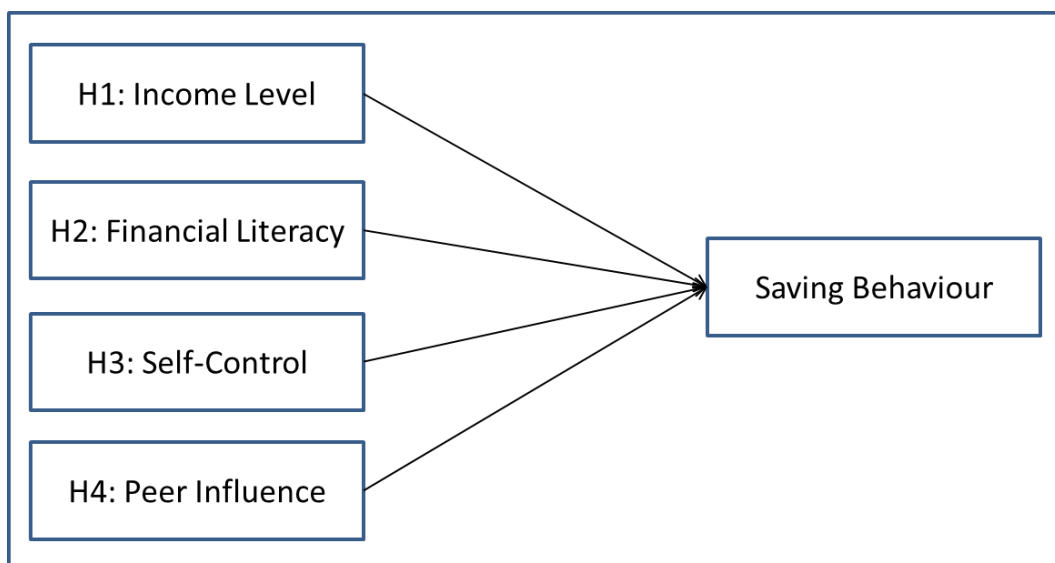
Peer influence also plays an important role in an individual's life and can lead to a positive lifestyle. Thung, Kai, Nie, Chiun and Tsen (2012) stated that peer influence has an impact on individual's saving behaviour. According to Letkiewicz (2012), peer influence only affected a small fraction of co-workers to participate in saving plans. This study showed that peers through daily meets and conversations easily influence women. While, Beshears, Choi, Laibson, Madrian and Milkman (2015) measured the effect of disseminating information among peers on saving behaviour. The result showed there is a weak correlation between peer influence and saving behaviour.

Saving Behaviour (SB)

Saving can be defined as the additional income after deducting expenses and excess income which after consumer goods consumption (Ferrouhi & Lehadiri, 2014). According to Bauer (2010), saving is the behaviour of understanding the future needs and how people save to fulfill their needs because people cannot predict unforeseen future and they need to save to overcome unexpected emergency such as illness, layoff or personal injury. Thung et al. (2012) mentioned that majority of women and single heads of household are not aware that 70% of the monthly income needs to be saved.

CONCEPTUAL FRAMEWORK AND HYPOTHESE DEVELOPMENT

Figure 1: Conceptual Framework



There are four independent variables that consist of income level, financial literacy, self-control and peer influence. To examine whether there are relationship between these four independent variables and saving behaviour, the following hypotheses are developed:

- H1: There is a positive significant relationship between income level and saving behaviour.
- H2: There is a positive significant relationship between financial literacy and saving behaviour.
- H3: There is a positive significant relationship between self-control and saving behaviour.
- H4: There is a positive significant relationship between peer influence and saving behaviour.

RESEARCH METHODOLOGY

Quantitative data was used to examine the research objectives where the data collected was to generate numerical information. Hence, primary data was employed in this study to collect the information using survey method which is self-administered questionnaire on a standard format (Likert scale model). This study was adopted the questionnaires developed by Subhamv and Priya (2016); Seong et al. (2011) to measure income level, financial literacy, self-control, peer influence and saving behaviour. Since the previous researchers developed the instrument for Gen Y that included students and working adults, this study would customize the items accordingly to suit with our targeted respondents which is Gen Y women educator. Therefore, LCT would be applied in this study to examine the factors such as income level, financial literacy, self-control and peer influence in influencing saving behaviour. In addition, the self-administered questionnaire was constructed with two sections (Section A and Section B). Section A was demographic data such as age and income level. While, Section B was psychometric data that consists of three variables which are financial literacy, self-control and peer influence and one dependent variable which is saving behaviour. The psychometric data were measured by five statements for each of the variables.

This study targeted respondents were women educator in Perak state who is Gen Y born in the years between 1980 to 2000. This study focused on Gen Y because this generation is tend to have better quality of life by taking risks and have different thought about wealth and value of money (Subhamv & Priya, 2016). Therefore, this study focused on Gen Y women educator because they are working and earned the monthly income. They will also spend money on certain monthly expenses and they need to control and manage the remaining money for saving. The targeted respondents were selected from Universiti Tunku Abdul Rahman (UTAR) and Quest International University Perak (QUEST). This study was employed convenience sampling method where this type of sampling is referring to selected samples that are not randomly been chosen because they happen to be at the right place and time (Awang, 2012, p. 79). There was 200 set of questionnaires have been distributed by hand to women educator for both universities. A total of 180 set of questionnaires from both universities were successful collected and only 176 data are useable to conduct this study.

Therefore, data collected was analysed using SPSS software to conduct the two analyses which are Pearson Correlation Coefficient analysis and Multiple Linear Regression analysis. Pearson Correlation Coefficient analysis was used to determine the factors (income level, financial literacy, self-control and peer influence) that influence saving behaviour. Next, Multiple Linear Regression analysis was used to measure the relationship between independent variables and dependent variable.

DATA ANALYSIS

The demographic profile of respondents indicated that age, 17-23 years were 3.4%; 24-30 years were 48.9%; and 31-37 years were 47.7%. The highest income level achieved by respondents highlighted that range of income RM2,001 to RM5,000 were 78.4% followed by RM5,001 to RM8,000 were 15.9%; below RM2,000 were 5.7% and none for income above RM8,001. Table 1 highlights the reliability analysis results which states that financial literacy has a value of 81.2%; self-control is 79.6%; peer influence is 82.9% and saving behaviour is 78.6%. Cronbach's Alpha is used to test the reliability of the questionnaire. From this test, the alpha level that more than 0.9 is considered as excellent reliability, from 0.8 until 0.9 is very good

reliability, from 0.7 until 0.8 is considered as good reliability, from 0.6 until 0.7 is considered as moderate reliability, less than 0.6 will be consider as poor reliability(Geoge & Mallery, 2003).

Table 1: Reliability Analysis Result

Variables	Cronbach's Alpha	No. of Items
Financial Literacy	.812	5
Self-control	.796	5
Peer Influence	.829	5
Saving Behaviour	.786	5

Table 2 highlights the Pearson Correlation Coefficient between income level, financial literacy, self-control and peer influence towards saving behaviour. Pearson Correlation Coefficient investigates the factors including income level, financial literacy, self-control and peer influence that effect the dependent variable which is saving behaviour. This analysis is also used to test the strength of the two numerical data variable relationship with single number. Range +1 indicates perfect positive relationship or two variables are precisely related vary in the same direction. While -1 indicates perfect negative relationship or two variables vary in the opposite side. If 0 means no linear relationship between two variables (Field, 2009).

Table 2: Pearson Correlation Coefficient Result

	Saving Behaviour
Income Level	Insignificant
Financial Literacy	Significant
Self-control	Significant
Peer Influence	Significant

In Table 3, the results of the Multiple Linear Regressions analysis showed a significant relationship for all the three hypotheses tested. The relationship between financial literacy, self-control and peer influence were significantly related to saving behaviour. It can be concluded that H2, H3 and H4 were accepted in this study. Meanwhile, there is no relationship between income level and saving behaviour as the significant value was 0.244 which is higher than 0.05. Hence, H1 will be rejected.

Table 3: Multiple Linear Regression Result

	Unstandardized Coefficients		t	Sig.	
	B	Std. Error			
(Constant)		3.030	.441	6.865	.000
Income Level		.104	.089	1.169	.244
Financial Literacy		.156	.075	2.077	.039
Self-control		-.332	.061	5.415	.000
Peer Influence		.292	.055	5.321	.000

DISCUSSION AND CONCLUSION

Based on the result obtained, income level has no significant relationship with saving behaviour of Gen Y women educator in Perak state ($p > 0.05$). This finding shows Gen Y women educator deemed to spend their income rather than saving it. It is found to be consistent with the study of Bashir et al. (2013); Muradoglu and Taskin (1996) which income level has negative significant relationship to saving behaviour in the regression analysis. According to the generated result, it shows a relationship between self-control and saving behaviour with a significant value of $p < 0.05$. This is similar to the findings of Thung et al. (2012); Esenvalde (2011); Otto (2009) that self-control are positively related to saving behaviour. All these evidences indicate that self-control was an important factor in saving behaviour. The result for

the other two independent variables which are financial literacy and peer influence showed a significant relationship with saving behaviour. This results consistent with previous studies (Thung et al., 2012; Delafrooz & Paim, 2011; Sabri & MacDonald, 2010).

This study has contribute reliable information in regard to the extent of understanding the relationship between independent variables of income level, financial literacy, self-control and peer influence towards saving behaviour of Gen Y women educator in Perak state. This study also can contribute to use as a tool to create financial awareness among Gen Y women educator to enhance their personal finance. Besides that, this study could provide financial planners to give financial advice for higher bankruptcy problem. For future research, a bigger geographical area should be targeted to gather more information from different states and also different field such as health industry to gather more perspectives.

REFERENCES

- Ahmad, N. W., Yunus, M. M., Baharudin, N. A., Johari, N. & Ripain, N. (2015). Determinants of Saving Behavior among Staff in International Islamic University College Selangor. *First International Conference on Economics and Banking*, 239 – 245.
- Awang, Z. (2012). *Research Methodology and Data Analysis*. (2nd ed.). Malaysia: UiTM Press.
- Ayewew, W. (2014). The Determinant of Saving Behavior of Women's in Urban Ethiopia: In Case of Arba Minch Town. *Developing Country Studies*, 4(21), 130 – 139.
- Bashir, T., Hassan, A., Nasir, S., Baber, A. & Shahid, W. (2013). Gender Differences in Saving Behavior and its Determinants: Patron from Pakistan. *IOSR Journal of Business and Management*, 9(6), 74 – 86.
- Bauer, S (2010). The Importance of Saving Money: Hows and Whys. *The News-Gazette*. Retrieved from <http://www.news-gazette.com/sports/illini-sports/tennis/2010-01-24/importance-saving-money-hows-and-whys.html>.
- Bazhenova, V. O. & Krytsun, K. I. (2013). The Modigliani-Oddo-Brumberg Life Cycle Model: Applying to Ukraines Economy. *Ekonomika*, 92(4), 73 – 75.
- Beckmann, E. (2013). Financial Literacy and Household Savings in Romania. *Numeracy*, 6(2), Article 9.
- Beshears, J., Choi, J. J., Laibson, D., Madrian, B. C. & Milkman, K. L. (2015). The Effect of Providing Peer Information on Retirement Savings Decisions. *Journal of Finance*, 70(3), 161 – 120.
- Deaton, A. (2005). *Franco Modigliani and the Life Cycle Theory of Consumption*. Presentation, Princeton University.
- Delafrooz, N. & Paim, L. H. (2011). Determinants of Saving Behavior and Financial Problem among Employees in Malaysia. *Australian Journal of Basic and Applied Sciences*, 5(7), 222 – 228.
- Elangkovan, K. & Ahmed, R. A. L. (2013). Bankruptcy: A Natural Phenomena Being Attacked on Malaysians. *International Journal of Humanities and Management Sciences*, 1(1), 74 – 76.
- Esenvalde, I. (2011). *Psychological Predictors of Savings Behavior: Contrasting the Impact of Optimism and Burnout on Self-control, Achievement Motivation and Savings Behavior*. A Dissertation Presented to the Faculty of the Marshall Goldsmith School of Management Alliant International University.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Ferrouhi, E. M. & Lehadiri A. (2014). Savings Determinants of Moroccan Banks: A Cointegration Modeling Approach. *International Journal of Innovation and Applied Studies*, 9(2), 968 – 973.
- Field, A. P. (2009). *Discovering Statistics Using SPSS*. (3rd ed.). Los Angeles: Thousand Oaks, SAGE Publications.
- Gedela, S. P. R. (2012). Determinants of Saving Behavior in Rural and Tribal Households: An Empirical Analysis of Visakhapatnam District. *International Journal of Research in Social Sciences*, 2(3), 108 – 128.
- George, D. & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference*. 11.0 Update. (4th ed.). Boston: Allyn & Bacon.
- Huston, S. J. (2010). Measuring Financial Literacy. *The Journal of Consumer Affairs*, 44(2), 296 – 316.
- Letkiewicz, J. C. (2012). *Self-control, Financial Literacy and the Financial Behaviors of Young Adults*. A Dissertation Presented to the Graduate School of the Ohio State University.
- Mahdzan, N. S. & Tabiani, S. (2013). The Impact of Financial Literacy on Individual Saving: An Exploratory Study in the Malaysian Context. *Transformations in Business & Economics*, 12(1), 41 – 55.
- Modigliani, F. & Brumberg, R. (2005). The Life-Cycle Hypothesis. *The Collected Papers of Franco Modigliani*, 6, 4.
- Muradoglu, G. and Taskin, F. (1996). Differences In Household Savings Behavior: Evidence From Industrial and Developing Countries. *The Developing Economies*, 34(2), 138 – 153.
- Otto, A. M. C. (2009). *The Economic Psychology of Adolescent Saving*. A Dissertation Presented to the Faculty of the University of Exeter.
- Prinsloo, J. W. (2000). The Saving Behaviour of the South African Economy. *Occasional Paper*, 14.
- Remund, D. L. (2010). Financial Literacy Explicated: The Case for a Clearer Definition in an Increasingly Complex Economy. *The Journal of Consumer Affairs*, 44(2), 276 – 295.
- Sabri, M. F. & MacDonald, M. (2010). Savings Behavior and Financial Problems Among College Students: The Role of Financial Literacy in Malaysia. *Cross-cultural Communication*, 6(3), 103 – 110.
- Seifert, B. & Gonenc, H. (2015). Channels of Cash Savings: International Evidence. *Review of Behavioral Finance*, 7(2), 134–150.
- Seong, L. C., Kai, S. B. & Joo, G. G. (2011). The Analysis of Psychological Factors Affecting Savers in Malaysia. *Middle Eastern Finance and Economics*, 12, 77 – 85.
- Subhamv & Priya, P. S. (2016). A Study on Factors Affecting Savings Behaviour of Gen Y. *Asian Journal of Research in Social Sciences and Humanities*, 6(7), 1627 – 1636.
- Te'eni-Harari, T. (2016). Financial Literacy Among Children: The Role of Involvement in Saving Money. *Young Consumers*, 17(2), 197–208.
- Thaler, R. H. (1999). Mental Accounting Matters. *Journal of Behavioral Decision Making*, 12, 183–206.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

Thung, C. M., Kai, C. Y., Nie, F. S., Chiun, L. W. & Tsen, T. C. (2012). *Determinants of Saving Behaviour Among the University Students in Malaysia*. Final Year Project, Universiti Tunku Abdul Rahman.

Zaminor, Z., Azila, J., Siti Zamanira, M. Z. & Che Rusuli, M.S. (2016). Consumers' Credit Card Bankruptcy: Cause and Effect. *International Business Management*, 10(18), 4332–4335.

Local Case Study: Dream to be the Empire of Mini Mart

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Abstract

The Malaysia's retail industry had begun to change since 1990s due to the stationed of multinational retailers like Makro, Carrefour, Tesco and Giant. In the past decades, grocery retail model has transformed gradually from traditional mode to modern mode such as supermarket, hypermarket and convenience store or mini-mart. The traditional grocery market like wet market is still actively operating, while the modern grocery retailer is also grasped the opportunities to expand the new concept of grocery retail business across the urbanized cities with adoption of rapid penetration strategy. This modern grocery mode led to greater demand for providing better shopper experiences. For instance, the new type of grocery retail store is able to provide better environment, price as well as the quality of products and services. In year 1980s, a visionary and extraordinary entrepreneur (Mr. Lee Thiam Wah) has started his dream with little savings and opened up a traditional sundry shop successfully. Prior to the transformation of modern grocery retail model, he is resolutely decided to abandon the conventional business model and set up his first 99 mini-mart. With his 30 years of hard works and persistence, the company is now owned a total of 1000 outlets in Malaysia. This case study will expound on how Mr. Lee overcomes his weaknesses and how Mr. Lee to have such courage to face all the severe challenges in order to realize his dream.

Keywords: Modern Grocery Retail Model, 99 Speedmart, Leadership, Convenience Store, Strategies

INTRODUCTION

The entire Malaysia's retailing industry was started since pre-independence, approximately during late of 19th century after the arrival of British colonist (Zainal, 1989). During that time, most of the population still lived in the rural areas, they were self-sufficient. The feasibility and convenience of transportation were not well-developed. Nevertheless, after the first railway line started to operate in Perak, the economy and social structure begun to change. The consumers' demands for necessities were suddenly increased. Numbers of entrepreneurs grasped the opportunity involved in opening small retail shops in high population density places especially in those urban areas where close to the tin and rubber industries.

Most of the small retail shops were ran by Chinese traders. By late of 1950s, the traditional grocery market like wet market started to change the public purchasing grocery's behavior. The wet market is selling assorted products like fresh fish, vegetables, sea foods and etc. Most of the stalls were ran in family business mode. All the stalls were located under a building and we called it as market (Pasar) today. It became the main retail line in Peninsular Malaysia for approximately 40 years. During this period, some of the families extended their businesses into the shop as sole proprietor like grocery shop and sundry shop. These conventional grocery retail shops have delivered another type of convenience to the residents. It comprised of all daily necessities which could be easily accessed by consumers here. Gradually, it changed the retail method in business lifestyle and the overall social structure.

BEGUN of DREAM

Mr. Lee Thiam Wah, the founder of 99 Speedmart started his venture during the age of 23, he commenced his business career with a conventional sundry shop named Pasar Raya Hiap Hoe in Tepi Sungai Klang, Selangor with his hard-earned savings throughout years as his start-up capital which amounted RM 17,000. Mr. Lee is born in the year of 1964, he came from a family of fourteen siblings. His father was worked as a construction worker and his mother as a hawker who worked days and nights for the family. Although Mr. Lee was not born with a silver spoon in mouth, his whole family was all satisfied with their lives and lived happily during his childhood. At the age of 8 months old, Mr. Lee was unluckily been diagnosed struck of poliomyelitis which is an infantile paralysis after a high fever. However, the family has never gave up on the treatment, they tried everything they could to cure him, even with the strong aids and supports from his grandparents and relatives, Mr. Lee was brought to Guangzhou, China for traditional acupuncture treatment, nevertheless it did not reveal any positive improvements over the disease.

The outcome of treatment did not turn off the light of hope in the family, but they accepted what the destiny has decided with an optimistic mindset. As Mr. Lee ever mentioned in an interview, a person's belief determines everything in life, although he is crippled, it does not mean he cannot pass his life, life goes on, he has the wheelchair as his feet which also made him pass life as like others in the society, he has no difference with others. Mr. Lee has decided to stop his studies for secondary school due to the long distance to school and he does not want to burden his family from sending him to and fro. Though with just a six years of primary school education, Mr. Lee has never stop in his learning, he decided to self-study at home and started to do something he wished to achieve in his life which is start up his own business. He started with selling sweets, peanuts and snacks in a roadside stall. Since thereon, he earned his own income for living and progressively accumulated funds for his future ventures.

Along with Mr. Lee's strong commitment, high concentration and sheer persistence in creating his own career, he founded his first sundry mart at the age of 23. The official first grocery store with the name of "99 mini-market" established in Klang Utama, Selangor during the year of 1992. During that time, he was some who were pioneering to taken a risks transform the traditional grocery mode to the modern grocery mode with provided customers new shopper experiences such as provide better environment, price as well as the quality of products and services. By 1998, he has set up 8 retail chain stores in Klang. In year 2000, the company was rebranded to "99 SpeedMart" and the color of the logo was transformed to the current orange and green. After several years of operations, the company has developed its own system of operation, all the products have been packed in such a way that allow customers to get what they want speedily. The company's name reflects Mr. Lee's personal values and philosophy in life. The number "99" emerge as the company's name as it denotes nothing is perfect in this world, but they will do the best in order to be almost perfect (99%). Besides, number "99" also motivate Mr. Lee to work harder as there are always rooms for further improvements.

Today's 99 Speedmart as one of the Malaysian's fastest growing sundry mart chains has its operations well established nation-wide for more than 30 years. With the founder's visionary views and company's ambitions in attaining consumers' needs for groceries and daily used products with great values and affordable price at their utmost convenience. The company has also successfully grabbed themselves the competitive advantage of economies of scale through bulky purchased of products with lower cost of procurement in the market. This rising grocery mini-mart chain that committed to offer and deliver consumers with more than 3,500 types of quality products and services, time saving as well as money saving values in current inflationary economic condition has its humble beginning during the year of 1987. And here he goes, his empire keeps growing and expanding in the country, they are making it the 1000th stores in the country-wide as of September 2017.

CHALLENGES

In 1990s, the establishment of new grocery retail mode like supermarket had rapidly expansion in Klang Valley area. It became a new trend and shopping experiences for the consumers. During the time, a lot of giant shopping centres had been developed such as Yao Han, The Mall, Lot 10, Sogo, Sungei Wang, and Subang Parade. At the same period, the hypermarket concept also started adopted into Malaysia's grocery retail business, Makro and Carrefour were the pioneering in Malaysia, followed by Giant, Econsave, Tesco and Jusco. These evolutions had brought critical impacts on mini-mart, traditional grocery shop and convenient shop. The supermarkets and hypermarkets would offer better choices and variety foods and non-foods products to consumers in "one shop centre". Another concerned for the mini size grocery retailer was the product's price, supermarket and hypermarket would be offered more competitive price due to the volume order from the suppliers and vendors. To overcome these challenges, 99 Speedmart posted that " We strive to provide customers an 'ideal shopping environment' that incorporates with the elements of time and money saving. Therefore, the slogan "NEAR' n SAVE" is created to reflect the unique value provided to customers. Back by the aspiring vision, 99 Speedmart strive to provide a wide variety of basic and functional necessity goods, around 3,500 types to consumers with most affordable price which is competitive to pricing of larger size retailers. In line with the slogan, the location of outlets commonly situated at neighborhood business activity centers that is easily accessible and with sufficient parking space. The unique location proposition reduces hassle and save customers' time and travelling cost. 99 Speedmart also has outlet presence in cities, towns, sub-urban residential areas with reasonable population density. According to Mr. Lee, neighborhood with a population of 2000-3000 residents, 99 Speedmart will consider as suitable location for opening an outlet. In facts, prior opening every outlets, 99 Speedmart would do survey and research in respective areas with their purchasing power, numbers of family, competitors and etc. It was to ensure that 99 Speedmart can sustain and success their business for long term in this location.

Meanwhile, 99 Speedmart tend to provide lower price in respective products, some of it even cheaper than supermarket and hypermarket offered price. To sustain as low cost strategy, 99 Speedmart practices centralize purchasing where purchase-orders are issued from the purchasing department in headquarter and delivery will be directed to the six distributing centers that serve the designated outlets nationwide. Centralized purchasing enables 99 Speedmart to achieve optimum economies of scale via bulk purchases, aiming at achieve lower administrative cost and cost of purchases. In further, cost reduction is targeted by leveraging on an efficient supply chain supported by fully-integrated distribution centres working in synergy with an advance logistic system with more than 250 trucks and lorries, thereby achieving increased efficiency. Mr. Lee also maintains good relationship between their vendors and suppliers especially in payment process. In facts, most of the big stores are procrastination with their payments. However, to get good discounts in negotiating price, 99 Speedmart always uphold honest and strong trade reputation. Thus, most of the vendors are willing to deal with them.

In this highly competitive market, 7-Eleven Malaysia and KK SuperMart are the fierce competitors to the 99 Speedmart. Each of them has their strength in the market. For instance, 7-Eleven Malaysia had their strength in location advantages and number of stores while KK Supermart had dominated most strategic places in Klang Valley as well. Both of them are operating 24 hours per day. To avoid direct compete with the KK Supermart in Klang valley, Mr. Lee was expanding his mini-mart empire across the nation from Perak to Johor as well as Sabah. He wishes that 99 Speedmart could serve in most of the residential areas across the country, in order to bring the convenience, proximity and lower price to them. According to Mr. Lee, during the economy down turn especially in 1997 financial crisis, business did not have critical impacts on it. It was because, most of their operation costs was funded from sales instead of bank debt. To overcome this transition period, Mr. Lee adheres to lower down company's profit margins and maintain their lower price as much as possible to serve to consumers.

According to him, supermarket and hypermarket had provided too many choices and brands on each product. From business perspective, cost will be a burden to the organization. In 2006, 99 Speedmart signed a strategic alliance agreement with AC Nielsen. Upon the

partnership, AC Nielsen provides 99 Speedmart with a wide range of easy-to-access reports through ACNielsen Retailer Advisor personal software. In return, ACNielsen was able to access to 99 Speedmart point-of-sales (POS) data to assist its data analysis. The alliance will assist 99 Speedmart's management in their future business expansion plans and overall strategy crafting and creation by leveraging ACNielsen's Retail Index service that providing market trends and relevant industry information as well as customer's purchasing information. Therefore, through the analysis, 99 Speedmart will base on higher turnover products and most popular brands to do respective promotion. Due to the space limitation and cost consideration, for instance, 99 Speedmart will allocate the higher turnover products at conspicuous place and choose the top three brands for each product to sell in the outlets only. According to Mr. Lee, to gain the market share and built up own reputation was not the easier process, he recalled back that when operating for first mini-mart, they even sacrificed some products profit margin to sell at lowest price to attract the customers.

In year 2008, 99 Speedmart achieved 100th outlets establishment in Malaysia. However, with the capable and dedicated management team, the business had rapidly growth and expansion. Afterwards, with less than 10 years, 99 Speedmart had been achieved their 1000th outlet in 2017 across the nation. They are planning to expand 16 outlets per months and recruit approximately 160 new employees to support their expansion. To date, 99 Speedmart had over 10,000 employees are servicing with them. The HR is playing in important roles for providing them appropriate training and related knowledge, in order to help them to adapt the working environment and fit to the responsible position. To minimize the employee's turnover rate, 99 Speedmart had provided different types of benefits such as commissions or bonus. According to Rathakrishnan, Ng and Tee (2016), appropriate benefits can increase employee's motivation and working efficiency, meanwhile can reduce employee turnover intention.

CONCLUSION

Ultimately, 99 Speedmart leverages its efficiency in supply chain management and warehousing, unique selling proposition and human capital in achieving competitive advantages and continuous growths. As of the early of September 2017, 99 Speedmart is going to welcome their 1000th outlet in Malaysia. With its sheer and strong market expansion, the Forbes Asia has named Mr. Lee as the Malaysia's King of Mini-Marts, although this title has been verbally declined by the founder, Mr. Lee via an interview, nevertheless the great achievement of mini-mart empire is still undoubtedly created by this successful entrepreneur in his motherland.

REFERENCES

- Rathakrishnan, T., Ng, S. I., & Tee, K. K. (2016). Turnover intentions of lecturers in private universities in Malaysia. *Pertanika Journal of Social Sciences & Humanities*, 24 (S), 129-146.
- Zainal A. A. W. (1989). *Persidangan antarabangsa tamadun melayu ke-II*. Universiti Kebangsaan Malaysia, Malaysia.

Leadership and Management Commitment Towards Logistics Performance Improvement in Malaysia with the Adoption of Green Logistics as the Moderating Variable: A Conceptual Study

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Abstract

This study is to look into the leadership and management commitment of logistics service firms in Malaysia towards improving their logistics service performance by adopting the green logistics practices. As concern for many environmental issues that arises nowadays, logistics service firms must look more seriously of the logistics associated external costs mainly with the climate change, air pollution, noise pollution, land use, vibration, accidents and wastes. Apart from reducing the logistics costs as their focus, the world is concern about the issue of climate change and the increasing of carbon dioxide (CO₂) emission from the operations of various transportation modes, especially on the road freight. Several researches conducted over a decade found out that human activities are releasing huge amounts of greenhouse gases into the atmosphere which had increase the greenhouse effect and warming the climate. In facing global warming and limited amount of energy resources, initiatives on green saving and low carbon emission of road transport service are among the major policy objectives that need to be implemented in Malaysia. Considering these externalities not only help the logistics service firms to reduce their operational costs but also helps to keep the globe green. The logistics services provided must be able to satisfy customer's demand and most importantly, to come out with better solutions and new ideas to cope with the pace evolution in the manufacturing industry. This study adds to the existing literature by explaining conceptually the linkage between leadership and management commitment towards logistics performance improvement by adopting the green logistics practices.

Keywords: Leadership and Management Commitment, Logistics Performance, Green Logistics

INTRODUCTION

Many of the logistics service firms in Malaysia do not understand or realize the value of adopting green logistics practices as their main focus is only maximizing their overall profit in order to expand the business and to compete with other competitors. Majority of the firms have a thinking that adopting green logistics will increase their operational costs, without considering the benefit that can be gained from its implementation. During economic instability, many logistics service firms especially those under the category of small and medium enterprises (SME) need to ensure that their firms can continue surviving. As such, many firms have presumed that adopting green logistics practices created certain percentage of additional costs. Leadership and commitment from the top management also play an important element to determine whether firms willing to implement green logistics practices. Hsu and Hu (2008), in their study shown that the encouragement made by the top management of the firms through giving an appropriate rewards, has contribute to employee's willingness to learn, provide help and support to each other when facing problems related to green logistics.

Transportation is the most visible aspect in the supply chains, with respect to the environment. Transportation CO₂ emissions amount to some 14% of total emissions, both at global and European Union (EU) level (Stern, 2006; EEA, 2011). Transportation is also a main source for nitrogen oxide (NO_x), sulphur dioxide (SO_x), and PM (particulate matter or fine dust) emissions. Within transportation there is a large stream of papers identifying the shipper's preferences with respect to the different transportation characteristics, such as cost, quality, and

speed. First of all, the bigger the transport unit in the same mode, the fewer the CO₂ emissions per g/t/km, under fixed utilization loads. When comparing transport modes, it is observed that water can easily carry heavy loads, hence water transport is CO₂ efficient, that rail is more efficient than trucks and a Boeing 747, though being a large plane, is not at all CO₂ efficient when compared to the other modes. The modes do not differ much in SO_x emissions, except for the Boeing which clearly emits much more. Ships are responsible for high NO_x emissions whereas trucks and diesel rail are relatively clean compared to other modes. Finally the figures for particulate matter or fine dust (PM) do not differ much; here it depends very much on the particular engine type and whether soot filters are applied. Table 1.0 below illustrate comparison of emissions between equipment types in several modes.

Table 1.0 Energy use and emissions for typical transport units of different modes

Energy use/emissions g/t/km	PS-type container vessel (11,000 TEUs)	S-type container vessel (6,600 TEUs)	Rail-electric	Rail-diesel	Heavy Truck	Boeing 747-400
kWh/t/km	0.014	0.018	0.043	0.067	0.18	2.00
CO ₂	7.48	8.36	18	17	50	552
SO _x	0.19	0.21	0.44	0.35	0.31	5.69
NO _x	0.12	0.162	0.10	0.00005	0.00006	0.17
PM	0.008	0.009	n/a	0.008	0.005	n/a

Source: The Network for Transport and the Environment (2011)

Road transport is the largest contributor of emissions, although significant emission reductions have been achieved in recent years. The EU has set standards for NO_x, SO_x and PM emissions for trucks. As a result, trucks meeting the highest standard to date (Euro V) are much cleaner than most ships and trains. Many goods shipped through intercontinental chains are shipped nowadays in containers. The land part of such a chain occurs by truck, rail or inland barge. The rise of new (inland) container terminals to facilitate inland ship-rail-road combinations can save thousands of truck kilometers in congestion sensitive areas and thus reduce the environmental impact. The downside of intermodal transport is that it requires more coordination than single mode transport. Modern gasoline is cleaner compared to old gasoline. In the nineties and the first decade of the 21st century, refineries focused on removing lead additives from gasoline, so that the air quality would be better. Biofuels based on corn or on organic waste can easily be mixed with standard gasoline. However, more extensive use requires adapting engines, which is quite expensive. About 31% of all the US produced corn is fermented into ethanol to fuel cars. The total amount of fossil fuels used in the process to produce biofuel is not much less than the total amount of biofuel produced. Electric vehicles are environmentally friendly since their engines have almost no emissions and emissions in electric power stations can be controlled. However, they have a limited range, so for goods transport they require a change in operation with possible intermediate goods transshipment. Most distribution centers operate electric equipment like fork lift trucks because there are no direct emissions involved (McKinnon et al., 2010) and distances are short. Yet in container terminals where distances are long and the equipment has to cope with environmentally difficult conditions (short trips, many starts, etc.) diesel-fueled equipment is mostly used. Internal transport is therefore also an important driver for emissions and it is good for the environment if these can be reduced.

LITERATURE REVIEW

The Fiedler Contingency Theory

The Fiedler Contingency Theory of leadership was proposed by the Austrian psychologist, Fred Edward Fiedler in 1964 on the article of effective leadership. The theory emphasizes on the importance of both the leader's personality and situation in which the leader operates. It states that when managers make a decision, they must take into account all aspects of the current situation and act on those aspects that are key to the situation at hand (Ouma and Wanyoike, 2015). This approach is a continued effort to identify the best leadership

or management style and it conclude that the best style depends on the situation. For example, if one is leading a hospital, university or such like an organization, a more participative and facilitative leadership style is probably best. This is because the top management will be required to involve with all relevant employees to understand the current related issue which needs to be addressed in order to comply with either government legislation or international convention requirements. Currently, organizational processes and activities have adverse effects to environments hence should continue clean in order to reduce the environmental degradation and CO₂ emissions. Managers' decisions therefore must be seen to be promoting green logistics management. For this reason, management decisions seem to play a role towards policy implementations in firms. Due to these argument, management support play serious role in the firms on the implementation of green logistics practices. To achieve this, the decisions that the top management makes will have to take into consideration of promoting green logistics implementation and to integrate the employees on the needs and the importance of green logistics practices to the environment.

Leadership and Management Commitment

Robbins, DeCenzo and Coulter (2015) defined leader is someone who can influence others and who has managerial authority. Leadership is what leaders do. It's a process of leading a group and influencing that group to achieve its goals. More firms are using work groups, therefore, the role of the leader in guiding group members has become increasingly important. The role of group leader is found to be different as compared to the traditional leadership role, as discovered by J. D. Bryant, a supervisor at Texas Instruments' Forest Lane plant in Dallas. Many leaders are not equipped to handle the change to employee groups. The challenge for many managers is learning how to become an effective group leader. They have to learn skills such as patiently listening and sharing information, being able to trust others and to give up authority and understanding when to intervene. An effective group leader have mastered the difficult balancing act of knowing when to leave their groups alone and when to get involved. New group leaders may try to retain too much control at a time when group members need more autonomy, or they may be abandon their groups at times when the groups need support and help. Daily and Huang (2001) stated that senior managers support can affect the success of green practices by human resource management actions such as compensations, education and improved communication.

Logistics Performance

Dekker, Bloemhof and Mallidis (2012) stated that an important element in the use of optimization for the environment is the use of metrics. Through metrics, the environmental effect is made clear and different alternatives can be compared. The measurement of emissions as one of the most important ways to estimate environmental impact (Aronsson and Hüge-Brodin, 2006). Moreover, metrics can also be used in the transfer of goods and services in a supply chain as they indicate the environmental effect of each supply chain party. An important example of such metric is a CO₂ calculator which determines the amount of emissions for all transports a company has made. Hervani, Helms and Sarkis (2005) identifies a selected list of other metrics that range from atmospheric emissions to energy recovery. They examine measures for on and off-site energy recovery, recycling and treatment, spill and leak prevention and pollution prevention. Top management focus on the importance of green supply chain management (GSCM) performance management, as well as the corresponding measurement, assessment and rewards at all levels will reinforce their importance. Hervani et al. (2005) added that in other process implementations, use of suggestion systems, corporate internal communication and championing of green practices are necessary to reinforce the importance. According to Carvalho and Cruz-Machado (2009), among the green tools/practices that could be applied such as efficiency of resources consumption, reduction of redundant and unnecessary materials, waste (energy, water, raw materials and non-product input) minimization, reduction of transportation lead time, reduction of replenishment frequency, integration of the reverse material and information flow in the supply chain, environmental risk sharing. The adoption of green logistics practices will increase firm's value of delivery to customers. Lai and Wong (2012) identified that implementing green logistics management such as internal general environmental management practices can improve manufacturers' operational performance such as product quality and delivery aspects such as lead time. By practicing green logistics, firms can distinguish itself from the competitors, target new groups of customer and open the opportunity to tap into new markets.

Green Logistics

Seuring and Muller (2009) defined green logistics, “is an effort to measure and minimize the environmental impact of logistics activities, these activities including a proactive design for disassembly”. Sbihi and Eglese (2010) defined “green logistics is concerned with producing and distributing goods in a sustainable way, taking account of environmental and social factors.” In this modern era, environmental challenge becomes a sensation in the logistics industry. Business society are considered to be the main source of most of the environmental problems. Traditionally, it is observed that sourcing, manufacturing, logistics, operations and marketing were main green practise adopters. According to Gunjal, Nalwade, Dhondge, Ingale and Patel (2015), green Logistics is a logistics activity that aimed to reduce pollution of the environment and consumption of resource, using of advanced logistics technology planning and implementation of transport, storage, packaging, handling, processing and distribution. It is an effective and efficient flow of goods that connecting the main green supply and the main green demand to overcome the obstacles between space and time and green services activities in the process of economic management which also known as environmental logistics. Green logistic emphasize on implementation of green concepts in every single approach of logistics and its allied service sectors. Use of information technology will definitely boost the ease while implementing concept of green logistics. According to Lin and Ho (2011), logistics service firms play a significant role in every aspect of their logistics services offered, including the practice of green logistics to preserve environmental sustainability. The logistics core activities are focusing on transportation and warehousing activities. These lead to the increasing number of logistics service firms converting their operations and strategies to be more effective from a green perspective (Jumadi and Zailani, 2010). According to International Transport Forum (ITF, 18-20 May 2016, Leipzig, Germany) the environmental concerns in the transport and logistics service sector have become more rigorous and dominant due to the demand for goods that has grown dramatically in recent decades activities. The newly developed Sustainable Development Goals (SDG) for the period 2015-2030 focusing on reducing CO₂ emissions in the transportation sector is essential in confronting climate change. If no action is taken, CO₂ emissions from the transportation sector will double by 2050.

Leadership and Management Commitment

Leadership and management commitment is one of the important element to be examined towards improving firm’s logistics performance via the adoption of green logistics. According to Zhu and Sarkis (2007), the success of any plan always depends on the support and commitment given by the top management. If none or low support is given by the leader and top management, firms will be in difficult situation to implement the green logistics practices and obviously, impossible to gain the success. According to Bennis (1989) the primary difference between leaders and managers is that leaders are concern with doing the right thing, while managers are concerned with doing things right. Leaders focus on vision, mission, goals and objectives, while managers focus on productivity and efficiency. Managers see themselves as preservers of the status quo, while leaders see themselves as promoter of change and challengers of the status quo, in that they encourage creativity and risk taking. Another difference is that leaders take a long term view while managers have a relatively short term perspective. Leaders are more concerned with expanding people’s choice and options, while managers are concerned with control and limiting the choice of others (Zaleznik, 1983). Managers also solve problems so that others can do their work, while leaders inspire and motivate others to find their own solutions. Finally, managers are also concerned with means, how to get things done, while leaders are more concerned with ends, what gets done. The differences between leaders and managers could be summarized as Table 2.0 below.

Table 2.0: Differences between leaders and managers

Leaders	Managers
Do the right things	Do things right
Change	Status quo
Long term	Short term
Ends	Means
Architects	Builders
Inspiring and motivating	Problem solving

Source: Bennis, W (1989)

Leadership Role

Although there are many differences between leaders and managers, however, the firms need both of them. Leaders are critical to inspire the employees and to set the future direction of the firms and managers are critical to ensure that the day-to-day operations of the firms are running smoothly and efficiently. The role of leadership as mentioned by Olson (2008) with regards to green strategy can be classified into four areas as below;

- (i) *Aware* - senior executives create priorities, guiding principles and governance for the managers to apply and make operational decisions that aligned with the green strategy and it should be everyone's responsibility.
- (ii) *Developing* - sponsor pilots for significant, visible investments with a key green component.
- (iii) *Practicing* - sponsor a broad range of initiatives that integrate green principles with traditional business value.
- (iv) *Optimizing and leading* - support and institutionalize continuous improvement.

Leadership Traits

Trait theory is a way to describe who leaders are. Traits are relatively stable characteristics such as abilities, psychological motives or consistent patterns of behavior. For example, trait theory holds that leaders are taller and more confident and have greater physical stamina i.e. higher energy levels than non-leaders (Williams, 2011). According to Kirkpatrick and Locke (1991) and Judge, Bono, Ilies and Gerhardt (2002), traits that associated with leadership can be grouped into 7 areas;

- (i) *Drive* - leaders exhibit a high effort level. They have a relatively high desire for achievement, they are ambitious, they have a lot of energy, they are tirelessly persistent in their activities and they show initiative.
- (ii) *Desire to lead* - leaders have a strong desire to influence and lead others. They demonstrate the willingness to take responsibility.
- (iii) *Honesty and integrity* - leaders build trusting relationships with followers by being truthful or non-deceitful and by showing high consistency between word and deed.
- (iv) *Self-confidence* - followers look to leader who don't self-doubt. Leaders therefore, need to show self confidence in order to convince followers of the rightness of their goals and decisions.
- (v) *Intelligence* - leaders need to be intelligent enough to gather, synthesize and interpret large amounts of information and they need to be able to create visions, solve problems and make correct decisions.
- (vi) *Job relevant knowledge* - effective leaders have a high degree of knowledge about the company, industry and technical matters. In depth knowledge allows leaders to make well-informed decisions and to understand the implications of those decisions.
- (vii) *Extraversion* - leaders are energetic and lively people. They are sociable, assertive and rarely silent or withdrawn.

Leadership Behaviors

House and Mitchell (1974) identified four different types of leadership behaviors that could be explained as below:

- (i) *Directive leader* - leadership leads to greater satisfaction when tasks are ambiguous or stressful than when they are highly structured and well laid out. The followers aren't sure what to do, so the leader needs to give them some direction.
- (ii) *Supportive leader* - leadership results in high employee performance and satisfaction when subordinates are performing structured tasks. In this situation, the leader only needs to support followers, not tell them what to do.
- (iii) *Participative leader* - leaders will consult with group members and uses their suggestions before making a decision.
- (iv) *Achievement Oriented leader* - leadership sets challenging goals and expects followers to perform at their highest level.

Leadership Actions

Research shows that the path to achieving faster, more effective execution is not the complicated one most people might think of. It's not primarily a matter of installing more efficient (expensive) technology systems, nor is it a matter of dragging the firm through lengthy (expensive) process re-engineering efforts. Rather, it's a matter of ensuring that every leader in

the firm has the skills and the mindset necessary for mobilizing people in service of the initiative. Davis (2011) found seven leadership actions that predict faster, more effective execution of strategic initiatives and projects. Successful leaders take these actions both when they launch an initiative and repeatedly throughout its life:

- (a) *Increase clarity*
 - (i) Describe the what, why, who, how, when, and where of the initiative.
 - (ii) Craft relevant messages about the initiative that communicate its importance and value.
- (b) *Foster unity*
 - (iii) Communicate about the initiative in a compelling way.
 - (iv) Create opportunities for others to engage in dialogue about the initiative.
 - (v) Involve people in shaping the execution plan.
- (c) *Promote agility*
 - (vi) Build into the execution plan opportunities to assess progress, identify obstacles, and correct course as necessary.
 - (vii) Take steps to reduce the impact of unanticipated events on execution.

Leadership's role, traits, behaviors and actions are equally important that could help the leaders and top management of the firms to act and make wise decisions pertaining to green logistics practices.

Logistics Performance Improvement

The focus of green paradigm is more on sustainable development and the reduction of ecological impact of industrial and commercial activities through the elimination of resource waste and pollution (Dues, Tan and Lim, 2013). Replenishment frequency need to be reduced in order to reduce the fuel consumption and CO₂ emissions. The benefits gained from the adoption of green logistics practices is the logistics performance improvement which could be assessed below;

Waste Reduction

Waste reduction as targeted by green logistics practices is more focusing on environmental wastes in the form of inefficient resources use or production of scrap (Carvalho and Cruz-Machado, 2009; Mollenkopf et al., 2010). Inventory, transportation and the production of by-products or non-product output, for example, are wastes according to the green logistics practices. Holding excessive inventory means additional risk to the firms which could expose to pilferage, damage or shrinkage. Additionally, inventory requires storage space that needs to be lighted and heated or chilled, which is considered waste from an environmental point of view (Franchetti et al., 2009). According to Srisorn (2015) warehouse management process such as recycled packaging, moving goods in to warehouse, tramp transporting goods, and should be had inside transmission plan not only to reduce forklift but also to reduce double handling as a result to reduce energy and fuel energy. The logistics service firms need to come out with new ideas when designing and constructing their new warehouses that should consider of minimizing the source and usage of electric power. For example, the use of solar panel to provide source of power for running the warehouses could be an option. The use of forklift that operated by battery as the source of power instead of using fuel could also help to reduce the requirement for fuel and subsequently reduce the wastage.

Carbon Emission Reduction

The aim of green logistics practices is to reduce transportation CO₂ output and also lead times in order to create shorter supply chains that are more responsive and reduce the overall need for transportation (Simons and Mason, 2003). According to the Inter-governmental Panel on Climate Change (IPCC, 2007), the logistics industry is a major source of CO₂ emissions, accounting for around 13.1% of global greenhouse gas emissions. Although the figure includes both, passenger and cargo transportation, road freight occupied 60% of total emissions, with over 1,500 megatons of CO₂ equivalent emissions. Assessed in emissions per ton kilometer, air freight even equipped with sophisticated engine that designed to consume 20% less fossil fuel, still is the most carbon-intensive transportation mode. In the case of Malaysia, for example, Century Logistics Holding Bhd. (CLHB), one of the Malaysian logistics service provider disclose their initiatives in green logistics adoption in providing freight services to their clients. CLHB renew their fleet of trucks by fitting them with at least Euro 4 engines

which emission of Carbon Monoxide of 0.50 g/km, Hydrocarbon + Oxide of Nitrogen 0.30 g/km and Particulate Matter of 0.025 g/km in reducing the environmental impact (Century Logistics Holdings Bhd., Annual Report 2015). McKinnon (2003), stated that logistics activities can lead to reductions in transport emissions through changes in either the mode of transport, transport demand or vehicle utilization. Remko (1999) study supported that transport consolidation use less fuel, thus lowering trucking miles and lowering emissions.

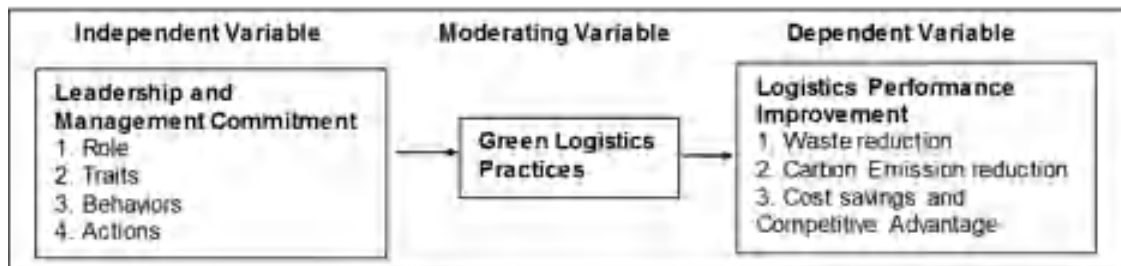
Cost Savings and Competitive Advantage

Green logistics management can be a source of cost savings and competitive advantage for firms. By improving environmental performance and product differentiation, cost leadership as well as differentiation can be operationalized in environmental practice (Lee, 2009). Christmann (2000) pointed out the potential benefits of specific green management practices in achieving low cost and differentiation advantages. Hart (2005) shown his framework where a firm’s level of innovation in proprietary pollution prevention technologies affects the advantage it gains from green management practices.

CONCEPTUAL FRAMEWORK

Figure 1 illustrated below is the proposed conceptual framework of the leadership and management commitment towards logistics performance improvement with the adoption of green logistics as the moderating variable.

Figure 1: Proposed conceptual framework of the leadership and management commitment towards logistics performance improvement with the adoption of green logistics as the moderating variable.



FINDING AND DISCUSSION

This conceptual paper has identified four major elements under the leadership and management commitment that include role, traits, behaviors and actions. The role of leaders is to provide direction for the firms both, short and long run. Role of leaders can be explained under four main areas, namely; aware, developing, practicing and optimizing and leading. Trait theory which also known as the “great person” theory because the earlier version of the theory mentioned that leaders are born and not made. For some time, it was thought that trait theory was wrong and that there are no consistent trait differences between leaders and non-leaders. However, more recent evidence shows that successful leaders are not like other people and that successful leaders are indeed different from others. It can be summarized that leaders are different from non-leaders in the following traits: drive, the desire to lead, honesty and integrity, self-confidence, intelligence, job relevant knowledge and extraversion. Hundreds of studies were also conducted in examining the leader’s behaviors which can be categorized into four major group namely; directive, participative, supportive and achievement oriented. Besides, successful leaders take seven actions, both when they launch an initiative and repeatedly throughout its life which can be classified into three major areas namely; increase clarity, foster unity and promote agility. Strong combination of role, traits and behaviors with good actions taken by the leaders and top management could help firms become more successful when adopting green logistics practices towards improving their overall firm’s logistics performance. Among the logistics performance improvement that could be obtained from the adoption of green logistics practices are waste reduction, carbon emission reduction and cost savings and competitive advantage.

CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Transforming logistics service firms into “greener” entities demands high leadership and management commitment. Green practices are no longer optional for the logistics service firms and cannot be ignored. To achieve the logistics performance improvement in terms of waste reduction, carbon emission reduction and cost savings and competitive advantage, it is critical for both, the leader and top management team and employees to establish strong working relationship and to realize the importance of green logistics management. Sustainability issues and challenges will become critically important factors for firms to consider for their competitiveness and survival. The competitive advantages gained from turning firms towards green sustainability possible and should be realized. Visible logistics performance improvement related to environmental will not happen without strong support and commitment from the leaders and management. This paper has contributed to identify the leadership and management commitment towards green logistics adoption and practices at the Malaysian logistics service firm’s contexts. It is hoped that further research can be conducted to identify specific guiding tools and methods that could be carried out to measure the extent of green logistics adoption and management by the logistics service firms.

ACKNOWLEDGEMENT

I would hereby acknowledge that this research project was being funded by Universiti Tunku Abdul Rahman (UTAR) through UTAR Research Fund (UTARRF) Cycle 1/2017 with Project No: IPSR/RMC/UTARRF/2017-C1/M02 and Vote Account No: 6200/M21.

REFERENCES

- Aronsson, H. and Hüge-Brodin, M. (2006). The environmental impact of changing logistics structure. *The International Journal of Logistics Management* 17, pp 394-415
- Bennis, W. (1989). “Why leaders can’t lead,” *Training and Development Journal* 43, no. 4 (1989)
- Carvalho, H. and Cruz-Machado, V. (2009). Integrating lean, agile, resilience and green paradigms in supply chain management (LARG_SCM). In: Proceedings of the Third International Conference on Management Science and Engineering Management, pp. 3-14
- Christmann, P. (2000). “Effects of best practices of environmental management on cost advantage: the role of complementary assets”, *Academy of Management Journal*, Vol 43, No. 4, pp. 663-80
- Daily, B.F. and S. Huang, (2001). "Achieving sustainability through attention to human resource factors in environmental management." *International Journal of Operations & Production Management*, 21(12): 1539-1552.
- Davis, J. (2011). Seven leadership actions that accelerate execution: commentary with Jocelyn Davis. http://www.emeraldgroupublishing.com/learning/management_thinking/articles/davis_actions.htm (Accessed on Thursday, August 17th, 2017). Emerald Group Publishing Limited
- Dekker, R., Bloemhof, J. and Mallidis, I. (2012). Operations research for green logistics – an overview of aspects, issues, contributions and challenges. *European Journal of Operational Research* 219, pp 671-679
- Dues, C. M., Tan, K. H. and Lim, M. (2013). Green as the new lean: how to use lean practices as a catalyst to greening your supply chain. *Journal of Cleaner Production* 40 (2013) 93-100.

- Franchetti, M., Bedal, K., Ulloa, J. and Grodek, S. (2009). Lean and green: industrial engineering methods are natural stepping stones to green engineering. *Industrial Engineer*. IE 41 (9), 24-29.
- Gunjal, P. U., Nalwade, P. M., Dhondge, D., Ingale, P. R. and Patil, A. (2015). Green logistics: improving the sustainability of logistics in environmental and organization point of view. *International Journal of Science, Technology & Management* Volume No. 4, Issue No. 3, March 2015.
- Hart, S. (2005). "Innovation, creative destruction and sustainability", *Research Technology Management*, September-October, pp. 21-7
- Hervani, A. A., Helms, M. M. and Sarkis, J. (2005). Performance measurement for green supply chain management, *Benchmarking: an international journal*, Vol. 12 No. 4, pp. 330-353
- House, R. J. and Mitchell, T. R. (1974). "Path-goal theory of leadership," *Journal of Contemporary Business* 3 (1974): 81-97
- Hsu, C. W. and Hu, A. H. (2008). Green supply chain management in the electronic industry. *International Journal of Science and Technology*, 5(2), 205-216
- Judge, T. A., Bono, J. E., Ilies, R. and Gerhardt, M. W. (2002). "Personality and leadership: a qualitative and quantitative review". *Journal of Applied Psychology*, August 2002, pp. 765-80
- Jumadi, H., Zailani, S. (2010). Integrating green innovations in logistics services towards logistics services sustainability: a conceptual paper. *Environmental Research Journal* 4(4), 261-271.
- Ki-Hoon Lee. (2009). "Why and how to adopt green management into business organization?: the case of Korean SMEs in manufacturing industry", *Management Decision*, Vol. 47 Iss: 7 pp. 1101 - 1121
- Kirkpatrick, S. A. and Locke, E. A. (1991). "Leadership: do traits really matter?" *Academy of Management Executive*, May 1991, pp. 48-60
- Lai, K.H., Wong, C.W.Y., 2012. Green logistics management and performance: Some empirical evidence from Chinese manufacturing exporters. *Omega* 40, 267-282.
- Lin, C. Y. and Ho, Y.H. (2011) Determinants of Green Practice Adoption for Logistics Companies in China. *Journal of Business Ethics*, 98, 67–83
- McKinnon, A. (2003), "Logistics and the environment", in Hensher, D.A. and Button, K.J. (Eds), *Handbook of Transport and the Environment*, Elsevier, Oxford.
- Mollenkopf, D., Stolze, H., Tate, W. L., Ueltschy, M. (2010). Green, lean and global supply chain. *International Journal of Physical Distribution & Logistics Management* 40 (1/2), 14-41
- Olson, E. G. (2008). Creating an enterprise-level "green" strategy. *Journal of Business Strategy*, Vol. 29 No. 2 2008, pp 22-30.
- Ouma, M. O. and Wanyoike, D. M. (2016). Management Support as Determinants of Green Logistics Implementation Management at Motor Vehicle Industry in Kisumu, Kenya. *Journal of Investment and Management* 2016; 5(6): 107-114
- Remko, I. V. H. (1999). From reversed logistics to green supply chains, *Supply Chain Management: An International Journal*, (4) 3, 129 – 135

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Robbins, S. P., DeCenzo, D. A. and Coulter, M. (2015). *Fundamental of management: essential concepts and applications* (9th ed.) Essex, UK. Pearson.
- Sbihi, A., Eglese. R. (2010) *Combinatorial Optimization and Green Logistics*, *Publ. Springer-Verlag*, 2010.
- Seuring, S., Muller, M. (2009). From a Literature Review to a Conceptual Framework for Sustainable Supply Chain Management, *Journal of Cleaner Production*, (16)15, 1699–1710.
- Simons, D. and Mason, R. (2003). Lean and green: doing more with less. *ECR Journal* 3 (1).
- Srisorn, W. (2013). The benefit of green logistics to organization. *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* Vol 7, No:8, 2013
- Williams, C. (2011). *Principles of management* (6th ed.) South-Western, Cengage Learning.
- Zaleznik, A. (1983). "The leadership gap," *Washington Quarterly* 6 (1983): 32-39

Successful Implementation of E-Learning among Higher Education Institutions in Malaysia

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Abstract

Many higher education institutions in Malaysia are exercising e-learning as to improve the learning process and performance problems. Meanwhile, there are some institutions coping with e-learning without any purpose as these institutions simply do not want to be out of the loop. Successful implementation of e-learning is crucial for an institution because it will be reflected directly on return of investment. The purpose of this study is to identify successful crucial factors to implement e-learning among higher education institutions in Malaysia. Practically, this is the most neglected aspects in any effort to implement e-learning successfully in an institution as to close the performance gaps between the current and desired results.

Keywords: Successful Crucial Factors, E-Learning and Higher Education Institutions

INTRODUCTION

Electronic gadgets became extremely important for current world and combination with technology has brought human capital and their working environment became sophisticated. This monumental development has led every employment to grasp the evolution and managing human resources as well as the learning process for employees are challenging. However, it was possible to do this because modern technology allowed the transmission of many central services over geographic and social distance (Litwak, 1960) and this is where the world and generation are heading to. This change is known as E-learning. According to Moore, Dickson-Deane and Gaylen (2011), the terms e-learning sometimes called online learning, technology enhanced learning (TEL) and distance learning and its always used interchangeably in literature.

Furthermore, E-learning can be categorized as all forms of electronically assisted or intermediated for the purpose of learning and teaching (Moore, Dickson-Deane & Gaylen, 2011). In higher learning institution, the use of technology is crucial and both the academicians and students are part of this system adoption and reformation. Tinio (2003) added use technology in higher education institution are called information communication technology (ICT) is noticed as a potentially influential enabling tool, specifically for educational change and transformation. Specifically, E-learning can be conceptualized as an online space where students could communicate with learning materials and among themselves but without the physical presence of the lecturer (Al-Qahtani & Higgins, 2013). Implementing E-learning and integrate it with academics with students in classroom takes more than just having the technology ecosystem in higher education institution besides it warrant research on purpose of e-learning as a medium to educate students.

LITERATURE REVIEW

E-Learning in HEI's of Malaysia

Introduction of Information Communication and Technologies (ICT) has gained attention from various industries includes education sector where extensive rise on technological operation in teaching and learning are emphasized. With the possibilities ICT offers, educational institutions are now seeking for new paradigms to reorganize their educational curricula and classroom facilities to associate the existing technology gap education. According to Tomei (2011), this stages however entails effective implementation of technologies into existing environment namely technology ecosystem for learners to upgrade their knowledge as well as use to educate students. It is further supported by Ismail, Bokhare, Azizan and Azman (2013) that to manage such impact from basic teaching to technology enabled teaching, academics are required to be equipped with the acquired literacy and skills on the educational technology.

Academics and institutions uptake on the technology in education plays an important role before the technology can successfully be embedded in the education system. Challenges appeared to be overwhelming during the phases of introducing technology into education from academics in private higher learning institutions. Ngozi, Ngozi and Joy (2010) highlighted that even though the academics could recognize the specific technological tools which are useful for education, they however were not aware of in what way the tools can be used. Moreover, major setbacks in integrating technology in teaching and learning were lack of confidence and competence among academics and lack of access to resources. Furthermore, usage of e-learning at grand scale may congest the network flow in which the congestion of e-learning servers will lead to losses of time and money when the expansion of network is required. This has defeated the objective which is saving time and money when using e-learning (Talebian, Mohammadi, & Rezvanfar, 2014).

However, apart from resistance from the academics, reception from students has given a positive move for technology ecosystem in private higher learning which gives way for e-learning. Zakariah, Alias, Aziz and Ismail (2012) conducted a study to identify students' awareness on e-learning in higher learning institutions. 120 students from Universiti Teknologi Mara Pahang are the respondents of the study. From the results of the study, most of the students are aware of e-learning's existence. The acceptance level of e-learning as an instrument in teaching and learning among the students was high and believed that using e-learning can improve the educational efficiency since e-learning can eliminate the barrier of time and distance. However, they also believed that e-learning can be more easily accessible if e-learning can provide the same learning experience based on the current style of learning. The students also relate the effectiveness of e-learning with the e-learning community whereby within the community, it is possible for the students to communicate with academics from other universities for further enquiries (Al-rahmi, Othman & Yusuf, 2015). Isa and Hashim (2015) added with e-learning, the accessibility for learning is higher for students and able to perform online discussions and hold more debates.

Benefits of E-Learning

Few researchers on E-Learning development have highlighted the benefits of it towards the higher education institutional. Among the discussion, it has been underlined on how E-Learning could give benefit for the users as well as the institutional itself. As cited by Ong et al. (2015), accentuated by Rao (2011), through E-Learning, the students would be able to learn at their own capacity and capability. It also been agreed by many that E-Learning is such a flexible and convenient ways to learn as it eases the delivery of information process whereby the learners could obtain such information or knowledge at their own convenient time and space. E-Learning also provides equal access of information to all related learners and still allowing communication to take place as it could happen via online basis (Arkoful and Abaidoo, 2014; Smedley, 2010; Simonson, et al., 2009 and Amer, 2007). This could encourage everyone to share their views in the discussion and create more interactive learning environment. E-Learning gathered learners and lecturers at the same time for the sharing session. This improved the teaching and learning experience by both parties.

The different ability of learners in a class could be undertaken by the implementation of E-Learning. As emphasized by Jethro et al. (2012), E-Learning would give assistance to those

who need helps in their learning and it enable to engage all level of learners' abilities and learning styles as it offers various interactive learning tools. Furthermore, E-Learning provides instant feedback and guidance that would support the learners' learning progress. In addition, E-Learning allows the lecturers to explore more creative and innovative ways in designing their materials to be delivered to the students. It is also cost effective as it allows huge numbers of learners to be part of the class and reduced the time for the students to travel for classes. Added by Zhang et al. (2006), learners are given the opportunities to go through few times for the materials that are made available online through the E-Learning. Again, this would enhance learners' understanding of subject matters.

Successful Crucial Factors to Implement E-Learning

There are five successful crucial factors to implement E-learning such as awareness among institution members, clear e-learning, institutional support, government sponsorship and technical support. This paper discusses the role played by successful crucial factors to implement E-learning in detail in the following sections.

Awareness among Institution Members

Awareness among institution members on benefits of e-learning is important in making e-learning implementation at higher education institution successful (Bhuasiri et al., 2012; King & Boyatt, 2014). In a broad term, awareness on e-learning may include of raising an understanding of the members of new intervention, practice, or implementation. Other than that, awareness should be look into a deeper context, where it may include in raising understanding of the members on e-learning tools (Alhomod & Shafi, 2013), improving their familiarity, technology literacy, and computer skills, especially when it is implemented in developing countries where the technology may not be advanced (Bhuasiri et al., 2012). Lack of awareness and engagement with e-learning offerings has been found hampering the process of e-learning adoption at higher education institutions (King & Boyatt, 2014). Elevate the awareness and engagement should be tackle under marketing department (Alhomod & Shafi, 2013) and it is categorized in the issue of 'staff attitudes and skills' (King & Boyatt, 2014). Further, King and Boyatt (2014) mentioned that the awareness and engagement could be enhanced through face-to-face training, additional mechanisms (e.g., online how-to-guides) and guidelines for implementing new technology and possibility for sharing practice. Based on the discussion of past literatures, it is therefore concluded that awareness is an important factor that leads to successful e-learning implementation. Therefore, this paper advances the following hypothesis as below:

H1: Awareness among institution members is positively related to successful e-learning implementation.

Clear E-Learning

E-learning policy often triggered by government and followed by education institutions as an alternative education delivery system. Often e-learning policy is used to enlighten the paths, directions and plans that should be taken by education institutions in a short- and long-term. Clear e-learning policy is vital to operationalize e-learning in higher education institutions and thus making the implementation successful (Taurus, Gickoya & Muumbo, 2017). E-learning policy may impact the series of curriculum, culture and control wars and of serious challenges to maintain conventional pedagogical practices and content (Marshall, 2005). Therefore, this paper argued that the e-learning policy should be clear in addressing future goals as well as able to improve and compliment the current curriculum practiced at higher education institution, the cultural issues, and control on the access of e-learning. In a study made by Kong et al. (2014) on e-learning policy in school education in four states including Singapore, Hong Kong, Taiwan and Beijing, several important issues are addressed for policy makers in advancing e-learning in future. Some recommendations for policy makers are addressed in Kong et al. (2004)'s study and this paper adjusted the content to be aligned with the needs of e-learning at higher education institutions. Some of the recommendations are including the needs for e-learning policy to support:

- students engagement in the ICT-supported learning process inside and outside education institutions;
- education institutions to re-interpret learning opportunities for students to develop and apply generic skills to self-regulate their learning process;

- supporting instructors to master teaching models that facilitate their work on integrating student-centered learning elements into students' knowledge construction;
- empowering the head of institutions to build a common consent with the senior management team, curriculum coordinators, panel heads, subject lecturers, to the vision and direction of e-learning plans in higher education institutions.

At higher level, the e-learning policy making may be generic to be suited with objectives of all higher education institutions and as the policy comes into picture in particular institution, the head of institutions should make some adaptations. According to Pittard (2004), institutional conditions such as the instructors' skills are important to underpinning success of e-learning implementation. Moreover, Pittard (2004) mentioned that the quality of e-learning also depending on the quality of teaching and institution's leadership. Based on the past literatures, clear e-learning policy from upper to lower levels is seen as important factor in the implementation of e-learning at higher education institutions due to the fact that each institution has its own distinctive in curriculum, culture and environment. Therefore, this paper advances the following hypothesis:

H2: Clear e-learning policy is positively related to successful e-learning implementation.

Institutional Support

The institutional support is also considered as one of the key elements in warranting the successful implementation of E-Learning in higher education institutions. As emphasized by Venkatesh and Bala, (2008), it is important for the organizational to provide necessary supports that could assist to lessen the anxiety and to provide fast response to ease the usage of E-Learning system among the employees. Among the highlighted factors that are mostly related to institutional support are to provide training for the staff, ensuring adequate resources are available within the organizational and management support in the consultation sessions for all users of E-Learning. E-Learning training that is available for related members of organizational will be very helpful since it could promote the continuous improvement in their learning curve. As agreed by Odunaike et al. (2013), adequate planned training provided to the staff will eliminate the struggle in using the E-Learning in their teaching and learning session, as technology is known as a component that is moving rapidly over time. Research done by Alhomod and Shafi (2013) emphasized that training as one of the topmost aspects for the success of E-Learning in the university. During the training session, the institutional would create an E-Learning 'champion' that could promote to overseeing the operation holistically. Furthermore, this 'champion' would help to assist to conduct the session by encouraging academics and other related staff to share experiences and information on E-Learning (Mainka and Benzies, 2006). Overall, effective and well-planned training sessions provided to the staff can bring positive receptions towards the executions of E-Learning.

Additionally, it also been highlighted that sufficient resources provided by the institutional play a significant role in the effective implementation of E-Learning. Past researches had agreed that resources provided by the institutional such as robust IT software and hardware and appropriate amount of budget to cover the cost as most importance measures to ensure the success of E-Learning (Ali and Ferdig, 2002; Buchan and Swann. 2007). As cited by Albugami and Ahmed (2015), constructing IT infrastructures by being cooperative with other educational institutions are also important for the organization to increase the chances for the successful E-Learning implementation. In addition to that, Nanayakkara (2007) has mentioned that the commitment from the management of the institutional themselves is one of the key factors that contribute to the effective collaboration of technology in education, specifically, higher education. This support shown by the management is essential as to lead the E-Learning innovation and development. Similarly, the academic staffs are encouraged to be more passionate and able to motivate the students in E-Learning usage. By undertaking this, it would boost up students' IT skills towards E-Learning. Meanwhile, this paper advances the following hypothesis:

H3: Institutional support is positively related to successful e-learning implementation.

Government Sponsorship

Due to increasing globalization, more countries try to catching up their education delivery and implement e-learning, as one of latest demands and the governments starting to develop their own e-learning policy. Government is considered a stimulus of e-learning policy in education sectors (Taurus et al., 2017) and the policy shows governments' commitment to optimize the betterment of information and communication technology (ICT) in education delivery (Pittard, 2004). Government plays its role at strategic level where the priorities are to widen participation in learning, reduce barriers to perform, equip learners for employment, improve educational quality and elevate educational standards. Through government intervention, e-learning initiatives become more coordinated and sustainable (Gaebel et al., 2014). In a study conducted by Awidi and Cooper (2015) in Africa, it was found that government should play a vital role in setting up infrastructure such as very efficient internet systems and ICT facilities for e-learning implementation to be feasible. Kong et al. (2014)'s study also addressed on the government roles in building campus-wide wireless network at education institutions. Other than infrastructure, Kong et al. (2014) evidenced that governments in Singapore, Hong Kong, Taiwan and Beijing have a big role in integrating curriculum (e.g., emphasizing pedagogical advancement of ICT-supported classroom learning), student learning (e.g., concern the 21st century skills development through e-learning), professional development (e.g., emphasis on pedagogical aspect instead of technical aspect on e-learning) and building leadership and capacity (e.g., supporting school-based planning of e-learning development). In addition, government support is the seen as the largest source of funding for higher education institution (Awidi & Cooper, 2015) and therefore the transformation of educational delivery towards e-learning depends largely on government sponsorship. Based on the discussion of previous literatures, this paper therefore advances the following hypothesis:

H4: Government sponsorship is positively related to successful e-learning implementation.

Technical Support

By having strong technical support within the organization, E-Learning implementation procedure will be a smooth process. As cited by Cheawjindakarn et a.l. (2012) and agreed by several researches, it has been emphasized that reliable IT infrastructure provided by the university is also one of the key elements in ensuring the success for the online learning. This could include advanced technology of software and hardware such as system backup measurement, high speed internet connection and network security (Puri, 2012; Bhuasiri et a.l., 2012). It would also assist to encourage the users of E-Learning, be it the lecturers or students to employed online learning in their teaching and learning environment. In addition to that, lecturers would feel encouraged to integrate the technology in their teaching if the reception of technical support is very strong. Nevertheless, skillful and expert IT staffs also play a vital role in terms of technical support. Lecturers might need their help to strategize their teaching materials as it required more time for preparation to make the materials available online. With assistance from IT experts, lecturers would be motivated to explore the E-Learning applications as IT helpdesk is always made available for them for any IT technical issues (Ong et a.l., 2015; Alsabawy et a.l., 2013 and Teo, 2011).

In the study done by Alhomod and Shafi (2013), it has been highlighted that the readiness for the users to adopt E-Learning is also depending on the technical support. It has found out that, it was a positive connection where strong and reliable technical support that offered by the organization would give encouraging impact to the participation of the E-Learning users. Essential and appropriate support would positively encourage the E-Learning users to stay and continuously adopt this technology in their teaching and learning environment as any technical issues that able to be resolved immediately by the IT experts would provide users' satisfaction. Therefore, this paper advances the following hypothesis:

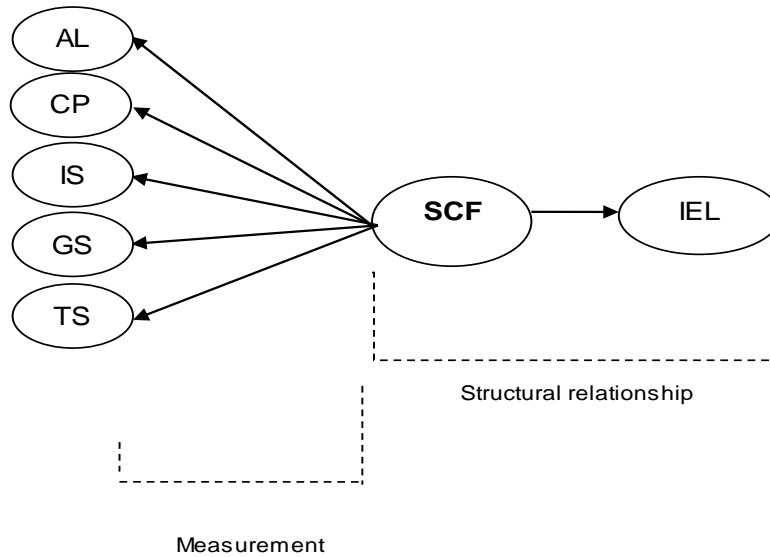
H5: Technical support is positively related to successful e-learning implementation.

CONCEPTUAL RESEARCH FRAMEWORK

According to the literature discussions above, we propose the following conceptual model which demonstrates the relationships between successful critical factors of e-learning,

and implementation of e-learning among institutional members, which explains successful critical factors of e-learning practice among institutional members help to implement e-learning successfully in the higher education institutions. The conceptual model is presented in Figure 1.

Figure 1 The research model



AL = Awareness among Lecturers
 CP = Clear E-Learning Policy
 IS = Institutional Support
 GS = Government Sponsorship
 TS = Technical Support
 SCF = Successful Critical Factors
 IEL = Implementation of E-Learning

RECOMMENDATION

Based on this study, an appropriate training need to be organized by higher learning institutions so that academics can participate and be familiar with technology enabled methods. Furthermore, by conducting training higher learning institutions may prepare a basic ground for academics to learn and apply during their lecture. Besides, IT supports are needed to guide academics on using certain software for teaching and research purposes. This can be done by recruiting more IT officers to mobile in faculties and ready to assist academics to troubleshoot the problems related to information technology enabled teaching. This may help every academics to feel confident to handle sophisticated gadgets that ease as well as cultivate innovative way of teaching in lecture halls. Finally, higher learning institutions itself need to build a solid platform for technology ecosystem. With strong foundation by the institution perhaps encourage academics to accept also focus on the benefits of applying technology in teaching and research. An objective in integrating academics with technology will lead the higher learning institutions to compete at global stage and increase the Malaysian higher education ranking.

CONCLUSION

Technology has encouraged connection without any barrier and through E-learning, it links academics and students well in classroom, engages both parties to work together. However, without a proper platform on technology ecosystem, it may disrupt the advancement of teaching and learning. One of the main objective of Malaysian education blueprint was to urge every institution to pay attention on implementation of technology based teaching and to succeed this, every academics need to work together to accept and practice.

REFERENCES

- Albugami, S. and Ahmed, V. (2015), *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 11(1), 36-54.
- Ali, N., & Ferdig, R. (2002). Why not virtual reality? The barriers of using virtual reality in education. *Paper presented at the Society for Information Technology & Teacher Education International Conference Annual: Proceedings of SITE 2002*, (pp. 1119-1120).
- Alhomod, S., & Shafi, M. M. (2013). Success factors of e-learning projects: a technical perspective. *The Turkish Online Journal of Educational Technology*, 12(2), 247–253.
- Al-Qahtani, A. A., & Higgins, S. E. (2013). Effects of traditional, blended and e-learning on students' achievement in higher education. *Journal of computer assisted learning*, 29(3), 220-234.
- Al-rahmi, W., Othman, M., & Yusuf, L. (2015). The effectiveness of using E-learning in Malaysian higher education: A case study Universiti Teknologi Malaysia. *Mediterranean Journal Of Social Sciences*, 6(5), 625-637. Retrieved from [http:// www.mcser.org/journal/index.php/mjss/article/viewFile/7686/7366](http://www.mcser.org/journal/index.php/mjss/article/viewFile/7686/7366)
- Alsabawy, A. Y., Steel, A.C., & Soar, J. (2013). IT infrastructure services as a requirement for e-learning system success. *Computer and Education*, 69, 431–451.
- Amer, T. (2007). *E-learning and Education*, Cairo: Dar Alshehab publication.
- Arkoful, V. and Abaidoo, N. (2014), The role of e-learning, the advantages and disadvantages of its adoption in Higher Education.
- Awidi, I. T., & Cooper, M. (2015). Using management procedure gaps to enhance e-learning implementation in Africa. *Computers & Education*, 90, 64–79. <https://doi.org/10.1016/j.compedu.2015.08.003>
- Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J. J., & Ciganek, A. P. (2012). Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty. *Computers & Education*, 58, 843–855. <https://doi.org/10.1016/j.compedu.2011.10.010>
- Buchan, J. F., & Swann, M. (2007). A Bridge too Far or a Bridge to the Future? A case study in online assessment at Charles Sturt University. *Australasian Journal of Educational Technology*, 23(3), 408.
- Cheawjindakarn, B., Suwannathachote, P., Theeraroungchaisri, A. (2012), *Critical Success Factors for Online Distance Learning in Higher Education: A Review of the Literature*, 3, Supplement, 61-66.
- Christina Mainka. and Angela Benzies, (2006) "E-learning: vision to reality", *Interactive Technology and Smart Education*, 3(2), 101-111.
- Feidakis, M., Daradoumis, T., & Conesa, J. (2014). Embedding Emotion Awareness into E-Learning Environments. *International Journal of Emerging Technologies in Learning*, 9(7), 39–46.
- Gaebel, M., Kupriyanova, V., Morais, R., & Colucci, E. (2014). *E-learning in European higher education institutions: results of a mapping survey conducted in October-December 2013*. Brussels: European University Association.
- Ismail, I., Bokhare, S. F., Azizan, S. N., & Azman, N. (2013). Teaching via mobile phone: A case study on Malaysian teachers' technology acceptance and readiness. *Journal of Educators Online*, 10(1), n1.

- Isa, P., & Hashim, R. (2015). Issues and challenges of e-learning in higher education: A Malaysian perspective. Retrieved from [https:// www.researchgate.net/ publication/ 242218811_Issues_and_challenges_of_e-learning_in_higher_education_A_Malaysian_perspective](https://www.researchgate.net/publication/242218811_Issues_and_challenges_of_e-learning_in_higher_education_A_Malaysian_perspective)
- Jethro, O.O., Grace, A.M. and Thomas, A.K. (2012), E-Learning and Its Effects on Teaching and Learning in a Global Age, *International Journal of Academic Research in Business and Social Sciences*, 2 (1), 203-210.
- King, E., & Boyatt, R. (2014). Exploring factors that influence adoption of e-learning within higher education. *British Journal of Educational Technology*. <https://doi.org/10.1111/bjet.12195>
- Kong, S. C., Chan, T.-W., Huang, R., & Cheah, H. M. (2014). A review of e-Learning policy in school education in Singapore , Hong Kong , Taiwan , and Beijing : implications to future policy planning. *Journal of Computers in Education*, 1(2–3), 187–212. <https://doi.org/10.1007/s40692-014-0011-0>
- Litwak, E. (1960). Geographic mobility and extended family cohesion. *American Sociological Review*, 385-394.
- Marshall, G., & Marshall, G. (2005). Mind the gap! Policy issues for e-learning proponents. *Educational Media International*, 42(2), 153–159. <https://doi.org/10.1080/09523980500060316>
- Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). e-Learning, online learning, and distance learning environments: Are they the same?. *The Internet and Higher Education*, 14(2), 129-135.
- Ngozi, O.D, Ngozi, A.E, & Joy, E.O. (2010). Teachers' awareness of the existence and the use of technology to promote children's literacy instruction. *African Journal of Teacher Education*, 1(1), 115-125.
- Nanayakkara, C. (2007). A Model of User Acceptance of Learning Management Systems. *The International Journal of Learning*, 13 (12), 223-231.
- Odunaike. S.O., Olugbara, O.O., and Ojo, S.O (2013). E-Learning Implementation Critical Success Factors, *Proceedings of International Multiconference of Engineers and Computer Scientists, Vol 1*.
- Ong, F.Y. and Jambulingam, M. (2015), Critical Success Factors of E-Learning Implementation at Educational Institutions, *Journal of Interdisciplinary Research in Education*, 5(1), 17–24.
- Pittard, V. (2004). Evidence for e-learning policy. *Technology, Pedagogy and Education*, 13(2). <https://doi.org/10.1080/14759390400200179>
- Puri, G. (2012). Critical success Factors in e-Learning – An empirical study. *International Journal of Multidisciplinary Research*, 2(1), 149-161.
- Rao, P. (2011). E-learning in India: The role of national culture and strategic implications. *Multicultural Education & Technology Journal*, 5(2), 129–150.
- Smedley, J.K. (2010). Modelling the impact of knowledge management using technology. *OR Insight* 23, 233–250.
- Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2009). *Teaching and learning at a distance: Foundations of distance education*. Boston, MA: Pearson Education.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Talebian, S., Mohammadi, H. M., & Rezvanfar, A. (2014). Information and communication technology (ICT) in higher education: advantages, disadvantages, conveniences and limitations of applying e-learning to agricultural students in Iran. *Procedia-Social and Behavioral Sciences*, 152, 300-305.
- Tarus, J. K., Gichoya, D., & Muumbo, A. (2017). Challenges of Implementing E-Learning in Kenya: A Case of Kenyan Public Universities. *The International Review of Research in Open and Distributed Learning*, 16(1), 1–11.
- Teo, T. (2011). Modeling the determinants of pre-service teachers' perceived usefulness of elearning. *Campus-Wide Information Systems*, 28(2), 124–140.
- Tinio, V. L. (2003). ICT in Education: e-Primers for the information economy, society and policy. New York, NY: *United Nations Development Programme*.
- Tomei, L. A. (2011). Top technologies for integrating online instruction. *International Journal of Online Pedagogy and Course Design (IJOPCD)*, 1(1), 12-28.
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a Research Agenda on Interventions. *Decision Sciences*, 39 (2), 273-315.
- Zakariah, Z., Alias, N., Aziz, M., & Ismail, N. (2012). E-learning awareness in a higher learning institution in Malaysia. *Procedia - Social And Behavioral Sciences*, 67(10), 621-625. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1877042812053542>
- Zhang, D., ZHOU, L., Brlggs, R. & Nunamaker, J. (2006). Instructional video in e-learning: Assessing the impact of interactive video on learning effectiveness. *Information & Management*, 43 (1), 15-27.

Mobile Shopping Among Generation Y- Examining its Adoption from the Perspective of DOI and Personal Innovativeness

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Abstract

M-shopping has become a trendy method which let people to order goods and services and make payment by using smartphone. The number of mobile devices keep increasing has lead new business opportunity for m-shopping. The goal of this study is to examine the m-shopping adoption among generation Y from the perspective of Diffusion of Innovation (DOI) and personal innovativeness. For this research, a framework has been developed to examine the adoption of m-shopping among generation Y by adding personal innovativeness to the original DOI. The sample size for this research is 320. Statistical Analysis Software (SAS) has applied to analyse the relationship between relative advantage (RA), compatibility (COM), complexity (CPLX), observability (OB), trialability (TRY) and personal innovativeness (PI) toward adoption of m-shopping. Relative advantage, compatibility, complexity, observability, trialability and personal innovativeness have positive relationship toward m-shopping adoption. This research findings are believed to be useful in contributing to theoretical and managerial implications which provide better insight to aid the business company to enhance their m-shopping services, community to better understanding their attitude toward m-shopping and valuable for the reader who hope to get more knowledge in m-shopping.

Keywords: M-shopping, DOI, Personal Innovativeness

INTRODUCTION

M-shopping is done by using a mobile or device that uses internet connection to shop (Hasty, 2014). According to Yang (2010), m-shopping is a constitute of retail shopping which people buy goods and services using mobile phone that connected with internet. Nowadays, purchasing or ordering via internet has become a common activity in community. In year 2016, there are almost 2 billion of mobile users, about one quarter of global population (eMarketer, 2014). M-shopping adoption is increasing recently because of shopping via smart phone can be done easily in anyplace and anytime via internet (Wu & Wang, 2006). Besides that, many people suggest to use m-shopping because the prices of product is lower than retail product (Aldas-Manzano, 2009). M-shopping is very convenience to use because consumer can use their smart phone to preview order and make payment in time with mobile data or wifi (Wu & Wang, 2006). In addition, M-shopping is not similar with web page shopping, it lets the customer to communicate with the seller in a way that customer can negotiate as well as asking for more detail about the product. According to Changsu Kim (2015), m-shopping can enhance relationship between buyer and seller by having interaction with each other.

Social media such as Facebook, Wechat and Instagram is famous platform to do m-shopping activities (Xu, Lin & Haridakis, 2015). According to Ming-Chien Hung (2012), perception of satisfaction and usefulness from consumer can enhance the adoption of mobile shopping in future. Generation Y are on the side of using mobile technology to conduct trading activities (Rusak, 2014). Generation Y is interested in different societies and surrounding environment, as the popular Web has made this probable and they will hit approximately 75% of the global workforce (Pokolenie, 2015). Generation Y are familiar to almost all technology and they tend to use it every day, hence this cause m-shopping to increase. Moreover, m-shopping

can benefit the consumer, thus they will continue to use this technology to purchase product. Diffusion is a process that innovation is conveyed via some approach over time between the society members (Rogers, 2003). Diffusion of innovation (DOI) refers to the theory which interpret the using rate and why they will use and how they apply the situation in new technology and ideas (Franklin, 1789). DOI has carried out in many studies about adoption of online or mobile shopping (Rogers, 2003). There are five features in DOI which consistently influencing people whether to adopt or turn down the innovation that is, relative advantage (RA), complexity (CPLX), compatibility (COM), trialability (TRY) and observability (OB) (Rogers, 2003). Referring to Rogers (2003), innovativeness refers as extent to which a person or other adoption unit has adopted new thought earlier compare to other social system members. Xu & Gupta (2009) has proposed that personal innovativeness refer to an individual who known as innovative if the individual adopting innovation earlier.

Therefore, in our research, we tend to use DOI incorporating with PI to find the relationship with m-shopping adoption in generation Y. According to Moonweb (2016), m-shopping has a potential to grow at the rate 300% quickly than traditional e-commerce. Many retailers trying to enhance the customer's experience on physical and digital channels by equal distributed the resource on both sides. In fact, 20% of sales from total e-commerce spending in U.S were contributed by m-shopping during the Black Friday (Heggestuen & Ballvet, 2014). Besides, MasterCard had conducted m-shopping survey in Asia Pacific countries and found that Malaysia is ranked sixth in m-shopping growth. According to Chong, Chan and Ooi (2012), m-shopping in Malaysia is still growing compared to South Korea, Japan and United States. Moreover, Kuo and Yen (2009) suggested that there is a business opportunity for telecommunication providers to generate their revenue because mobile telecommunication users has increased recent years and telecommunication tariffs had reduce. The success of mobile phone-related business in the future is highly depends on current mobile-commerce activities among mobile phone users. Therefore, researchers in Malaysia should analyze the factors that contribute to the m-shopping acceptance.

According to Ghazizadeh (2012) stated that there were numerous researches had been done to find the variables that related to new mobile technology adoption. Many researchers had adopted different models to explain the determinants may affect adoption and usage of new technology, such as Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) (Chong, Chan & Ooi, 2012; Li, Fu & Li, 2007; Zhang, Zhu & Liu, 2012). In TAM, TPB, and DOI model do not consider personal innovativeness as one of the determinant influencing adoption and use of new technology. However, many researches had adapt personal innovativeness in different mobile technology research, such as in mobile payment (Oliveira, Thomas, Baptista & Campos, 2016), Wireless Application Protocol (Hung, Ku & Chang, 2002), mobile banking (Chitungo & Munongo, 2013) and mobile phone service (Mao, Srite, Thatcher & Yaprak, 2005). It shows a significant relationship of personal innovativeness and adoption of new technology. A study by Lu (2014), however, has mentioned that research study to investigate the relationship of personal innovativeness towards m-shopping were limited. Therefore, this research is aiming to reduce the literature gap of the topic by using DOI model and personal innovativeness to examine the topic in Malaysia context.

LITERATURE REVIEW

Definition of Mobile Shopping (M-shopping)

M-shopping is describe as a construct of electronic shopping that people buy goods or services through smart phone or mobile devices (Yang, 2010). Kourouthanassis and Giaglis (2012) proposed that since m-shopping is approachable on the move via smart phones with foremost distinct processing, interaction as well as presentation trait comparing with a desktop computer or laptop, they dispute very distinctly from the online shopping. According to Lu & Su (2009), m-shopping provides perceived location, perceived context and pervasiveness and some other customized services for customer that increase significant value and distinguish m-shopping from the traditional website antecedent. M-shopping is every transaction that involves monetary value no matter indirect or direct which carry out by using mobile device via wireless network (Barnes, 2002). Being evolving services, customer m-shopping behaviour has fascinated great amount of attention from researcher. According to Aldás-Manzano, Lassala-

Navarré, Ruiz-Mafé and Sanz-Blas (2009), personal innovativeness as well as compatibility to smart phone is positively affecting the adoption of m-shopping.

Definition of Generation Y

According to Rusak (2014), generation Y is born between the year 1980 and year 1999. Generation Y is raised in a comfortable and well developing era (Wong, 2010). They have powerful view in generating decision as they have the knowledge with advance information and technology (Wong, 2010). According to Williams, Page, Petrosky & Hernandez (2010), generation Y are self-determining, responsive to the lately social tendency and well absorb people. Another study by Daniels (2007), generation Y spending method is influenced by entertainment which involve, smartphone, internet, television, advertising and movie. Williams, Page, Petrosky & Hernandez (2010) proposed that generation Y desire in attempting new stuff, expanding their strength to establish their own image and always changing their shopping method.

Diffusion of Innovation (DOI)

Diffusion's definition from dictionary is sending thing widely or pervasion something widely. The first release of diffusion of innovation model is in year 1962. According to Rogers (2003), he defined the word diffusion as the development that an innovation is conveying via particular channel overtime between the members of a community system. Rogers (2003) declared that conveying the message which related with the new idea. According to Al-Jabri & Sohail (2012), DOI is the common theory which has tried to examine the element that influence people to utilize a new thing, innovate or new technology. Diffusion of innovation is a model which seek to interpret why, what and how new technology and new concept disseminate via cultures. Rogers (2003) determined that some innovation attributes which is the fundamental affect the behavior of adoption. The innovation attributes contain of RA, COM, CPLX, OB and TRY. According to Rogers (2003), people gather and synthesis the message regarding an innovation and assemble the message then forming a perception with respect to an innovation. There are several researches that examine the element in diffusion as well as adoption of technologies (Al-Jabri & Sohail, 2012). They have persistently conclude the attributes that involve the relative advantage (RA), compatibility (COM), complexity (CPLX), observability (OB) as well as trialability (TRY) as most constantly outstanding elements toward the adoption of mobile technology and internet (Al-Jabri & Sohail, 2012).

Rogers (2003) proposed the relative advantage as in enhance efficiency, economy advantages and improve status. The better the relative advantage, the faster its adoption rate (Chung, 2014). Rogers (2003) proposed that compatibility is a significant characteristic of innovation since consistency with individual lifestyle can impel fast adoption rate. Referring to Rogers (2003), complexity refers the extent that innovation is conceived as comparatively difficult and hard to comprehend and utilize. Observability is the extent that innovation is visibility to the social system members and the advantages can be examine and communicate easily (Rogers, 2003). Trialability means the innovation that can tested with stint basis. According to Rogers (2003), potential users are permitted to test the innovation which will perceive more comfy and more easily to adopt it. Adoption is defined as a decision of fully utilize innovation being the greatest scheme of act available and repudiation is a definite view of not to adopt innovation (Rogers, 2003). According to Rogers (2003), adoption rate refer to the relative velocity which innovation is utilized through community system member. For example, the amount of person who adopt innovation toward a time period which is measured as the adoption rate of innovation.

Personal Innovativeness

According to Rogers (2003), innovativeness refers to the extent which people or other adoption unit is comparatively adopting a new thought in advance than other people of the social system. Personal innovativeness aid in comprehending the main as well as desire behavior in the process of innovation decision (Rogers, 2003). According to Assarut and Eiamkanchanalai (2015), personal innovativeness refer to the extent which individual have the inclination to attempt new things. According to Bhatti (2007), personal innovativeness is believed to have powerful effect in adoption of innovation. According to Nov, Ye (2008), personal innovativeness refer to the person who has different tendency in adopting the new technology.

Mobile shopping adoption

According to Hasty (2014), m-shopping uses mobile device to conduct business by using Internet. Users now can use smart phone to search and shop anytime and anywhere (Kim, 2015). It is also a fashion approach that people drive m-shopping into a trend (Hung, 2012). According to Assarut and Eiamkanchanalai (2015), there are some advantages of using m-shopping which are convenience and comfortable to users during shopping. Consumers can communicate through mobile device and get product information, in exchange, the seller get feedback from the customers (Nohria & Leestma, 2001). Moreover, m-shopping adoption can benefit both seller and buyers. Besides, individual can learn something new such as using systematic apps to sell product, individual need to know how to upload photo and method to bring in users more effective and efficient (Chain Store Age, 2009).

Hypotheses Development

Relative advantage

Relative advantage has positive impact on m-shopping adoption intention (Al-Jabri & Sohail, 2012). Besides, Lin (2011) revealed that the customers with more positive beliefs about the relative advantage would more prefer to adopt the m-shopping. Relative advantage will also building trust to customer and users in m-shopping adoption. The new method of interaction and communication will make the customer more satisfy to use m-shopping and build more confidence to adopt m-shopping (Coll, 1999). The adoption could be ensure if the user believed that he will realize the benefits from the m-shopping adoption (Al-Zoubi, 2013). Besides that, relative advantage of m-shopping will build customer loyalty. In some m-shopping company, they will increase the program necessity that can improve customer probability of joining system, leading consumers to prefer commanded alternative (Hasty, 2014). A study conducted by Chung (2014) in Kazakhstan had showed m-shopping adoption can be influence by relative advantage.

H1: There is a significant relationship between the relative advantage and adoption of m-shopping among generation Y.

Compatibility

According to Wang and Wu (2005), compatibility has a significant relationship with adoption decisions. The more compatible with the norms and values of social system, the faster the adoption process (Rogers, 2003). Compatibility has identified as a significant predictors of m-shopping adoption (Teo & Pok, 2003; Wu & Wang, 2005). Many other studies also show that compatibility has a significant correlation to the adoption of m-shopping (Lin, 2011; Al Jabri & Sohail, 2012; Li, Fu & Li, 2007; Zhang, Zhu, & Liu, 2012). Several empirical studies also found the influence of compatibility on behavioural intention across different ICT technologies, such as m-shopping (Van Slyke et al., 2004). Greater compatibility between the needs of an individual and m-shopping is preferable, because it can enhance innovation familiarity (Ilie, Van Slyke, Green, & Lou, 2005). The key relations of potential adopter's work and task are assessed to the compatibility of m-shopping (Moore & Benbasat, 1991; Taylor & Todd, 1995). Moreover, Al-Ghaith, Sanzogni and Sandhu (2010) proposed that compatibility has significant relationship on diffusion of m-shopping. Furthermore, a research conducted in Kazakhstan, Singapore and Morocco by Chung and Holdsworth (2012), was indicate that compatibility has a significant relationship on m-shopping adoption.

H2: There is a significant relationship between the compatibility and adoption of m-shopping among generation Y.

Complexity

Poong, Ong and Ng (2008) findings show that the complexity has a relationship m-shopping adoption. According to Rogers (2003), the innovation that is too complex to learn may generate an opposite relationship with the m-shopping adoption. Consumer perception will also partially mediate the relationship between visual complexity perception and the number of m-shopping adoption (Sohn & Stefanie, 2005). Based on the study, complexity of innovation has a correlation with mobile technology adoption intention (Au & Kauffman, 2008). The research conducted by Chung and Holdsworth (2012) in Kazakhstan, Singapore and Morocco also found that complexity is a critical element of m-shopping adoption. Furthermore, the simpler the adoption of mobile shopping, the increase number of m-shopping adoption (Mallat, 2007).

H3: There is a significant relationship between the complexity and adoption of m-shopping among generation Y.

Observability

Many researches found that observability has a significant impact with adoption of m-shopping (Chung, 2014; Rogers, 2003). Besides, the observability of the beneficial results of m-shopping can ensure the adoption of m-shopping (Al Jabri & Sohail, 2012). Innovation can be visible by social system. When the new product or services are evident, many supporters or consumers will share it out and it will increase the likelihood of adoption (Rogers, 2003). It is because it is easily to communicate to other and also can be observed (Rogers, 2003). Other research conducted in Kazakhstan, Singapore and Morocco is also supporting the statement that observability has a significant relationship towards m-shopping adoption (Chung and Holdsworth, 2012).

H4: There is a significant relationship between the observability and adoption of m-shopping among generation Y.

Trialability

According to Chung (2014) found that trialability is a critical component to m-shopping adoption. Past research had identified that trialability is one of the crucial variables towards adoption of m-shopping (Hsbollah & Idris, 2009). Moreover, many studies have certified that trialability can predict on the enterprise of m-shopping (Seyal & Rahman, 2003). Similarly, another research also found trialability will influence the adoption of m-shopping (Brown, Cajee, Davies & Stroebel, 2003). Rogers (2003) findings also show that m-shopping would gain acceptance rate by fast if it able to provide a trial basis before it is fully employed. The customers want to have a trial basis before the actual adoption of m-shopping (Dash, Bhusan & Samal, 2014), in order to examine the uncertainty level when adopting the new technologies (Poong, Ong & Ng, 2008). Trialability able to reduce ambiguous and boost confidence of potential adopter; therefore, are more committed to final adoption (Cheng, Blankson, Sutikno, & Wang, 2009). Besides, the important of a person's readiness to adopt m-shopping is often assumed to trialability of innovation (Conrad, 2010; Gallagher & Wang, 2002). Hence, trialability is essential in mobile shopping adoption.

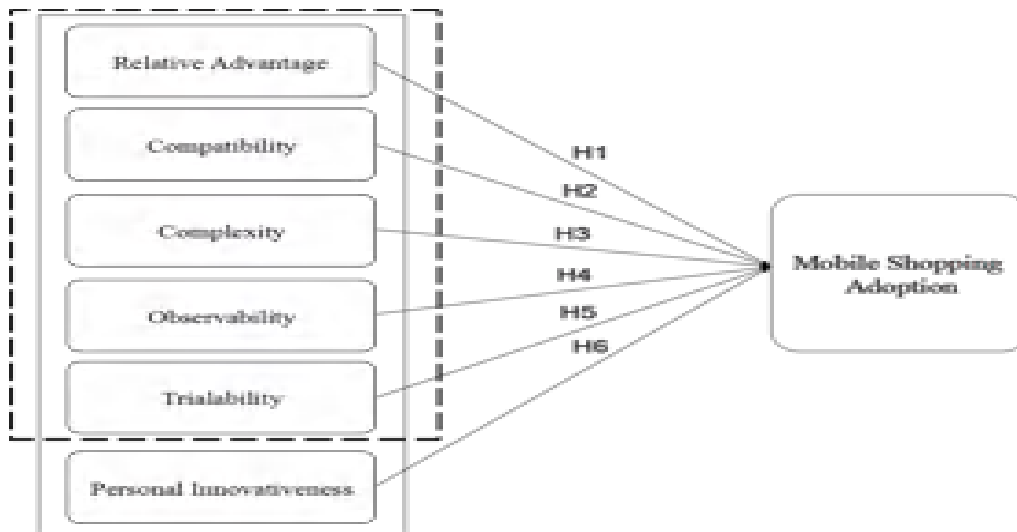
H5: There is a significant relationship between the trialability and adoption of m-shopping among generation Y.

Personal Innovativeness

A person that adopt m-shopping faster than others have a higher personal innovativeness level than those adopt m-shopping later (Hung, Ku and Chang, 2003). Besides, Turan, Tunc and Zehir (2015) proposed that a highly innovativeness person tend to accept and adapt m-shopping easily compared to lower innovativeness person. In addition, Yiu, Grant and Edgar (2007) also supported that the personal innovativeness has a significant relationship toward the m-shopping adoption. A similar study by Yang (2005) revealed that personal innovativeness is a crucial component in determining m-shopping adoption in Singapore. Furthermore, a research conducted in Spain found that personal innovativeness has the most significant relationship with the adoption of m-shopping in their study (Aldás-Manzano, Ruiz-Mafé & Sanz-Blas, 2009).

H6: There is a significant relationship between the personal innovative and adoption of m-shopping among generation Y.

CONCEPTUAL FRAMEWORK



RESEARCH METHODOLOGY

Sample and Data Collection

A self-administered questionnaire was developed and the questionnaires were distributed to respondents over a period of two weeks. Data was collected from 320 mobile shopping users. The questionnaire consisted of two sections; the first section required respondents to provide their demographic details. Demographic details are shown in Table 1. The second section contained statements ranging from 1 (strongly disagree) to 7 (strongly agree) based on their experience with mobile shopping. All items in the questionnaire were adopted from reliable and validated scales of previous studies and modified into the context of mobile shopping. Items were adapted from previous studies. Relative advantage, compatibility, and complexity are adapted from Moore and Benbasat (1991). Observability and trialability from Rogers (2003), Personal innovativeness from Yi et al.(2006). Behavioral intention from Van Slyke et al. (2007).

Table 1. Demographic profile summary.

Demographic Variables	Category	Frequency	Percentage (%)
Gender	Male	153	41.6
	Female	187	58.4
Age			0
	18 – 21	148	46.3
	22 – 25	109	34.1

	26 – 29	34	10.6
	30 – 33	22	6.9
	34 – 37	7	2.2
Job Position	Manager	10	3.1
	Executive	105	32.8
	Student	205	64.1

RESULTS AND DISCUSSION

The data were checked for reliability using Cronbach's alpha coefficient. Table 3 showed the results of this test, revealing that each of the scales used to measure the independent variables and the dependent variables presented acceptable levels of reliability – above the minimum level of 0.60, as suggested by Nunnally and Bernstein (1994). All hypotheses were tested using a series of simple correlation analyses. Table 2 showed the inspection of correlation matrix for relative advantage, compatibility, complexity, observability, trialability, personal innovativeness, and behavioral intention. The results revealed that relative advantage had a significant correlation with user's decision to adopt mobile shopping ($r = 0.58$, $p < .01$). Thus, H1 is supported. Compatibility also had a significant correlation with the dependent variable ($r = 0.63$, $p < .01$), thus supporting H2. Complexity also had significant correlation with intention to adopt ($r = -0.27$, $p < .01$). Therefore, H3 is supported. H4 is supported with correlation between observability and adoption decision was significant ($r = 0.63$, $p < .01$). Trialability also showed significant correlation with adoption ($r = 0.45$, $p < .01$). Hence, support H5. Lastly, personal innovativeness found to be significantly correlated to adoption ($r = 0.57$, $p < .01$). H6 is supported.

Next, multiple regression analysis evolved to determine the strength of all variables towards mobile shopping decision. The regression analysis results showed that all the six variables – performance expectancy, effort expectancy, facilitating condition, social influence, trust, and security accounted for 60 percent of the variance in the prediction of user's adoption, $F = 74.86$, $p < .001$. Further inspection of regression coefficient revealed that observability has the greatest statistically significant in affecting mobile shopping adoption ($\beta = .29$, $t = 5.84$, $p > .001$).

Table 2. Correlations coefficients for establishing variables' association

Variables	RA	COM	CPLX	OB	TRY	PI
BI	0.576*	0.643*	-0.265*	0.628*	0.454*	0.572*
Sig. (2 tailed)	0.000	0.000	0.000	0.000	0.000	0.000
Cronbach's α	0.75	0.73	0.88	0.74	0.75	0.74

Note. Correlations are based on N = 320: * $p < .05$, ** $p < .01$

Table 3. ANOVA and model summary statistics.

	R Square	Adjusted Square	R	Mean Square	F	Sig.
Regression	0.589	0.581	38.12		74.86	0.000
Residual			0.509			
Total						
	B	SE	β	t	Sig.	
(Constant)	0.746	0.301	0	2.48	0.014	
RA	0.097	0.059	0.093	1.62	0.107	
COM	0.301	0.061	0.296	4.90	<0.0001	
CPLX	-0.146	0.312	-0.173	-4.67	<0.0001	
OB	0.354	0.061	0.288	5.84	<0.0001	
TRY	0.037	0.053	0.035	0.73	0.465	
PI	0.195	0.054	0.180	3.62	0.0003	

CONCLUSION AND IMPLICATIONS

In this study, relative advantage shows weak significant relationship toward user behaviour intention to adopt m-shopping. m-shopping managers can continuously inform their customers for the benefits of using m-shopping at the same time focus on reducing the doubt and anxiety of potential customers in the advertisement. Therefore, if potential user believes the m-shopping company has the ability to provide an effective service delivery strategies would enhance the m-shopping adoption. In addition, if the manager could promise a safe environment of m-shopping like away from misuse of personal information and fraud issue, the adoption intention from individuals could be enhance. M-shopping is still at growth stage in Malaysia; therefore, m-shopping managers should focusing on enhance the abilities in strengthen the reliability and comfortableness in delivering the services to users.

Besides that, compatibility has a significant relationship toward user behaviour intention to adopt m-shopping. M-shopping manager must know the importance of compatibility with user's values and beliefs to enhance user's perception on the importance of adopting new innovation like m-shopping to conduct several tasks in future. In other words, adoption rate of m-shopping can be guarantee if the manager able to make it compatible with user lifestyle and traditional way in performing similar activities at the time compatible with user need and wants and past experience as well. Additionally, there is no doubt that personalization has become crucial to the success of any digital mobile commerce. M-Shopping managers can focus on personalization which allows company to increase user retention through more relevant and tailored experiences about m-shopping. Personalization requires manager to collect data about the user which can use to make recommendations and tailor promotions to each user individual need and want. Therefore, M-shopping managers must make sure the compatibility of m-shopping with their target customers.

Moreover, complexity also has a significant relationship toward user behaviour intention to adopt m-shopping. The acceptance level of new technology that are easy to exercise would higher than the new technology that complicated to use. The complexity of m-shopping can reduce by providing a more detailed explanations and make sure the explanation is easy to understand. In addition, M-shopping managers have to design an effective and simple interface that would not required a lot of efforts from users. Furthermore, observability also has a significant relationship toward user behaviour intention to adopt m-shopping. In the recent years, m-shopping has become one of the most popular methods among consumers to make purchase online conveniently through mobile device. This is especially so in the high advanced technologies era which Gen Y tends to be others-oriented with a high need for conformity. Besides, m-shopping managers have to encourage retailers and companies to involve in promoting the observability of m-shopping. Once the observability is generate, it will influence more people adopting the m-shopping. Moreover, m-shopping manager can increase the adoption through recruiting the opinion leaders in the society to influence their followers in adopting the new technology.

In additionally, trialability has a significant relationship toward user behaviour intention to adopt M-shopping. Consumer might not acknowledge how useful of m-shopping until they try on it. Thus, trialability can play a critical role to intensify the value of customer behaviour intention to take action in m-shopping. Therefore, m-shopping managers can focus on providing a free accessing period to get a knowledge on customer's response and make any necessary improvement before the launching of m-shopping services. The customers can be benefit from free accessing period to boost their confidences toward m-shopping. Moreover, M-Shopping managers can take a chance to persuade the potential users in adopting m-shopping during trial period. Nevertheless, personal innovativeness also has a significant relationship toward user behaviour intention to adopt M-shopping. Highly innovative individual tend to be more active looking for information about new various idea and have the ability handling high ambiguity situation. M-shopping managers should involve a high innovative person to co-designing m-shopping services to add more values on it. Furthermore, m-shopping manager need to do personality checking before the implementation of m-shopping strategies to fulfill different characteristics of users. This technique encourages m-shopping manager to actively identify customers' needs and complement with creative and effective ways to fulfill their needs.

Limitations of the Study and Directions of Future Study

As with many other researches, this study has some limitations. One of the limitation is majority respondents were from the age range between 18 to 25 years old. According to Rusak (2014), the generation y is born in year 1980 until 1999, whose from 18 to 37 years old. In addition, over 50 percents of the respondents are students, which have low purchasing power compare to working young adults. Thus, it may not fully represent the population of generation Y in the country. Therefore, future study should involve more participants from working field. Besides, the variables of adoption of m-shopping among generation Y may not only limited to six factors in the research. The adjusted R square value indicated that the variables in this study can only explained 58.93% of generation Y adoption of m-shopping, there are 41.07% yet been explained by this study. Therefore, the more variables should included in future study. Furthermore, the interaction effect between the six variables and the environmental factors are not investigate in this research. Hence, by using the same model, the future researcher should study the interaction effect between the variables and adopt more factors to further investigate the predictors of adoption of m-shopping among generation Y.

CONCLUSION

In sum, the aim of study is to examine factors that affecting m-shopping adoption among generation Y. The compatibility, complexity, observability and personal innovativeness showed a significant correlation with the adoption of m-shopping. The study is beneficial for future researches and mobile service providers to develop accurate business strategies to better serve the mobile shopping markets.

REFERENCES

- Abrahamson, E. (1996). Academy of management review. *Management Fashion*, 21(1), 254-285. doi:10.5456/AMR.1996.9602161572
- Agag, G., & El-Masry, A. (2016). Understanding consumer intention to participate in online travel community and effects on consumer intention to purchase travel online and WOM: An integration of innovation diffusion theory and TAM with trust. *Computers in Human Behavior*, 60, 97-111. Doi: 10.1016/j.chb.2016.02.038
- Agrebi, S., & Jallais, J. (2015). Explain the intention to use smartphone for mobile shopping. *Journal of Retailing and Consumer Services*, 22, 16-23
- Aldás-Manzano, J., Lassala-Navarré, C., Ruiz-Mafé, C., & Sans-Blas, S. (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing*, 27(z)53-75.

- Aldás-Manzano, J., Ruiz-Mafé, C., & Sanz-Blas, S. (2009). Exploring individual personality factors as drivers of m-shopping, acceptance. *Industrial Management & Data Systems*, 109(6), 739-757. doi:10.1108/02635570910968018
- Al-Ghaith, W.A., Sanzogni, L., & Sandhu, K. (2010). Factors influencing the adoption and usage of online services in Saudi Arabia. *Electronic Journal on Information Systems in Developing Countries*, 40(1), 1-32
- Al-Jabri, I. M., & Sohail, M. S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), 379-391. Retrieved from https://www.researchgate.net/publication/258515458_Mobile_Banking_Adoption_Application_of_Diffusion_of_Innovation_Theory
- Al-Zoubi, M. I. (2013). Predicting e-business adoption through integrating the constructs of the Roger's diffusion of innovation theory combined with technology-organization-environment model. *Internal Journal of Advanced Computer Research*, 3(13), 63-73. Retrieved from <http://accentsjournals.org/PaperDirectory/Journal/IJACR/2013/12/11.pdf>
- Anil, M. (2012). The IUP journal of bank management. *Cronbach's Alpha Reliability co-efficient for standard of customer services in Maharashtra State Co-operative Bank*, 1(3).
- Babbie, E. (1990). *Survey Research Methods* (2nd ed.). California, CA: Wadsworth Publishing Co.
- Babin, B., Carr, J., Griffin, M. and Zikmund, W. (2013). *Business Research Methods*. 9th ed. Mason: South-Western, Cengage Learning.
- Barnes, S. J. (2002). The mobile commerce value chain: analysis and future developments. *International Journal of Information Management*, 22(2), 91-108
- Bluman, A. G. (2016). *Elementary Statistics: A Step by Step Approach, A Brief Version* (7th ed.). New York, NY: McGraw-Hill Education
- Bouwman, H., Carlsson, C., Castillo, F. J. M., & Walden, P. (2007). Barriers and drivers in the adoption of current and future mobile services in Finland. *Telematics and Informatics*, 24, 145-160.
- Bouwman, H., Carlsson, C., Castillo, F. J. M., & Walden, P. (2007). Barriers and drivers in the adoption of current and future mobile services in Finland. *Telematics and Informatics*, 24, 145-160.
- Brown, I., Cajee, Z., Davies, D., & Stroebel, S. (2003). Cell phone banking: predictors of adoption in South Africa – An exploratory study. *International Journal of Information Management*, 23, 381-394. doi: 10.1016/s0268-4012(03)00065-3
- Burkus, D. (n.d.). The 5 common characteristics of ideas that spread. Retrieved from <http://99u.com/articles/19306/the-5-common-characteristics-of-ideas-that-spread>
- Burns, A.C., & Bush, R.F. (2014). *Marketing research* (7th ed.). New Jersey: Prentice Hall.
- Chitungo, S. K., & Munongo, S. (2013). Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe. *Journal of Business Administration and Education*, 3(1), 51-79. Retrieved from <http://infinitypress.info/index.php/jbae/article/view/100/90>
- Chong, A. Y. L., Chan, F. T. S., & Ooi, K. B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. *Decision Support System*, 53(1), 34-43. doi:10.1016/j.dss.2011.12.001

- Chung, K. (2014). Gender, culture and determinants of behavioural intents to adopt mobile commerce among the Y Generation in transition economies: evidence from Kazakhstan. *Behaviour & Information Technology*, 33(7), 743-756.
- Chung, K. C. (2013). Gender, culture and determinants of behavioural intents to adopt mobile commerce among the Y generation in transition economies: Evidence from Kazakhstan. *Behaviour & Information Technology*, 33(7), 743-756. doi:10.1080/0144929X.2013.805243
- Chung, K. C., & Holdsworth, D. K. (2012). Culture and behavioural intent to adopt mobile commerce among the Y generation: Comparative analyses between Kazakhstan, Morocco and Singapore. *Young Consumers*, 13(3), 224-241. doi:10.1108/17473611211261629
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Science* (2nd ed.). New Jersey, NJ: ErlbaumCooper D. R. & Schindler P. S. (2014). *Business Research Methods* (12th edition). Boston:McGRAW Hill Irwin
- Creswell, J.W. (1994). *Research Design: Qualitative & Quantitative Approaches*, London: SAGE Publications.
- Daniels, S. (2007). *Gen Y considerations for the retail industry*. Melbourne: Victoria: The Australian Centre for Retail Studies, Monash University.
- Dash, M., Bhusan, P. B., & Samai, S. (2014). Determinants of customers' adoption of mobile banking: An empirical study by integrating diffusion of innovation with attitude. *Journal of Internet Banking and Commerce*, 19(3), 1-20. Retrieved from https://www.researchgate.net/publication/287716968_Determinants_of_customers'_adoption_of_mobile_banking_An_empirical_study_by_integrating_diffusion_of_innovation_with_attitude
- Dibra, M. (2015). Rogers theory on diffusion of innovation - The most appropriate theoretical model in the study of factors influencing the integration of sustainability in tourism businesses. *Procedia - Social and Behavioral Sciences*, 195, 1453-1462.
- Mao, E., Srite, M., Thatcher, J.B., & Yaprak, O. (2005). A research model for mobile phone service behaviors: empirical validation in the US and Turkey, *Journal of Global Information Technology Management*, 8, 7-28
- Ghazizadeh, S. (2012). *Acceptance theory on mobile service and application*. Unpublished degree's thesis, Vaasan Ammattikorkeakoulu University of Applied Sciences, Finland.
- Gravetter, F., & Wallnau, L. (2008). *Essentials of Statistics for the Behavioral Science* (6th ed.). Belmont, CA: Thomson Wadsworth.
- Gu, J., Lee, S., & Suh, Y. (2009). Determinants of behavioral intention to mobile banking. *Expert System with Applications*, 36(9), 11605-11616. doi:10.1016/j.eswa.2009.03.024
- Hair, J. F., Bush, R. P., & Ortinau, D. J. (2009). *Marketing Research: In a Digital Information Environment* (4th ed.). New York, NY: McGraw-Hill/Irwin
- Harring, J., & Wasko, J. (2011). Probabilistic Inferences for the Sample Pearson Product Moment Correlation. *Journal of Modern Applied Statistical Methods*, 10(2), pp.476-493. doi: 10.22237/jmasm/1320120420
- Heggestuen, J., & Ballve, M. (2014). *Retailer are driving huge increases in mobile shopping and buying – This is how*. Retrieved from <http://www.businessinsider.com/mobile-retail-and-commerce-trends-2014-1/>
- Hinkin, T.R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21, 967-988.

- Holcomb, Z. (2017). *Fundamentals of descriptive statistics*. New York: Routledge.
- Holton, E. H., & Burnett, M. B. (1997). *Qualitative research methods*. In R. A. Swanson, & E. F. Holton (Eds.), *Human resource development research handbook: Linking research and practice*. San Francisco: Berrett-Koehler Publishers.
- Hung, S. Y., Ku, C. Y., & Chang, C. M. (2003). Critical factors of WAP services adoption: An empirical study. *Electronic Commerce Research and Application*, 2, 42-60. doi:10.1016/s1537-4223(03)00008-5
- Hung, S-Y., Ku, C-Y., & Chang, C-M. (2003). Critical factors of WAP services adoption: an empirical study. *Electronic Commerce Research and Applications*, 2, 42-60.
- Islam, M. D., Low, P. K. C., & Hasan, I. (2013). Intention to use advanced mobile phone services (AMPS). *Management Decision*, 51(4), 824-838. doi:10.1108/00251741311326590
- Jamshidi, D., Hussin, N., & Wan, H. L. (2015). "Islamic banking services adoption as a new banking restructure: Examining its adoption from the perspective of DOI theory and trust in Malaysia. *Humanomics*, 31(2), 214-223. doi:10.1108/H-07-2013-0042
- Johanson, G. A., & Brooks, G. P. (2010). Initial scale development: Sample size for pilot studies. *Educational and Psychological Measurement*, 70(3), 394-400. doi:10.1177/0013164409355692
- Junco, R., & Mastrodicasa, J. (2007). Connecting to the net generation: What higher education professionals need to know about today's students. Washington, DC, NASPA.
- Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. Thousand Oaks, CA: Sage.
- Khuong, M. N., & Ha, H. T. T. (2014). The influences of push and pull factors on the international leisure tourists' return intention to Ho Chi Minh City, Vietnam: A mediation analysis of destination satisfaction. *International Journal of Trade, Economics and Finance*, 5(6), 490-496.
- Kourouthanassis, P. E. & Giaglis, G. M. (2012). The Past, Present and Future of Mobile Commerce Research, *International Journal of Electric Commerce*, 16(4), 5-18.
- Kuo, Y., & Yen, S. (2009). Towards an understanding of the behavioral intention to use 3G mobile value-added services. *Computers in Human Behavior*, 25, 103-110. doi:10.1016/j.chb.2008.07.007
- Lee, Y-H., Hsieh, Y-C., & Hsu, C-N. (2011). Adding innovation diffusion theory to the technology acceptance model: Supporting employees' intentions to use E-learning systems. *Educational Technology & Society*, 14(4), 124-137.
- Li, Y., Fu, Z. T., & Li, H. (2007). Evaluating factors affecting the adoption of mobile commerce in agriculture: An empirical study. *New Zealand Journal of Agricultural Research*, 50(5), 1213-1218. doi:10.1080/00288230709510404
- Lin, H. F. (2010). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31(1), 252-260. doi:10.1016/j.ijinfomgt.2010.07.006
- Lin, H-F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31, 252-260.

- Lu, H., & Su, P. Y. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research*, 19(4), 442-458.
- Lu, J. (2014). Are personal innovativeness and social influence critical to continue with mobile commerce?. *Internet Research*, 24(2), 134-159. doi: 10.1108/IntR-05.2012.0100
- Lu, J., Yao, J. E., & Yu, C-S. (2005). Personal innovativeness, social influences and adoption of wireless Internet services via mobile technology. *Journal of Strategic Information Systems*, 14, 245-268.
- Lu, J., Yu, C-S., Liu, C., & Yao, J. E. (2003). Technology acceptance model for wireless internet. *Internet Research*, 13(3), 206-222. doi:10.1108/10662240310478222
- Luarn, P., & Lin, H-H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computer in Human Behavior*, 21, 873-891.
- MalaysiaDigest. (2015). *Malaysia ranked third in mobile shopping growth in Asia Pacific, are we addicted to shopping apps?*. Retrieved from <http://www.malaysiadigest.com/features/575054-malaysia-ranked-third-in-mobile-shopping-growth-in-asia-pacific-are-we-addicted-to-shopping-apps.html>
- Malhotra, N. K. (2004). *Marketing research: An applied orientation* (4th ed.). Pearson Education India.
- Malhotra, N. K. (2009). *Marketing research: An applied orientation* (6th ed.). India: Pearson Global Edition.
- Malhotra, N., & Peterson, M. (2006). *Basic Marketing Research; a decision-making approach* (2nd ed.). New Jersey: Pearson.
- Mallat, N. (2007). Exploring consumer adoption of mobile payments – A qualitative study. *Journal of Strategic Information System*, 16(1), 413-432. doi:10.1016/j.jsis.2007.08.001
- Martin, S. S., Prodanova, J., & Jimenez, N. (2015). The impact of age in the generation of satisfaction and WOM in mobile shopping. *Journal of Retailing and Consumer Services*, 23, 1-8.
- McHugh, M. (2003). Descriptive Statistics, Part I: Level of Measurement. *Journal for Specialists in Pediatric Nursing*, 8(1), pp.35-37. doi: 10.1111/j.1744-6155.2003.tb00182.x
- McLeod, S. (2014). Questionnaires. Retrieved from <https://www.simplypsychology.org/questionnaires.html>
- Moonweb.(2016). 7 Mobile commerce trends 2016. Retrieved from <https://www.moovweb.com/mobile-commerce-trends-2016/>
- Moore, G. C., & Benbasat, I. (1991). Development of an instrument to measure the perception of adopting an information technology innovation. *Information Systems Research*, 2(3), 192-222. Retrieved from http://130.18.86.27/faculty/warkentin/SecurityPapers/Merrill/MooreBenbasat1991_ISR2_3_DevelopInstrumentMeasurePerceptAdoptITInnovation.pdf
- Ong, J. W., Poong, Y. S., & Ng, T. H. (2008). 3G services adoption among university students: Diffusion of innovation theory. *Communications of the IBIMA*, 3(1), 114-121. Retrieved from https://www.researchgate.net/publication/45523899_3G_Services_Adoption_among_University_Students_Diffusion_of_Innovation_Theory

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Persson, J., & Berndtsson, J. (2015). Determinants of smartphone shopping adoption: Key factors for online shopping of consumer goods through smartphones in Sweden. *Department of Business Administration*, 2-80.
- Pharthasarathy, M., & Bhattacharjee, A. (1998). Understanding post-adoption behavior in the context of online services. *Information System Research*, 9(4), 362-379. Retrieved from https://www.jstor.org/stable/23011032?seq=1#page_scan_tab_contents
- Revels, J., Tojib, D., & Tsarenko, Y. (2010). Understanding consumer intention to use mobile services. *Australasian Marketing Journal*, 18, 74-80.
- Rogers, E.M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
- Rummel, R.J. (1970). *Applied factor analysis*. Evanston, IL: Northwestern University Press.
- Rusak, P. (2014). X,Y,Z : Generations Office Battle. In Report on the Labor Market. A Guide for the Employer 2013/2014, 11-12. Academic Press
- Saunders M., Lewis P. & Thornhill A.(2012). *Research Methods For Business Student* (6th ed.). Harlow: Financial Times/Prentice Hall
- Schwab, D.P. (1980). Construct validity in organization behavior. In B.M. Staw & L.L. Cummings (eds.) *Research in organizational behavior*, 2(3). Greenwich, CT: JAI Press
- Sekaran, U. (2003). *Research methods for business: a skill building approach*. 4th ed. New York: John Wiley & Sons, Inc.
- Sekaran, U., & Bougie, R. (2016). *Research Methods For Business: A Skill Building Approach* (7th ed.). West Sussex: John Wiley & Sons Ltd.
- Stock, J., & Watson, M. (2007). *Introduction to econometrics* (2nd ed.). Boston, MA: Pearson Education, Inc.
- Strader, T., Ramaswami, S., & Houle, P. (2007). Perceived network externalities and communication technology acceptance. *European Journal of information System*, 16(1), 54-65. Retrieved from <https://link.springer.com/article/10.1057/palgrave.ejis.3000657> *The Journal of Applied Business and Economics*, 11(2), 1-21.
- Treiblmaier, H., & Filzmoser, P. (2009). Benefits from using continuous rating scales in online survey research. *Research Methods and Philosophy*. doi:10.13140/RG.2.1.2899.6643
- Turan, A., Tunc, A. O., & Zehir, C. (2015). A theoretical model proposal: Personal innovativeness and user involvement as antecedents of unified theory of acceptance and use of technology. *Procedia - Social and Behavioral Sciences*, 210, 43-51.
- Turan, A., Tunç, A. Ö., Zehir, C. (2015). A theoretical model proposal: Personal innovativeness and user involvement as antecedents of unified theory of acceptance and use of technology. *Procedia – Social and Behavioral Sciences*, 210, 43-51. doi:10.1016/j.sbspro.2015.11.327
- Wang, E. (2014). Perceived control and gender difference on the relationship between trialability and intent to play new online games. *Computers in Human Behavior*, 30, pp.315-320. doi:10.1016/j.chb.2013.09.016
- Williams, K. C., Page, R. A., Petrosky, A. R., & Hernandez, E. H. (2010). MultiGenerational Marketing: Descriptions, Characteristics, Lifestyles, and Attitudes.
- Wong, W.K. (2010), Factors affecting Malaysian Gen Y's green brand perception and purchase decision. MBA Thesis, Universiti Sains Malaysia.

- Wu, J. H., & Wang, S. C. (2004). What drives mobile commerce? An empirical evaluation of revised technology acceptance model. *Information & Management*, 42(1), 719-729. doi:10.1016/j.im.2004.07.001
- Yang K. (2010). Determinants of US consumer mobile shopping services adoption: implications for designing mobile shopping services. *Journal of Consumer Marketing*, 27(3), 262-270.
- Yang, K. C. C. (2004). Exploring factors affecting the adoption of mobile commerce in Singapore. *Telematics and Informatics*, 22, 257-277. doi:10.1016/j.tele.2004.11.003
- Yi, M. Y., Jackson, J. D. Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information & Management*, 43(3), 350-363. doi:10.1016/j.im.2005.08.006
- Yiu, C. S., Grant, K., & Edgar, D. (2007). Factors affecting the adoption of internet banking in Hong Kong - Implications for the banking sector. *International Journal of Information Management*, 27, 336-351. doi:10.1016/j.ijinfomgt.2007.03.002
- Yiu, C. S., Grant, K., & Edgar, D. (2007). Factors affecting the adoption of Internet Banking in Hong Kong—implications for the banking sector. *International Journal of Information Management*, 27, 336-351.
- Zhang, L. Y., Zhu, J., & Liu, Q. H. (2012). A meta-analysis of mobile commerce adoption and the moderating effect of culture. *Computer in Human Behavior*, 28(1), 1902-1911. doi:10.1016/j.chb.2012.05.008

Factors Affecting Tourist's Experience Using the Applications of Smart Technologies

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Abstract

The tourism industry in Malaysia has been an important role in contributing the development of the nation. The purpose of this research is to examine the factors affecting tourists' experience by developing a framework with a theoretical concept combine with smart technologies using intelligent management system.. In this research, independent variables consists of Internet of Things (IoT), cloud computing, mobile communication and Artificial Intelligence (AI) technology are chosen and discussed in relations to tourists' experience. A total of 250 responses were collected by adopting quota sampling technique. The data was analysed using SAS software. Based on the result, cloud computing, mobile communication and Artificial Intelligence (AI) technology) are significant related tourists' experience. Conversely, Internet of Things is not significantly related to tourists' experience. Several implications were highlighted and recommended based on the findings. This study serves as a source for ICT strategy development, competitive advantages and business innovation for the co-creation of tourists' experiences. In addition, policy makers are able to gain a better insight on which technology to be focused for a smart travel destination in Malaysia.

Keywords: Intelligent Management System, Smart Tourism, Tourists' Experience, ICT.

INTRODUCTION

The Information and Communication Technologies (ICT) has transformed the domain of global tourism since 1980 (Porter, 2001). Consequently, the advancement of ICT have changed the practices, business strategies, and also the industry structure. Beginning with year 2000, there is an emergent e-commerce sector in tourism, which is known as e-tourism. E-tourism is a way of establishing commercial relationships by utilizing the Internet to offer tourism related products or information like flights booking, hotel reservation, car rental, social web in the tourism domain. The concept of "smart" has been applied to phenomena that encompass tourism with the information-intensity of tourism and the advancement of ICT (Gretzel, Hunter & Chung, 2015). Undoubtedly, Smart tourism is a distinct step in the evolution of ICT in tourism. Smart tourism is a new popular term used to describe the increasing reliance of tourism destinations (Gretzel et al., 2015). Many industries' player and tourists are burgeoning on such emerging forms of ICT to allow massive amounts of data to be transformed into value propositions. Smart technologies are changing consumer experiences and are generating creative tourism business models (Wang, Park and Fesenmaier, 2012). For instance, cloud computing, big data, mobile apps, location-based services, geo-tag services, beacon technology, virtual reality, augmented reality, and social networking services are all cutting-edge examples of smart technologies enhancing the tourism experiences and services.

The evolution of Information and Communication Technologies (ICT) enhances and changes the traditional way of enhancing tourists' experience as it changes the entire traditional roles, structures and processes of tourists' experience (Tussyadiah & Fesenmaier, 2007). With the advancement of technology, there are new opportunities for the development of tourism activity or tourism product. For instance, the internet has integrated with social media and transformed into social networking which would improve the tourist knowledge and empower the tourists' experience (Schmallegger & Carson, 2008). Tourists are also able to interact with others and share their experience by accessing the open data platform like Facebook, Instagram, Twitter or TripAdvisor. Furthermore, the advancement of mobile technologies would

transform the experience of tourist from “sit and search” to “roam and receive” due to its constant connectivity and its ability to access the information in anytime and anywhere (Pura, 2005). Hence, the technology plays a supporting role to enhance the level of tourist involvement and the value of experience (Buhalis & Law, 2008).

Unlike neighbouring countries such as Singapore and Thailand, Malaysia has striven to improve the development stages of Information and Communications Technology (ICT) (Milenkovic, Brajovic, Milenkovic, Vukmirovic, & Jeremic, 2016). As a result, Malaysia's intelligent management system to support tourism industry is still lacking behind. The factors which could enhance tourists' experience have suffered a big transformation due to the evolution of tourism and advancement of technology as tourists' experience in the past may no longer applicable in this digital age. Komninos (2003) had stated that the combination of ICT (eg: cloud computing, semantics, sensors, tags, and RFID) had used by several countries in the establishment of a smart tourism. Nevertheless, smart tourism with the elaboration of intelligent management system remains ill-defined as a concept despite of the past studies from scholars. Hence, it is crucial to study what are the factors which could enhance the tourists' experience better through intelligent management system in Malaysia. These study attempts to develop a framework with a theoretical concept combine with smart technologies with tourist's experience. Tourists' experience can be measured by 4 dimensions; education, entertainment, escapism, and esthetic (Pine & Gilmore, 1999). In this study, the tourists' experience is highly related to management approach. Hence, tourists' experience will be defined as a sensation of being entertained, educated, indulged in an environment or (and) diverged to a new self in which value is co-created based on the intelligent management system the tourism industry brings to the experience.

LITERATURE REVIEW

Intelligent Management System (IMS)

Intelligent management system is a system which coordinates and carries out all the smart tourism components. Wang, Park and Fesenmaier (2012) stated that smart technologies are changing consumer experiences and are generating creative tourism business models. Cloud computing, big data, mobile apps, location-based services, geo-tag services, beacon technology, virtual reality, augmented reality, and social networking services are all cutting-edge examples of smart technologies enhancing the tourism experiences and services. Many past studies (Buhalis & Amaranggana, 2014; Koo et al., 2015; Benckendorff et al., 2014) emphasized on the usage of ICT related components in smart tourism. For instance, the tourism retail business can implement the Quick Response (QR) codes in retail settings to support consumers to obtain product or service knowledge easily (Buhalis & Law, 2008). Likewise, the hotels can combine the RFID or sensor technique with artificial intelligent technology to efficiently monitor the usage of energy. In the context of this study, four components of intelligent management system used by the Malaysian tourism industry – Internet of Things (IoT), cloud computing, mobile communication and Artificial Intelligence (AI) technology will be discussed further.

Internet of Things (IoT)

IoT was first used by Kevin Ashton to describe a system whereby objects in the physical world could be connected to the Internet by sensors in year 1999 (Rose, Eldridge, & Chapin, 2015). The term IoT is coined from words like “Internet” and “Things”. Today, IoT has become a viral term to describe scenarios whereby Internet connectivity could extend to things like devices, sensors, and everyday items in the physical world. In the context of IoT, sensors and actuators embedded in physical objects, from roadways to pacemakers, are linked through wired and wireless networks, often using the same Internet IP that connects to the Internet (Butler, 2009). These networks churn out huge volumes of data that flow to computers for analysis (Lombreglia, 2010). When objects can both sense the environment and communicate, they become tools for understanding complexity and responding to it swiftly. The term IoT has attracted attention by projecting the vision of a global infrastructure of networked physical objects, enabling anytime, anyplace connectivity for anything and not only for any one (Kosmatos, Tselikas & Boucouvalas, 2011). Past studies have been conducted to investigate the relationship between IoT and tourists' experience. Maroto (2015) stated tourists prefer to

use services to discover surprising ways to save their travelling fees. Smith (2015) mentioned that IoT can enhance the tourists' experience as the tools like Quick Response (QR) codes or Near Field Communication (NFC) tags are user friendly. In addition, Kaur and Kaur (2016) asserted that the implementation of IoT in tourism industry has facilitated tourists in booking hotel rooms online. Lee et al. (2011) pointed out that the Taiwanese government has utilized IoT in their smart tourism project named "In-Joy Life Smart Tourism" to manage tourists during peak hours. Tourists utilized their smartphones to interact with augmented reality applications at cultural sites. This helped them to view historical photos overlaid onto the current scene (Engadget, 2016). Chen and Zhou (2010) found out that IoT managed to enhance tourists' experience by enabling their tours to be more convenient. Chen (2013) designed a real-time positioning system based on Received Signal Strength Indication (RSSI), which is part of the IoT technology. As a result, this technology managed to identify real-time positioning of tourists and mark them on the resort map automatically. Guo, Liu and Chai (2014) mentioned that the development of IoT in the tourism industry enhances the tourists' experience in China, and contribute to the strategic transformation of China's tourism industry from online to smart tourism. Based on the discussion above, it is shown that the implementation of IoT can enhance the tourists' experience in other countries like China, Taiwan, and Italy. Therefore, further research is needed to examine the relationship between Internet of Things and tourists' experience in Malaysia with the following hypothesis:

H1: There is a significant relationship between Internet of Things (IoT) and tourists' experience.

Cloud Computing (CC)

Cloud computing is first and foremost a concept of distributing resource management and utilization. NIST (National Institute of Standards and Technology) defines it as a "model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." Cloud computing targets at providing convenient endpoint access system while not requiring purchase of software, platform or physical network infrastructure (Mell & Grance, 2011; Sarga (2012). Zhang and Xu (2012) asserted that the emerging cloud computing appears well-suited to meet the demand of a broad set of tourism service tools, for instance, effective and timely communication between tourists, people, guides, government agencies, private agencies and other professionals. In particular, the concept of shared infrastructure and services provides the foundation for supporting tourism service (Liu & Dan, 2008). Lin, Yang, Pi and Ho (2016) pointed out that several cloud computing technology-integrated applications have been developed in various countries on response to tourists' increasing demands for information. For example, there are "Smarter Tourism" and "Smart Tourism Destination" in China (Zhang, Li & Liu, 2012); the Context Cloud infrastructure in Spain (Martín, Lamsfus, & Alzua-Sorzabal, 2016); the touristic context aware recommendation system in Italy (Amato, Mazzeo, Moscato, & Picariello, 2014); "Smart Tourism Taiwan service platform" and "Map of Taipei Amusement" (MOTA) in Taiwan (Lee, Yang, Lee, & Lee, 2014). From the discussion above, it is proved that cloud computing plays a vital role in enhancing tourists' experiences in various countries. Hence, it is necessary to have a further study on whether such concept is applicable in Malaysia. Consequently, the hypothesis below was constructed:

H2: There is a significant relationship between cloud computing and tourists' experience.

Mobile communication (MC)

Mobile communication is a wireless form of communication (Fekade, Maksymyuk & Jo, 2017). Data communication can be done by mobile phones through network support. The activities which can be carried out include SMS messages, browsing mobile websites, using mobile applications and so on (Prabu, 2012). The increasing adoption of Smartphone's and the developing range of contextually aware 3G/4G enabled Internet applications provides a rich potential to impact on tourist experience (Bendon, Hunsdon & Grieve, 2011). The history of interaction shows that the adoption of new technology usually brings about a radical revolution in the way humans use and view technology (Abowd et al., 1997). Tourism offers a prime context in which to explore the application of mobile technology and there have been numerous studies that have investigated the role of mobile information and other PDA based systems in tourism through technology acceptance or diffusion of innovations (Cheong & Park, 2005).

Tourists can surf the web, check e-mail, read news, pay transactions, and quote stock prices using handheld devices (Lee & Mills, 2010). Given the previous discussion featuring the role of perceived vulnerability in enhancing tourists' experience, it is expected that mobile communication can enhance the tourists' experience in Malaysia as well. Thus, the hypothesis below was constructed:

H3: There is a significant relationship between mobile communication and tourists' experience.

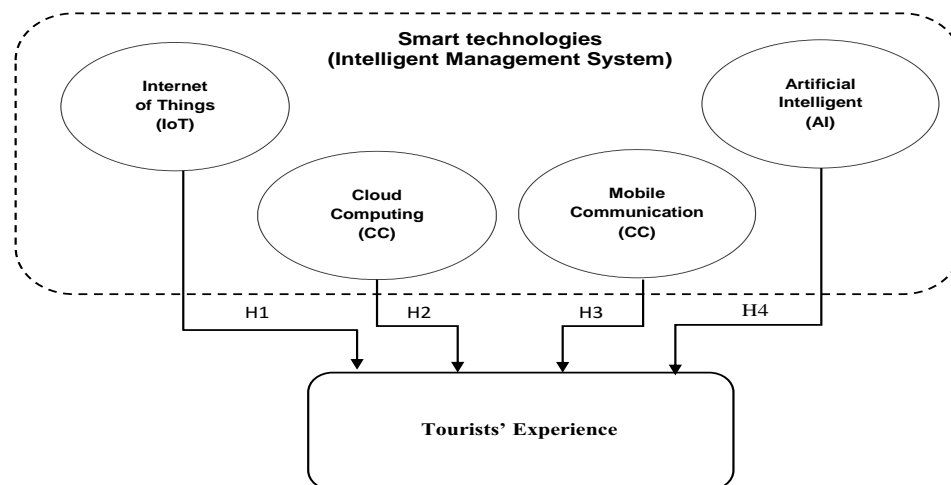
Artificial Intelligence (AI)

Leiden, Boers, Kusters, Putten, and Poel (2016) stated that "Artificial Intelligence" (AI) is difficult to be defined as the term "intelligence" itself has been defined variously. Staab and Werthner (2002) mentioned that AI-based developments are at the forefront not limit to individualized pricing, reversed multi-attribute auctioning, recommendations in bundling products, Semantic Web applications, and mobile applications. Tono (2016) mentioned that AI technology hurts tourist's experience where tourists did not enjoy calling a customer support line and talking to a robot for emergency matters. On the other hand, there are studies which found out that AI technology managed to enhance a tourist's experience. For instance, Staab and Werthner (2002) found out that tourist's experience was enhance by AI applications. Given evidence from prior studies on the relationship between AI technology and tourists' experience, AI is believed to have affected tourists' experience. For example, a tourist's experience would be enhanced by having a recommendations system so that he or she could save time on thinking where to visit during the trip. Nevertheless, as aforementioned, the results of past studies vary. Thus, a further study is needed to examine the relationship between AI technology and tourists' experience. Hence, the following hypothesis was made:

H4: There is a significant relationship between Artificial Intelligence (AI) technology and tourists' experience.

RESEARCH FRAMEWORK

Figure 1. The proposed research framework



RESEARCH METHODOLOGY

Research Design

This research study is a causal research in nature where a quantitative research technique was adopted to test the cause and effect relationship between independent variables: Internet of Things (IoT), cloud computing, mobile communication and Artificial Intelligence (AI) technology and dependent variable: tourists' experience. Self-administered survey method was used to collect data from target respondents.

Sampling Design

The target population of this study was tourists who travel within Malaysia which have the relevant technology experience during the trip. A non-probability sampling technique was chosen for the selection of respondents due to unavailability of sampling frame. The quota sampling technique was employed to select qualified respondents to ensure the selected samples able to represent the target population. The sampling location is restricted to smart tourist attraction areas in Kuala Lumpur (KL) area. Azlee (2017) stated that based on the Euro monitor International Top 100 City Destination ranking list, Kuala Lumpur has been ranked 9th out of 100 leading cities in the world in terms of international tourist arrivals. The report shows that 11.2 million international tourists visited KL with the highest record of tourist arrival in 2014. Three hundred sets of questionnaire were distributed to the tourists in Kuala Lumpur. Among 300 sets of questionnaire, a total of 250 usable questionnaires were collected which yielded response rate of 83.33%. Hill and Alexander (2000) contented that a sample of 200 to 500 respondents is sufficient for social science research. Out of 250 respondents, there are a total of 133 female which represents 53.2% and 117 male which represents 46.8%. In term of age distribution, the largest group of respondents with the age range of 18 to 29 years old consists of 151 respondents (60.4%), followed by 30 to 39 years old consists of 63 participants with a percentage of 25.2% and 40 to 49 years old consists of 20 participants with a percentage of 8.0%. Lastly, the age group of 50 years old and above consists of 16 participants with a percentage of 6.4 %. Majority of respondents is Bachelor Degree holder (n=125, 50%).

Research Instrument

The survey questionnaires comprised of three sections which are Section A, Section B and Section C with a total of 32 questions. Section A is designed for pre-screening the suitable tourists to participate and answer the survey. The survey question will ask the respondent whether they have the experience of using the smart devices (E.g.: smartphone, tablets) before or during the vacation trip. The tourist who had relevant technology experience will be considered in order to reduce any bias concern for the actual travel intentions. Section B designed for the purpose of verifying the relationships of the independent variables (Internet of Things (IoT), cloud computing, mobile communication and artificial intelligent (AI) technology) and dependent variables (tourists' experience). Each variable was measured by five items: items of Internet of Things are adopted from Kosmatos et al., (2011) and Wang, Li, Zhen & Zhang (2016), items for cloud computing are from Ahmed and Hossain (2014) and Wang et al. (2016), items for mobile communication are deployed from Prabu (2012) and Wang et al. (2016), items for AI technology are originally from Haugeland (1985) and Winston (1984) and items for tourists' experience are adopted from Anita (2013). The reliability of each variables were achieved the acceptable level for the items of each construct are considered adequate with inter-item reliability. Likert scale with 5-point is applied in both sections where the respondents can choose from five alternatives, ranging from strongly disagree to strongly agree. Lastly, Section C is designed for the purpose of collecting the respondent's demographic profile data, such as, personal information like age, gender, education level, monthly income, frequency and their purpose of travel to Malaysia.

DATA ANALYSIS

Result Reporting

The results from Table 1 shows that the p-value (<0.0001) is less than the alpha value 0.05 to indicate the F-statistic is significant. The model for this study provide a best fit descriptor of the relationship between the independent variables and dependent variable. The value for the R Square is 0.7526, which indicate that independent variables can be explained by 75.26% of the variations in dependent variable (tourists' experience). Succinctly, it indicates that the four variables (Internet of Things (IoT), cloud computing, mobile communication and artificial intelligence (AI) technology) are significant in explaining tourists' experience.

Based on Table2, the findings indicated that one of the independent variables, Internet of Things (IoT) is not significant to predict dependent variable (tourists' experience) as the p-value for internet of thing (IoT) is 0.2189 and above the alpha value of 0.05. Conversely, cloud computing is significant to predict tourists' experience as the p-value of 0.0167 is below the alpha value of 0.05. Similarly, mobile communication and artificial intelligent (AI) technology are

significant to predict tourists' experience as the p-value of <0.0001 is below the alpha value of 0.05. In view of the results, this is posited that H2, H3 and H4 are supported, whereas H1 is not supported.

Table 1. Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Mode	4	54.33198	13.58299	186.29	<.0001
Error	245	17.86402	0.07191		
Corrected Total	249	72.19600			
Root MSE	0.27003		R-Square	0.7526	
Dependent Mean	3.91600		Adj R-Sq	0.7485	
Coeff Var	6.89547				

Table 2. Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	-0.04474	0.14990	-0.30	0.7656
IoT	1	-0.07128	0.05783	-1.23	0.2189
CC	1	0.13651	0.05664	2.41	0.0167
MC	1	0.47044	0.05503	8.55	<0.0001
AI	1	0.49123	0.07162	6.86	<0.0001

CONCLUSION AND DISCUSSION

Discussion

Overall, the results of the study is in consistent with past studies by scholars like Zhang and Xu (2012), Dong et al. (2009), and Lin et al. (2016). It is evidenced that there is a significant relationship between cloud computing and tourists' experience. Cloud computing has a positively correlated strength whereby the better the utilization of cloud computing in Malaysian tourism industry, the more enhanced a tourist's experience will be. In addition, mobile communication was found to have the highest positive correlated strength with a tourist's experience. It means that the more mobile communication devices are to be utilized in Malaysia tourism industry, the more enhanced will be on tourist's experience. This conforms to the past studies from Cheong and Park (2005), and Lee and Mills (2010). Lastly, Artificial Intelligence (AI) technology has a positive correlated relationship with tourists' experience. When more AI technologies have been utilized in Malaysia's tourism spots, the more enhanced a tourist's experience will be achieved. This is in line with past study by Staab and Werthner (2002). In conclusion, from the findings of this study, it is believed that cloud computing, mobile communication, and AI technology can provide a better and richer insight than IoT in terms of influencing tourists' experience when the tourists are travelling in Malaysia.

Theoretical implication

We have adopted four realm experience theory by Pine and Gilmore (1999) as the core of this study. Unlike past studies, the basis to measure tourists' experience was merely visiting tourists' attraction spots. This study used four realm experiences to measure tourists' experience by enjoying intelligent management system offered by the tourism sectors. This study provides important contributions to the body of knowledge in tourist's experience with the application of smart technologies. There were numbers of researches focused on studying tourists' experience, but limited study on analysing intelligent management system from tourists' viewpoint. Hence, this research is beneficial to other researchers who are interested to further studied on similar research area. Based on our findings, it is shown that the application of intelligent management system as a whole could enhanced the tourists' experience in the aspects of education, entertainment, escapism, and esthetic. This implies that Internet of Things (IoT), cloud computing, mobile communication, and Artificial Intelligence (AI) technology are able to enhance tourists' experience by enabling tourists to be educated, entertained, indulge in the environment, and diverge to a new self. Hence, four realm experiences theory are not only significant for measuring the experience, in particular tourists' attraction spots or places, but the application of smart technologies also contributed tourists' experience at the attraction spots.

Managerial Implication

Malaysian tourism industry and its workforces could focus on improving on the smart technologies to enhance tourists' experience and in turn attracting and retaining more tourists to Malaysia. Tourists' experience could be enhanced by the support from the Malaysian government by subsidizing the technological advancements in tourist attraction spots. Internet of Thing (IoT) is the most insignificant factor among all which can enhance a tourist's experience. The result contradicts the past studies and shows that IoT is not an effective contributor to the enhancement of tourist's experience in Malaysia. The most common IoT elements as aforementioned are undoubtedly QR codes and NFC tags. Perhaps the tourism industry in Malaysia could find out ways to enhance the current elements. Government could subsidize related projects and conduct workshops to enhance the IoT-related-knowledge among the tourism workforce. Moreover, a less advanced virtual reality technology in Malaysia may contribute to such result as well. The tourism industry in Malaysia could learn from successful countries like China and Italy which utilize IoT to enhance tourists' experience. Tourism industry in Malaysia could collaborate with or hire applications from developers to improve augmented reality applications at the tourist attraction spots in order to enhance tourists' experience better (e.g: emerging them in the environment). The government could conduct smart technologies on the tourism industry to encourage the development and advancement of IoT elements.

From the study, there are plenty of mobile applications related to Malaysian tourism industry seem to be available in the market. For instance, mobile applications with transport planning, event listing, travel planning, and tour guiding functions. These applications definitely helped to enhance the tourists' experience. There are certain actions that could be taken in order to improve mobile communication in Malaysia. First of all, the government could provide apprehension on the privacy issues as some tourists are still reluctant to use mobile communication freely due to fear of personal information being hacked. Next, the tourism industry could collaborate or get more designers to develop mobile software or applications specifically for each tourists' attraction spots. Lastly, the workforces in the industry could encourage the tourists to download the mobile applications in order to prevent time consumed in explaining the details of the particular spots to the tourists.

Next, Artificial Intelligence (AI) Technology appears to enhance tourists' experience the most, as tourists' experience seems to be better enhanced by utilizing AI technology. The Malaysian tourism industry and government could emphasize on its four categories namely "systems that think like humans", "systems that think rationally", "systems that act like humans", and "systems that act like rationally". The government could provide more incentives to the industry players to further encourage improvement and advancement in AI technologies to the tourism industry. Successively, the tourism workforces have to take the initiative to learn on how to adopt AI technology and utilize it effectively. In a nutshell, the Malaysian tourism industry and government could enhance the tourists' experience better by gaining insights on the factors enhancing tourists' experience with smart technologies as mentioned above.

Limitation and recommendation

This study only emphasized on hard smartness, components like human capital, social capital and knowledge management from soft smartness may complement components under this study. Adding soft smartness in any smart tourism related studies may provide researchers a better insight on modern tourism as a whole. Moreover, we could not reach out to more respondents due to language barrier. Future researchers could provide more language choice or questionnaires or provide an instant translation devices such as "ili" so that they could translate the items from the questionnaire to any languages the tourists preferred instantly. Next, future researchers are encouraged to get more respondents from different age group, especially those from Generation X as they may not be that familiar with smart technologies for tourism. Lastly, the future researchers could distribute and collect the questionnaires not limit to Kuala Lumpur but also to other tourists' attraction spots in Malaysia which could reflect the tourists' opinion in a broader perspective.

CONTRIBUTIONS AND CONCLUSION

We believe that this study could provide tourism sector a better insight on how to utilize the smart technologies through intelligent management system in more effectively and efficiently manner. The findings would provide valuable information to the new and existing players in the tourism sector with the potential opportunities to improve of its intelligent management system. This study serves as a source for ICT strategy development, competitive advantages and business innovation for the co-creation of tourists' experiences in the future. The respective policy makers are able to gain a better insight on which technology in comparable to Internet of Things (IoT), cloud computing, mobile communication and Artificial Intelligence (AI) to be emphasised on. The government would able to allocate the incentives and subsidies for courses and workshops related to the particular technology to enhance the tourists' experience. In addition, with more tourists to be attracted to Malaysia, the country could earn more national income from the inflow of tourists' expenditure. Strategically, Tourism Malaysia could also develop a better tourist destinations by knowing which technology to be focused to attract tourists in the future.

REFERENCES

- Amato F., Mazzeo A., Moscato V., Picariello A. (2014). Exploiting cloud technologies and context information for recommending touristic paths. In: Zavoral F., Jung J., Badica C. (eds) *Intelligent distributed computing VII*. Studies in Computational Intelligence, vol 511. Springer, Cham.
- Azlee, A. (2017). KL targets 12 million international tourist arrivals for 2016. Retrieved from <http://www.themalaymailonline.com/malaysia/article/kl-targets-12-millioni-international-tourist-arrivals-for-2016>
- Benckendorff, P., Sheldon, P., & Fesenmaier, D. (2014). *Tourism information technology*. Wallingford: CABI Publishing.
- Bendon, T., Hunsdon, S., & Grieve, C. (2010). *Our mobile future: how smartphones will transform visiting experiences*. London: Horizon Digital Economy Research.
- Buhalis, D., & Amaranggana, A. (2014). Smart tourism destinations. In Z. Xiang & I. Tussyadiah (eds.), *Information and Communication*. Technologies in Tourism, Switzerland: Springer International Publishing.
- Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the internet: The state of eTourism research. *Tourism Management*, 29(4), 609-830.
- Butler, D. (2009). 2020 computing: Everything, everywhere. *Nature*, 440, 402-405.
- Chen, C., & Zhou, Q. (2010). A study on IOT technology in upgrading traditional industries. *Journal of Hangzhou Dianzi University (Social Sciences)*, 6(4).
- Chen, Z. (2013). Design of real-time positioning system based on RSSI ranging and the internet of things Technology. *Computer Measurement and Control*, 21(7).
- Dong, B., Zheng, Q., Yang, J., Li, H., & Qiao, M. (2009). An e-learning ecosystem based on cloud computing infrastructure. In: *9th IEEE International Conference on Advanced Learning Technologies*, pp. 125–127. IEEE Press, Latvia (2009).
- Fekade, B., Maksymyuk, T., & Jo, M. (2017). Clustering hypervisors to minimize failures in mobile cloud computing. *Wireless Communications And Mobile Computing*, 16(18), 3455-3465.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: foundations and developments. *Electronic Markets*, 25(3), 179-188.
- Guo, Y., Liu, H., & Chai, Y. (2014). The Embedding Convergence of Smart Cities and Tourism Internet of Things in China: An Advance Perspective. *Advances in Hospitality and Tourism Research*, 2(1), 54-69.
- Haugeland, J. (1985). Artificial intelligence: The very idea. Cambridge, MA: MIT Press. Hill, N., & Alexander, J. (2000). *Handbook of customer satisfaction and loyalty measurement*. Gower Publishing, Ltd.
- Kaur, K., & Kaur, K. (2016). A study of power management techniques for Internet of Things (IoT), 2(1).
- Koo, C., Gretzel, U., Hunter, W. C., & Chung, N. (2015). The role of IT in tourism. *Asia Pacific Journal of Information Systems*, 25(1), 99–104
- Kosmatos, E., Tselikas, N., & Boucouvalas, A. (2011). Integrating RFIDs and smart objects into a unified Internet of Things architecture. *Advances in Internet of Things*, 1(1), 5-12.
- Lee, C., Lee, J., Lo, P., Tang, H., Hsiao, W., Liu, J., & Lin, T. (2011). Taiwan perspective: Developing smart living technology. *International Journal of Automation and Smart Technology*, 1(1).
- Lee, J., & Mills, J. E. (2010). Exploring tourist satisfaction with mobile experience technology. *International Management Review*, 6(1), 92-102.
- Lee, S. G., Yang, C. G., Lee, S. B., & Lee, J. B. (2014). A study on the antecedents and consequences of satisfaction and dissatisfaction in web portal usage. *Service Business*, 9(3), 567-586.
- Lin, S., Yang, C., Pi, H., & Ho, T. (2016). Tourism guide cloud service quality: What actually delights customers?. *Springerplus*, 5(1), 1-9.
- Liu, H., & Dan, O. (2008). GridBatch: Cloud computing for large-scale data-intensive batch applications. *Cluster Computing and the Grid, IEEE International Symposium on*, vol. 00, no. , pp. 295-305
- Lombreglia, R. (2010). The Internet of things, Boston Globe. *Journal of Computer and Communications*, 3(5), 164-173.
- Maroto, P. (2016). Will Internet of Things be a teaser to attract more tourists to my city?. Paco Maroto's IoT Blog. Retrieved from <https://pacomaroto.wordpress.com/smart-cities-series/will-internet-of-things-be-a-teaser-to-attract-more-tourists-to-my-city/>
- Martin, D., Lamsfus, C., & Alzua-Sorzabal, A. (2016). A cloud-based platform to develop context-aware mobile applications by domain experts. *Computer Standards & Interfaces*, 44, 177-184.
- Mell, P., & Grance, T. (2011). *NIST Notional Definition of Cloud Computing*.
- Milenkovic, M., Brajovic, B., Milenkovic, D., Vukmirovic, D., & Jeremic, B. (2016). Beyond the equal-weight framework of the networked readiness index: A multilevel i-distance methodology. *Information Development*, 32(4), 1120-1136.
- Pine, B. J., & Gilmore, J. H. (1999). *The experience economy: Work is theatre & every business a stage*. Boston: Harvard Business School Press.
- Porter, M. (2001). Strategy and the internet. *Harvard Business Review*, 3(79), 62-78.
- Prabu, L. (2012). Cloud computing: an overview. *Journal of Systems Integration*, 3(4), 3-14.

- Pura, M. (2005). Linking perceived value and loyalty in location-based mobile services. *Managing Service Quality: An International Journal*, 15(6), 509-538.
- Rose, K., Eldridge, S., & Chapin, L. (2015). The internet of things: An overview. *The Internet Society (ISOC)*, 1-50.
- Sarga, L. (2012). Cloud computing: an overview. *Journal of Systems Integration*, 3(4), 3-14.
- Smith, R. (2015). *Smart tourism tools: Linking technology to the touristic resources of city destinations*. NHTV Breda University of Applied Sciences.
- Staab, S., & Werthner, H. (2002). Intelligent systems for tourism. *IEEE Intelligent Systems*, 17(6), 53-66.
- Tussyadiah, I. P., & Fesenmaier, D. R. (2007). Interpreting tourist experiences from first-person stories: A foundation for mobile guides. *In Proceeding of European Conference on Information Systems (ECIS)*, 2259-2270.
- Wang, D., S. Park, and D. R. Fesenmaier. (2012). The role of smartphones in mediating the touristic experience. *Journal of Travel Research*, 51(4), 371-387.
- Winston, P. (1984). *Artificial intelligence*. Reading, Mass: Addison-Wesley Publ. Co
- Zhang, L., Li, N., & Liu, M. (2012). On the basic concept of smarter tourism and its theoretical system. *Tourism Tribune*, 27(5), 66-73.
- Zhang, X., & Xu, C. (2012). A semantic e-tourism framework based on cloud-computing. *Applied Mechanics and Materials*, 19(7), 661-668.

Factors Influencing University Students' Online Purchase in Malaysia: A Survey in Perak and Selangor

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Abstract

In recent years, online purchase has been witnessing strong growth due to the increase in internet penetration worldwide. However, Malaysia's online retail sales only account for about 2% of total retail sales. One reason for this situation is because the potential of the university students market segment in Malaysia has not been fully utilized. Thus, the purpose of this study is to identify factors influencing university students' online purchase in Malaysia. In order to achieve the purpose of this study, a conceptual model is developed which adopts two constructs from the UTAUT2 (facilitating conditions and habit) and two external constructs (price savings and perceived risk). By applying a quantitative survey approach, a total of 400 questionnaires were handed out to university students in the Perak and Selangor regions. Subsequently, only 324 questionnaires were usable for analysis. The data was then analyzed using Pearson correlation analysis and multiple linear regression. The results revealed that habit, price savings and perceived risk were significant determinants of online purchase among university students in Malaysia. This study provides helpful insights to online retailers to better engage the university students market segment in Malaysia.

Keywords: online purchase, university students, online retailers

INTRODUCTION

The development of the Internet as a channel for buying and/or selling goods and services has significantly revolutionized the structure of retail businesses and is continually reshaping the future of the business world (VisualNews.com, 2013). It has now become essential for businesses worldwide to have a strong online marketing channel in order to obtain a competitive edge (Roesler, 2015). In recent years, online purchase has been witnessing robust growth because of the increase in internet penetration worldwide (Saleh, 2016; Stevens, 2016). However, in Malaysia, online retail sales only account for about 2% of total retail sales (Dhesi, 2017). This is because there are countless opportunities in Malaysia that still remain untouched (Kim, 2015). One of these opportunities is the university students in Malaysia. Malaysian university students have the highest internet usage in the country (Kugan, 2015) which shows a high level of internet acceptance. This is further justified by Vinerean, Cetina and Dumitrescu (2014) which found that in general consumer acceptance of the Internet positively affects online purchase.

In spite of the above mentioned situation, businesses' mainly target the older adults market segment (Thomas & Roy, 2016; Glynndevins, 2014). Famous brands such as Starbucks and Netflix primary target market group is 25-40 years old (D'Souza, 2016; Rafii, 2013). Hence, this research specifically studies Malaysian university students and the factors that influence their online purchase as they have high potential to be a lucrative market segment. Furthermore, while there are many research and literatures on online shopping intention and behaviour (Wu & Chang, 2016; Law, Kwok, & Ng, 2016), studies on actual online purchase are scarce. It is important to study on actual online purchase as it directly leads to revenue for businesses. In addition, studies on actual online purchase performed in the Malaysian context and specifically targeted university students have not been conducted. The literatures reviewed are mostly carried out in other countries; to which some of the findings may not applicable in the Malaysian setting. Therefore, this literature gap can be filled by this present study by examining the elements which influence university students' online purchase in Malaysia. In the next

section, we proceed to review related literature and propose the conceptual model. In the subsequent section, we set out the methodology of this study. The results are then presented and finally, we provide the discussion, implications and recommendations for future research.

LITERATURE REVIEW

Online Purchase

Li and Zhang (2002) defined online purchase as a process of using the Internet to buy products or services. Recently, the increase in the number of internet users led to a significant growth in online internet shopping (Velarde, 2012). However, according to PwC's (2016) Total Retail Survey 2016 report, it was found that only 48% of Malaysian respondents bought something online on a monthly basis which is lower than the global average of 60% per month. Nevertheless, there are several past studies that assessed factors that have positive relationships with online purchase such as subjective norm (Al-Jabari, Othman, & Mat, 2012), convenience and time saving (Pate & Adams, 2013). However, there are numerous researchers which indicated that facilitating conditions is one of the significant factors in affecting online purchase as resources such as time and money is required when buying goods or services online (Velarde, 2012). Furthermore, since this study focuses on the actual usage of online purchase, therefore, facilitating conditions as well as habit are essential factors in this study because they had a significant and direct effect on actual purchase behaviour (Miladinovic & Hong, 2016; Pascual-Miguel, Agudo-Peregrina, & Chaparro-Peláez, 2015). Nonetheless, price savings is also one of the main reasons that influences a buyer to purchase online (Baubonienė & Gulevičiūtė, 2015; Jadhav & Khanna, 2016). At the same time, price savings also has a direct effect on actual online purchase (Lu, Lin, & Lin, 2016). Moreover, there are numerous past studies that emphasized perceived risk as an important factor that influences consumer's decision of purchasing products online (Mwencha, Muathe, & Thuo, 2014; Zendehdel, Paim & Osman, 2015). Since online retailers primarily target to convert online shoppers to buyers (Close & Kukar-Kinney, 2010), it is important to recognize the factors that affect the actual online purchase.

Partial “Unified Theory of Acceptance and Use of Technology 2” (UTAUT2)

The Unified Theory of Acceptance and Use of Technology (UTAUT) is an integrated framework developed by Venkatesh, Morris, Davis, and Davis (2003). It was expanded into UTAUT2 by incorporating three additional constructs and redefined all the constructs into a consumer context (Venkatesh, Thong, & Xu, 2012). This study applies only two variables from the UTAUT2 which are 'Facilitating Conditions' and 'Habit' as only those two variables have a direct linkage to actual use. The other variables only have an indirect connection to actual use. Venkatesh et al. (2012) proposed that it is necessary to relate UTAUT2 with other variables to gain results with higher accuracy. Furthermore, previous studies (Lian, 2015; Mahfuz, Hu, & Khanam, 2016) have used partial UTAUT2 by extracting only a few constructs from the original model and adding other concepts.

Facilitating Conditions

Facilitating conditions is the consumers' perceptions of the availability of support and resources in order to perform a behavior (Venkatesh et al., 2012). It is the degree to which a consumer believes that the existence of a favourable and supportive environment facilitates the user's behaviour (Cho, 2015). In this study, the definition of facilitating conditions by Venkatesh et al. (2012) is used. Facilitating conditions has been found to have a significantly positive relationship with online purchase of air tickets as well as digital and non-digital products in the studies of Escobar-Rodríguez and Carvajal-Trujillo (2013) as well as Pascual-Miguel et al. (2015) respectively. Tandon, Kiran, and Sah (2016) found that facilitating conditions has a significant impact on the adoption of online shopping in e-retailing sites. Furthermore, An, Han, and Tong (2016) discovered that there is a relationship between facilitating conditions and online shopping for fresh agricultural products. In addition, Agudo-Peregrina, Hernández-García, and Acquila-Natale (2015) found that facilitating conditions has an impact on the online purchase of e-shoppers with a significantly greater effect on younger e-shoppers than older e-shoppers.

H1. There is a positive relationship between facilitating conditions and university students' online purchase in Malaysia

Habit

Habit is a perceptual construct that reflects the outcomes of a consumer's past experiences in using technology (Venkatesh et al., 2012). Besides, individuals tend to act out of habit rather than rely on other external strategies and information (Gefen, 2003). In this study, the definition of habit by Venkatesh et al. (2012) is used. Prior literature asserts that habit is a key predictor of perceived online purchase. Escobar-Rodriguez and Carvajal-Trujillo conducted two separate studies in 2013 and 2014 on the factors that affect online flight ticket purchase. The results of both studies show that habit significantly affects consumer online purchase of flight ticket positively. Hsu, Chang, and Chuang (2015) found that habit has a strong moderating impact on repeat online purchase. Moreover, Bang, Han, Aminesh, and Hwang (2013) found that habit is a strong factor of actual purchase behaviour. In addition, Hsiao and Chen (2017) found that habit has a significant influence on the consumers to subscribe and pay for e-book services.

H2. There is a positive relationship between habit and university students' online purchase in Malaysia

Additional Constructs

There are previous studies (Lian, 2015; Mahfuz et al., 2016) which adopted a partial UTAUT2 by extracting only a few constructs from the original model and adding other concepts. This study has added the following constructs:

Price Savings

The "price value" construct is incorporated into the UTAUT2 for technology that incurs monetary costs upon usage, but also offer economic benefits to users (Venkatesh et al., 2012). However, there is no monetary cost, such as membership subscription fees being charged to consumers for using online shopping websites. Instead, such websites provide significant monetary savings (Jensen, 2012; Ryan & Rao, 2008) and perceived benefits (Wen, 2012). Various studies have also included perceived value for the use of technology that requires no cost (Escobar-Rodríguez & Carvajal-Trujillo, 2014). Furthermore, there are studies that take into account of "price saving" as a variable in the study of technology without monetary cost such as the use of online shopping websites that allows consumers to obtain a lower price (Jensen, 2012; Escobar-Rodríguez & Carvajal-Trujillo, 2014). In this study, the use of online websites for purchase activities does not entail any cost to the consumer, but instead can realize price saving. Therefore, this study incorporates "price saving" as a variable which is said to have a positive relationship with actual purchase (Escobar-Rodríguez & Carvajal-Trujillo, 2014), instead of the original "price value" construct in the UTAUT2 which proposes only an indirect influence on actual use behaviour (Venkatesh et al., 2012).

Reibstein (2002) considers price saving as an important factor in online shopping. Jensen (2012) stated that price saving represents lower price to be obtained by consumers. The very low rates that customers can obtain through online purchase together with the possibility of obtaining various benefits, represents more perceived value for the consumer, which leads to increased online purchase according Wen (2012). The availability of product at lower price is known to encourage students to shop more online (Vaidehi, 2014). In this study, the definition of price savings by Jensen (2012) is used. Baubonienė and Gulevičiūtė (2015) found that the most significant factor which drives online shopping was the ability to buy at a lower price. Choudhury and Dey (2014) examined online shopping attitude of university students and found that online product price significantly influences online purchase. Furthermore, Pappas, Kourouthanassis, Giannakos, and Lekakos (2016) proposed that price sensitivity, which is consumer's tendency to focus on price and pay the lowest price possible, is one of the most important motivators for shopping online.

H3. There is a positive relationship between price savings and university students' online purchase in Malaysia

Perceived Risk

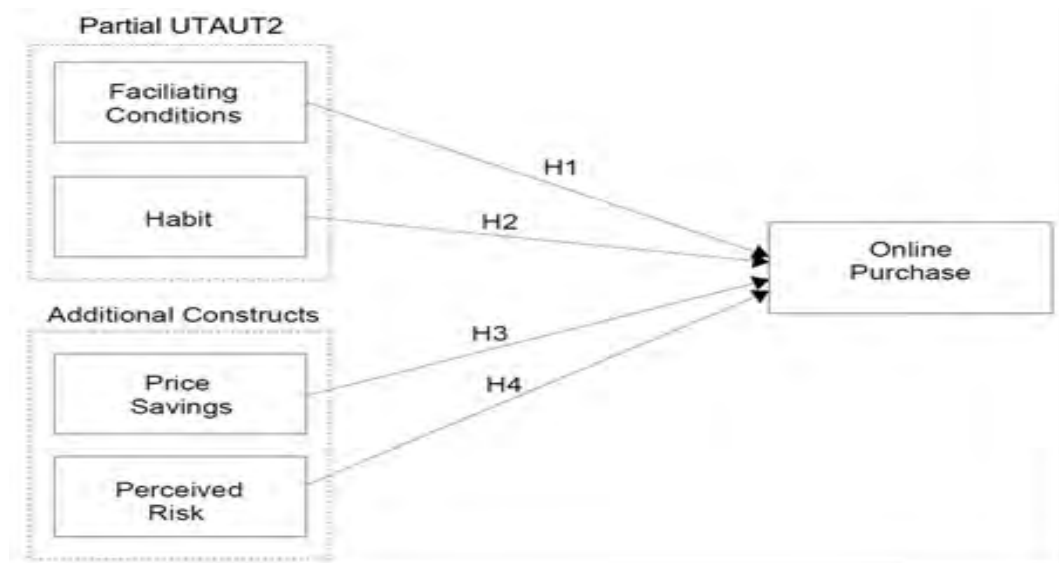
Bauer (1960) introduced perceived risk and defined it as the perception of customers towards the uncertainty and adverse consequences of buying a product. Mandilas, Karasavoglou, Nikolaidis, and Tsourgiannis (2013) indicated that perceived risk is a main

barrier for online purchase. Thus, it plays a vital role in online purchase (Nepomuceno, Laroche, and Richard, 2014). Furthermore, perceived risk is found to have a significant impact on university students' online buying decision (Zendehdel et al., 2015). Therefore, it is essential to study the role perceived risk plays in the decision making process of online buyers (Arshad, Zafar, Fatima, & Khan, 2015). In addition, there are several scholars that incorporated "perceived risk" into UTAUT 2 model in their studies (Pascual-Miguel et al., 2015; An et al., 2016). Nepomuceno, Laroche, and Richard (2014) simply defined perceived risk as a subjective potential loss during the process of obtaining a desired result. It is also a combination of uncertainty with the possibility of serious negative outcomes (Ko, Jung, Kim, & Shim, 2004). Mandrik and Bao (2005) stated that perceived risk for online shopping is an individual assessment of the probability of incurring a loss and negative perception of self and others. In this study, the definition of perceived risk by Nepomuceno et al. (2014) is used. In several previous studies, the influence of perceived risk on online purchase has been confirmed. Chiu, Wang, Fang, and Huang (2014) found that perceived risk has significant negative effect on repeat online purchase. Mandilas et al. (2013) concluded that perceived risk is negatively associated with the adoption of online shopping. In addition, Mansori (2012) discovered that perceived risk has a negative influence on online shopping.

H4. There is a negative relationship between perceived risk and university students' online purchase in Malaysia

CONCEPTUAL FRAMEWORK

Figure 1: Research model



RESEARCH METHODOLOGY

Sample and Data Collection

This study's sample is the Malaysian university students as they have the highest internet usage in the country (Kugan, 2015). This shows a high level of Internet acceptance which was found to have a positive effect on online purchase. Hinkin (1998) suggested that an ideal sample size should have item-to-response ratio as low as 1:4 and as high as 1:10. Since a total of 20 items are in the survey questionnaire, the range for the number of respondents should be between 80 to 200. Furthermore, Hair, Anderson, Babin, and Black (2014) recommended that the sample size be at least 200 in order to obtain an acceptable margin of error. Therefore, the minimum sample size of this study is 200.

Survey questionnaires were used to collect data as it can provide greater control over the data collection process (Saunders, Lewis & Thornbill, 2016). For this study, Selangor and Perak were chosen from two regions with the highest internet users (Central and Northern

respectively) and further narrowing down to the top state in both the regions as according to the Internet Users Survey 2016 by MCMC. Furthermore, the total number of universities in Selangor (56%) and Perak (7%) constitutes more than 50% of the total number of universities in Malaysia (Jabatan Pendidikan Tinggi, 2017; StudyMalaysia.com, 2016). Both states have several populated education hubs, such as Klang Valley and Kampar (Ng, 2015). Therefore, it can be deduced that Selangor and Perak have the greatest percentage distribution of internet users who are also university students in Malaysia. This study collected data from Universiti Malaya (UM), UCSI University, Universiti Putra Malaysia (UPM), Taylor's University, Sunway University, Universiti Tunku Abdul Rahman (UTAR), Universiti Teknologi Petronas (UTP) and Universiti Pendidikan Sultan Idris (UPSI).

Measurement

The questionnaire was developed by adapting measures to the specific context of this study which is online purchase. These measures had been obtained from prior literature. Table 1 shows the list of items and the supporting literature for each construct. The items for facilitating conditions and habit, which were extracted from the UTAUT2, were adapted from Venkatesh et al. (2012). Besides that, items for price savings were adapted from Teo and Yon (2003) whereas the items for perceived risk were adapted from Fortes and Rita (2016). The items for online purchase, which acts as the dependent variable, were adapted from Leyiari (2015). All variables have four items each.

The responses of the participants to each of the items were measured on a 5-point Likert scale, ranging from (1) strongly disagree to (5) strongly agree. The 5-point Likert scale was used in this study as respondents tend to take longer time to make choices between the scales and complete the questionnaire if a 7-point Likert scale is to be employed (Pearse, 2011).

Table 1: Construct measurement

Variables	Items	Supporting literature
Facilitating Conditions (FC)	FC1. I have the resources necessary to use online purchase website.	Venkatesh et al. (2012)
	FC2. I have the knowledge necessary to use online purchase website.	
	FC3. Online purchase website is compatible with other technologies I use.	
	FC4. I can get help from others when I have difficulties using online purchase website.	
Habit (HT)	HT1. The use of online purchase website has become a habit for me.	Venkatesh et al. (2012)
	HT2. I am addicted to using online purchase website.	
	HT3. I must use online purchase website.	
	HT4. Using online purchase website has become natural to me.	
Price Saving (PS)	PS1. The prices of products online are very acceptable.	Teo and Yon (2003)
	PS2. If I buy online, I will be saving a significant amount of money.	
	PS3. Considering the price, products purchased online are of excellent quality for the price.	
	PS4. Purchasing online is definitely worth the money.	
Perceived Risk (PR)	PR1. It is riskier to shop online for a product than to shop offline for it.	Fortes and Rita (2016)
	PR1. Purchasing items online is risky.	
	PR1. Providing debit/credit card information online is risky.	

	PR1.	Providing my email address and phone number online is risky.	
Online Purchase (OP)	OP1.	I often buy goods and services online.	Leyiario (2015)
	OP2.	I buy a wide variety of products and services online.	
	OP3.	I buy goods and services from many online market platforms.	
	OP4.	I spend a lot of money shopping online.	

DATA ANALYSIS

Descriptive Analysis

Out of 400 sets of questionnaire, only 324 sets were usable. As the respondents are required to have prior experience in online shopping, those that have indicated 'no' for the question "Have you shopped online before?" were filtered out. From the 324 sets, the number of female respondents (70.68%) were higher compared to male respondents (29.32%). Nearly half of the respondents are between 20 to 21 years old (48.77%). In addition, majority are pursuing a Bachelor degree and spend 5 to 10 hours per day (37.35%). In addition, the results indicate that smartphone (81.17%) is the most frequently used device to access the Internet.

Scale Measurement

The adequacy of the measurement model was evaluated based on the criteria of reliability and normality. For reliability, it is acceptable if the value for Cronbach's alpha was more than or equal to 0.70 (Yu, Lee, Ha, & Zo, 2015). The Cronbach's alpha values for all variables are within the range of 0.8336 to 0.9162. Moreover, the data is normal if the value of skewness and kurtosis is between -2 and +2 (Garson, 2012). Our results' skewness and kurtosis value ranges between -0.8247 and 1.5292. Hence, our findings are both reliable and normal. Furthermore, in order to assess the concerns of multicollinearity, we calculated the Variation Inflation Factors (VIF) values for all of the constructs. According to Liao and Valliant (2012), multicollinearity results when VIF exceeds 10. Our results show the VIF did not exceed 1.5. Thus, the results indicate that this research has no multicollinearity problem.

Table 2: Summary of Scale Measurement

Constructs	Cronbach's Alpha	Items	Skewness	Kurtosis	Variation Inflation
FC	0.9121	FC1	-0.8071	1.5292	1.30661
		FC2	-0.2821	-0.1374	
		FC3	-0.3427	-0.2278	
		FC4	-0.5114	0.2254	
HT	0.8425	HT1	0.0482	-0.6760	1.40770
		HT2	0.3195	-0.5243	
		HT3	0.4381	-0.4115	
		HT4	-0.0126	-0.5097	
PS	0.9162	PS1	-0.2638	0.0136	1.47581
		PS2	0.0520	-0.4915	
		PS3	0.1384	-0.1585	
		PS4	0.2006	-0.1648	
PR	0.8642	PR1	-0.8247	1.1029	1.08349
		PR2	-0.5880	0.4018	
		PR3	-0.7044	0.5249	
		PR4	-0.2442	-0.2456	
OP	0.8336	OP1	0.0776	-0.5050	-
		OP2	0.0296	-0.5243	
		OP3	-0.1221	-0.5582	
		OP4	0.4064	-0.5325	

Inferential Analysis

A summary of the results is shown in Table 2. In this study, Pearson correlation analysis and multiple linear regression was used to analyze the data. Pearson correlation analysis was used to test the correlation between two variables. The range for Person correlation coefficient is between -1 to 1 (Clark, 2013). A negative value indicates a negative relationship whereas a positive value indicates a positive relationship. The nearer the value is to -1 or 1, the higher the correlation (Lin, Tsai, & Ke, 2015). All the independent variables were found to have a correlation with the dependent variables. Facilitating conditions, habit and price savings have positive correlations with online purchase whereas perceived risk has a negative correlation with online purchase. Correlation between habit and online purchase is the strongest, followed by price savings.

Multiple linear regression was also used in this study to test the hypotheses as it allows all constructs in the conceptual model to be accounted for. Weinberg and Abramowitz (2002) indicate that the relationship between variables is significant when p-value is less than 0.05. Habit, price savings and perceived risk were found to significantly influence online purchase, thereby validating H2, H3 and H4 (p-value = <.0001; <.0001; 0.0056 respectively). On the other hand, facilitating conditions was found to insignificantly affect online purchase with a p-value of 0.0523. Hence, H1 is rejected. The value of R-Square is 0.5366. In other words, 53.66% of the changes in online purchase can be accounted for by the changes in all of independent variables of this study.

Table 3: Summary of Inferential Analysis

Hypotheses	Pearson's Correlation		Multiple Linear Regression (R-Square = 0.5366)	
	r	Remarks	P-value	Remarks
H1: There is a positive relationship between facilitating conditions and university students' online purchase in Malaysia.	0.37093	Supported	0.0523	Not Significant
H2: There is a positive relationship between habit and university students' online purchase in Malaysia.	0.67983	Supported	<.0001	Significant
H3: There is a positive relationship between price savings and university students' online purchase in Malaysia.	0.53427	Supported	<.0001	Significant
H4: There is a negative relationship between perceived risk and university students' online purchase in Malaysia.	-0.27507	Supported	0.0056	Significant

CONCLUSION AND DISCUSSION

Discussion

In this study, facilitating conditions does not have a significant relationship with university students' online purchase in Malaysia. This is because university students already have the resources required for online purchase; 96% of university students own a smartphone (Brooks, 2016) while 100% have Internet access (Sian, Yamin, & Ishak, 2013). In addition, they also have the knowledge to perform online purchase (Bowden, 2016). The research findings show that habit, price savings and perceived risk are critical factors affecting university students' online purchase in Malaysia. Habit has the highest positive effect followed by price savings whereas perceived risk has a negative effect on the university students' online purchase in Malaysia.

Habit has always played an important role in affecting the use of online shopping and purchasing (Martin, 2008). Once university students have a habit in performing online purchase, they will automatically continue using it (Eyal, 2014). In other words, the greater the habit of university students, the greater the probability of actual online purchase. For price savings, the ability to retrieve information on the cheapest prices and obtain the best deals when making a purchase online motivates customers to shop online (Vignali & Reid, 2014). Promotions can generate price savings and encourage more consumers to purchase online (Wood, 2017). When it comes to perceived risk, Mandilas et al. (2013) claimed that there is still uncertainty among majority of the consumers on the willingness to purchase online. University students stay away from online transactions due to the risks, which might cause personal information to be leaked and possible monetary losses (Zendehdel et al., 2015).

Implications

There are a number of implications for online retailers. Based on the descriptive analysis, there are more female respondents than compared male. This situation is aligned with recent statistics on university gender gap which shows that female students outnumber men in almost two-thirds of degree subjects (Shen, 2017). Therefore, online retailers can consider advertising more female related goods on their website when targeting university students. From the inferential analysis, facilitating conditions has a positive relationship with online purchase but it is not significant. This is because university students mainly use smartphones to access the internet and perform online shopping (as per data analysis). Globally, Android and iOS has 96.69% of the smartphone operating system market (Net Applications, 2017). Both operating systems are already compatible with most online websites. Furthermore, university students are highly tech savvy (Bowden, 2016). Hence, online retailers can focus less on technology compatibility strategies.

Next, habit is the strongest factor that positively affects online purchase. In other words, the greater the habit of individuals, the more likely they are to perform online purchase. In order to encourage the habit of online purchase, it is suggested that online retailers should make their websites and payment process easier to use. Furthermore, they can implement strategies that would increase the influence of online purchase such as offering incentives to encourage consumers to revisit their websites (Escobar-Rodríguez & Carvajal-Trujillo, 2014). Price savings is found to have a significantly positive effect on online purchase. Therefore, online retailers should provide prices that are lower than traditional market prices (Choudhury & Dey, 2014). Furthermore, online retailers can leverage the 'Kad Diskaun Siswa' which aims to provide offers, deals and discounts to university students (KPDNKK, 2012). As this card also acts as a debit card, online retailers can then make another option for online payment through the 'Kad Diskaun Siswa' to provide more discounts and deals which university students can take advantage of.

Lastly, perceived risk has a low but significant negative relationship with online purchase. As a result, online retailers can adopt appropriate risk-reduction strategies to reduce university students' concern. Online retailers should deliver various guarantees (e.g. security and order fulfilment) to increase customers' confidence (The Shopping Guarantee, 2017). They can also inform the public of laws in Malaysia that related to online purchase such as Electronic Commerce Act (2006) and Consumer Protection Act (1999). Other than the implications for practices, this study successfully determined the factors that influencing university students' online purchase in Malaysia from the theoretical perspectives by using partial UTAUT2 with additional constructs. Since the model fit is achieved, it can be confirmed that the partial UTAUT2 with additional constructs used in this study is appropriate. Furthermore, the conceptual model is able to explain 53.66% of the changes in online purchase of university students in Malaysia. Hence, this research has proven that partial UTAUT2 with additional constructs can provide an effective theory and a deeper understanding regarding university student's online purchase in Malaysia. Therefore, it can contribute as a reference for future researchers.

Recommendations

This study is restrained geographically as it only covers Perak and Selangor. It is recommended for future researchers to include all the other states in Malaysia. This is in order

to get more comprehensive findings on online purchase in the Malaysian context. Respondents from different states may yield different response styles and opinions due to cultural diversity (Reardon & Miller, 2012). Besides that, two additional constructs, which are price savings (PS) and perceived risk (PR), are integrated in this research model. However for PR, this study only considers general risks that influence online purchase. For future research, it is recommended to further investigate specific risk items or adopt the Theory of Perceived Risks. Moreover, possible new observable variables, such as website design and personalization, can be included since they are said to affect the online shopping motivation and purchase behaviour (Pappas et al., 2017).

Lastly, the application of cross-sectional approach of this study only reflects the opinion of target respondents at a specific point of time (Saunders et al., 2016). This is added to the fact that online retail trends are constantly developing and changing rapidly (Robertson, 2017). For example, integration of artificial intelligence into online shopping (Kelleher, 2017) and virtual reality shopping (Lou, 2017) are expected to happen soon. Therefore, future researchers are recommended to conduct an in-depth and comprehensive study over multiple periods by using longitudinal approach. This will allow for analysis of duration and comparison of data (Ruspini, 2000), as well as provide researchers the ability to gauge the changes in variables and observe the differences both within and between individuals (Marsch, Lord, & Dallery, 2014).

REFERENCES

- Agudo-Peregrina, A. F., Hernández-García, A., & Acquila-Natale, E. (2015). Is age still valid for segmenting e-shoppers? *2nd International Symposium on Partial Least Squares Path Modeling*.
- Al-Jabari, M. A., Othman, S. N., & Mat, N. K. N. (2012). Actual online shopping behavior among Jordanian customers. *American Journal of Economics*, 125-129
- An, L., Han, Y., & Tong, L. (2016). Study on the factors of online shopping intention for fresh agricultural products based on UTAUT2. *2nd Information Technology and Mechatronics Engineering Conference*.
- Arshad, A., Zafar, M., Fatima, I., & Khan, S. K. (2015). The impact of perceived risk on online buying behavior. *International Journal of New Technology and Research*, 1(8), 13-18
- Bang, Y., Han, K., Animesh, A., & Hwang, M. (2013). From online to mobile: Linking consumers' online purchase behaviors with mobile commerce adoption. In *PACIS 2013 Proceedings*.
- Baubonienė, Z., & Gulevičiūtė, G. (2015). E-commerce factors influencing consumers' online shopping decision. *Social Technologies*, 5(1), 74-81.
- Bauer, R. A. (1960). Consumer behavior as risk taking. In D. F. Cox (Ed.), *Risk taking and information handling in consumer behaviour* (pp. 389–398). Cambridge, UK: Harvard University Press.
- Bowden, O. (2016). *Canadian universities struggling to offer digital learning to tech-savvy Generation Z*. Retrieved from <http://business.financialpost.com/executive/smart-shift/canadian-universities-struggling-to-offer-digital-learning-to-tech-savvy-generation-/wcm/2d440ec8-38af-4518-8095-e9b2a33ac79d>
- Brooks, D. C. (2016). *ECAR study of undergraduate students and information technology 2016*. Retrieved from <https://library.educause.edu/~media/files/library/2016/10/ers1605.pdf>
- Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). Understanding customers' repeat purchase intentions in B2C e-commerce: The roles of utilitarian value, hedonic value and perceived risk. *Information Systems Journal*, 24, 85–114.

- Cho, D. (2015). *What influences people to purchase ingame mobile items?: Analysis of motivational drivers to use ingame mobile game items in the US*. (Doctoral dissertation). Michigan State University.
- Choudhury, D., & Dey, A. (2014). Online shopping attitude among the youth: A study on university students. *International Journal of Entrepreneurship and Development Studies*, 2(1), 23-32.
- Clark, M. (2013). *A comparison of correlation measures*. University of Notre Dame.
- Close, A. G., & Kukar-Kinney, M. (2010). Beyond buying: Motivations behind consumers' online shopping cart use. *Journal of Business Research*, 63(9), 986-992.
- D'Souza, M. (2016). *Now that Netflix is here, how will it affect the Indian video streaming landscape?* Retrieved from <http://www.dnaindia.com/scitech/report-now-that-netflix-is-here-this-is-how-it-stacks-up-against-the-indian-video-streaming-landscape-2163244>
- Dhesi, D. (2017) Improving outlook for online shopping. *The Star Online*. Retrieved from <http://www.thestar.com.my/business/business-news/2017/01/14/improving-outlook-for-online-shopping/>
- Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2013). Online drivers of consumer purchase of website airline tickets. *Journal of Air Transport Management*, 32, 58-64.
- Escobar-Rodríguez, T., & Carvajal-Trujillo, E. (2014). Online purchasing tickets for low cost carriers: An application of the unified theory of acceptance and use of technology (UTAUT) model. *Tourism Management*, 43, 70-88.
- Eyal, N. (2014). *Hooked: How to build habit-forming products*. New York, NY: Penguin.
- Fortes, N., & Rita, P. (2016). Privacy concerns and online purchasing behaviour: Towards an integrated model. *European Research on Management and Business Economics*, 22(3), 167-176.
- Garson, G. D. (2012). *Testing statistical assumptions* (12th ed.). Asheboro, US: Statistical Associates Publishing.
- Gefen, D. (2003). TAM or just plain habit: A look at experienced online shoppers. *Journal of Organizational and End User Computing*, 15(3), 1-13.
- Glynndevins. (2014). *Advertising targeting older adults: How the audience perceives the message*. Retrieved from https://www.glynndevins.com/app/uploads/2014/08/olderadults_brief.pdf
- Hair, J. F., Anderson, R. E., Babin, B. J., & Black, W. C. (2014). *Multivariate data analysis* (7th ed.). Harlow, UK: Pearson Education Limited.
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, 1(1), 104-121.
- Hsiao, K. L., & Chen, C. C. (2017). Value-based adoption of e-book subscription services: The roles of environmental concerns and reading habits. *Telematics and Informatics*, 34(5), 434-448.
- Hsu, M. H., Chang, C. M., & Chuang, L. W. (2015). Understanding the determinants of online repeat purchase intention and moderating role of habit: The case of online group-buying in Taiwan. *International Journal of Information Management*, 35(1), 45-56.
- Jabatan Pendidikan Tinggi. (2017). *Kategori ua*. Retrieved from <http://jpt.mohe.gov.my/ipta>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
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- Jabatan Pendidikan Tinggi. (2017). *Statistik institusi pendidikan tinggi swasta (ipts) sehingga 28 Februari 2017*. Retrieved from [http://jpt.mohe.gov.my/images/InstitusiPengajianTinggi/IPTS/ Statistik-IPTS-sehingga-28-Februari-2017.pdf](http://jpt.mohe.gov.my/images/InstitusiPengajianTinggi/IPTS/Statistik-IPTS-sehingga-28-Februari-2017.pdf)
- Jadhav, V., & Khanna, M. (2016). Factors influencing online buying behavior of college students: A qualitative analysis. *The Qualitative Report*, 21(1), 1-15.
- Jensen, J. M. (2012). Shopping orientation and online travel shopping: The role of travel experience. *International Journal of Tourism Research*, 14(1), 56-70.
- Kelleher, K. (2017). *How artificial intelligence is quietly changing how you shop online*. TIME. Retrieved from <http://time.com/4685420/artificial-intelligence-online-shopping-retail-ai/>
- Kim, H. (2015). *Malaysia ecommerce poised for boom*. Retrieved from <https://insideretail.asia/2015/12/22/malaysia-ecommerce-poised-for-boom/>
- Ko, H., Jung, J., Kim, J., & Shim, S. W. (2004). Cross-cultural differences in perceived risk of online shopping. *Journal of Interactive Advertising*, 4(2), 20-29.
- KPDNKK. (2012). *Pengenalan*. Retrieved from <http://kadsiswa.1pengguna.com/kads1m/index.php?r=portal/full&id=WWRhZ0cvbFFuak4rb0RQNk1PTzYvQT09>
- Kugan. (2015). *Malaysia Internet bandwidth consumption totaled 760,331Mbps in 2014*. Retrieved from <http://www.malaysianwireless.com/2015/06/malaysia-internet-bandwidth-consumption/>
- Law, M., Kwok, R. C. W., & Ng, M. (2016). An extended online purchase intention model for middle-aged online users. *Electronic Commerce Research and Applications*, 20, 132-146.
- Leyiari, L. (2015). *Factors influencing consumer online buying behaviour in a project based company. A case of geothermal development company*. (Masters dissertation). University of Nairobi.
- Li, N., & Zhang, P. (2002). Consumer online shopping attitudes and behavior: An assessment of research. *Eighth Americas Conference on Information Systems*, 508-517.
- Lian, J. W. (2015). Critical factors for cloud based e-invoice service adoption in Taiwan: An empirical study. *International Journal of Information Management*, 35(1), 98-109.
- Liao, D. & Valliant, R. (2012). Variance inflation factors in the analysis of complex survey data. *Statistics Canada*, 38, 53-62.
- Lin, W. C., Tsai, C. F., & Ke, S. W. (2015). Correlation analysis for comparison of the citation impact of journals, magazines, and conferences in computer science. *Online Information Review*, 39(3), 310-325.
- Lou, L. (2017). *Virtual reality is the future of shopping*. Retrieved from <https://www.lifehacker.com.au/2017/06/virtual-reality-is-the-future-of-shopping/>
- Lu, H. K., Lin, P. C., & Lin, Y. C. (2016). A study of the factors affecting the purchase intention on mobile game apps. *Journal of Advances in Information Technology*, 7(4), 239-244
- Mahfuz, M. A., Hu, W., & Khanam, L. (2016). The influence of cultural dimensions and website quality on m-banking services adoption in Bangladesh: Applying the UTAUT2 model using PLS. In *Wuhan International Conference on e-Business 2016 Proceedings*. Retrieved from <http://aisel.aisnet.org/whiceb2016/18>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Mandilas, A., Karasavvoglou, A., Nikolaidis, M., & Tsourgiannis, L. (2013). Predicting consumer's perceptions in on-line shopping. *Procedia Technology*, 8, 435-444.
- Mandrik, C. A., & Bao, Y. (2005). Exploring the concept and measurement of general risk aversion. *NA- Advances in Consumer Research*, 32, 531-539.
- Mansori, S. (2012). A study of e-shopping intention in Malaysia: The influence of generation X & Y. *Australian Journal of Basic and Applied Sciences*, 6(8), 28-35.
- Marsch, L., Lord, S., & Dallery, J. (Eds.). (2014). *Behavioral healthcare and technology: Using science-based innovations to transform practice*. Oxford, UK: Oxford University Press.
- Martin, N. (2008). *Habit: The 95% of behavior marketers ignore*. New Jersey, USA: Ft Press.
- Miladinovic, J., & Hong, X. (2016). *A study on factors affecting the behavioral intention to use mobile shopping fashion apps in Sweden*. (Bachelor thesis). Jonkoping University.
- Mwencha, P. M., Muathe, S. M., & Thuo, J. K. (2014). Effects of perceived attributes, perceived risk and perceived value on usage of online retailing services. *Journal of Management Research*, 6(2), 140-161.
- Nepomuceno, M. V., Laroche, M., & Richard, M. O. (2014). How to reduce perceived risk when buying online: The interactions between intangibility, product knowledge, brand familiarity, privacy and security concerns. *Journal of Retailing and Consumer Services*, 21(4), 619-629.
- Net Applications. (2017). *Mobile/tablet operating system market share*. Retrieved from <https://www.netmarketshare.com/operating-system-market-share.aspx?qprid=8&qpcustomd=1>
- Ng, A. (2015). The making of education cities. *Star Property*. Retrieved from <http://www.starproperty.my/index.php/articles/property-news/the-making-of-education-cities/?search=Kampar%20Perak>
- Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Lekakos, G. (2017). The interplay of online shopping motivations and experiential factors on personalized e-commerce: A complexity theory approach. *Telematics and Informatics*, 34(5), 730-742.
- Pascual-Miguel, F. J., Agudo-Peregrina, Á. F., & Chaparro-Peláez, J. (2015). Influences of gender and product type on online purchasing. *Journal of Business Research*, 68(7), 1550-1556.
- Pate, S. S., & Adams, M. (2013). The influence of social networking sites on buying behaviors of Millennials. *Atlantic Marketing Journal*, 2(1), 92-103.
- Pearse, N. (2011). Deciding on the scale granularity of response categories of Likert type scales: The case of a 21-point scale. *The Electronic Journal of Business Research Methods*, 9(2), 159-171.
- PwC. (2016). *They say they want a revolution: Total retail 2016*. Retrieved from <http://read.pwc.com/i/678804-total-retail-2016/0?>
- Rafii, L. (2013). The Starbucks or McCafé crowd: Who counts more politically? *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/ladan-rafii/the-starbucks-or-mccafe-c_b_4262104.html
- Reardon, J., & Miller, C. (2012). The effect of response scale type on cross-cultural construct measures: An empirical example using Hall's concept of context. *International Marketing Review*, 29(1), 24-53.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Reibstein, D. J. (2002). What attracts customers to online stores, and what keeps them coming back? *Journal of the Academy of Marketing Science*, 30(4), 465-473.
- Robertson, M. (2017). *The changing online shopping habits and how to understand them*. Retrieved from <https://www.imrg.org/blog/the-changing-online-shopping-habits-and-how-to-understand-them/>
- Roesler, P. (2015). *Why small businesses need e-commerce now more than ever*. Retrieved from <http://www.inc.com/peter-roesler/why-small-businesses-need-ecommerce-now-more-than-ever.html>
- Ruspini, E. (2000). Longitudinal research in the social sciences. *Social Research Update*, 28(20), 1-8.
- Ryan, C., & Rao, U. (2008). Holiday users of the internet: ease of use, functionality and novelty. *International Journal of Tourism Research*, 10(4), 329-339.
- Saleh, K. (2016). *The future of online retail shopping is bright—statistics and trends*. Retrieved from <http://www.invespcro.com/blog/global-online-retail-spending-statistics-and-trends/>
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research methods for business students* (7th ed.). Harlow, UK: Pearson Education Limited.
- Shen, W. G. (2017). *The gender gap in university admissions and beyond*. Retrieved from <http://first100years.org.uk/the-gender-gap-in-university-admissions-and-beyond/>
- Sian, Y. C., Yamin, F. M., & Ishak, W. H. W. (2013). Internet usage among undergraduate student in Malaysia. In *Proceedings of Rural ICT Development (RICTD) International Conference*, 224-227.
- Stevens, L. (2016). Survey shows rapid growth in online shopping. *The Wall Street Journal*. Retrieved from <https://www.wsj.com/articles/survey-shows-rapid-growth-in-online-shopping-1465358582>
- StudyMalaysia.com. (2016). *List of universities in Malaysia*. Retrieved from <https://www.studymalaysia.com/education/top-stories/list-of-universities-in-malaysia>
- Tandon, U., Kiran, R., & Sah, A. N. (2016). Understanding online shopping adoption in India: Unified theory of acceptance and use of technology 2 (UTAUT2) with perceived risk application. *Service Science*, 8(4), 420-437.
- Teo, T. S., & Yon, D. Y. (2003). Assessing the consumer decision process in the digital marketplace. *Omega*, 31(5), 349-363.
- The Shopping Guarantee. (2017). *Norton shopping guarantee*. Retrieved from <https://www.theshoppingguarantee.com/>
- Thomas, L., & Roy, A. (2016). More start-ups are targeting baby boomers. *CNBC*. Retrieved from <http://www.cnbc.com/2016/08/11/more-start-ups-are-targeting-baby-boomers.html>
- Vaidehi, P. U. (2014). Factors influencing online shopping behavior of students in engineering colleges at Rangareddy district. *Sumedha Journal of Management*, 3(1), 50-62.
- Velarde, V. D. V. (2012). *Determinants of online purchasing behavior: An empirical investigation using an extension of the Theory of Planned Behavior*. (Master thesis). Aarhus University.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *Management Information Systems Quarterly*, 27(3), 425- 478.
- Venkatesh, V., Thong, J. I. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *Management Information Systems Quarterly*, 36(1), 157-178.
- Vignali, G., & Reid, L. (2014). Analysing consumer motivation towards purchasing fashion online. *International Journal of Business and Globalisation*, 13(2), 133-152.
- Vinerean, S., Cetina, I., & Dumitrescu, L. (2014). Analyzing internet usage and online shopping for international consumers. *Annales Universitatis Apulensis Series Oeconomica*, 16(2), 389-399.
- VisualNews.com. (2013). How e-commerce changed our lives forever. *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/visualnewscom/how-ecommerce-changed-our_b_4045340.html
- Weinberg, S. L., & Abramowitz, S. H., (2002). *Data analysis for the behavioral sciences using SPSS*. Cambridge, UK: Cambridge University Press.
- Wen, I. (2012). An empirical study of an online travel purchase. *Journal of Travel & Tourism Marketing*, 29(1), 18-39.
- Wood, M. (2017). *Sale inside: How retailers are using online promotions to dominate sales*. Retrieved from <https://www.business.com/articles/how-retailers-are-dominating-with-online-promotions/>
- Wu, J. F., & Chang, Y. P. (2016). Multichannel integration quality, online perceived value and online purchase intention: A perspective of land-based retailers. *Internet Research*, 26(5), 1228-1248.
- Yu, J., Lee, H., Ha, I., & Zo, H. (2015). User acceptance of media tablets: An empirical examination of perceived value. *Telematics and Informatics*, 1-18.
- Zendeudel, M., Paim, L. H., & Osman, S. B. (2015). Students' online purchasing behaviour in Malaysia: Understanding online shopping attitude. *Cogent Business & Management*, 2(1), 1-13.

Extending UTAUT 2 Model in Understanding Use of Wearable Technology

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Abstract

Thanks to the continuous technology advancement, the wearable technology has now become a device that extends the usability of smartphones to the next level. Unfortunately, many wearable gadgets end up in drawers and remain unused after few months. Therefore, this conceptual paper aims to extend the unified theory of acceptance and use of technology 2 (UTAUT 2) with additional constructs such as design aesthetic and trust in predicting the use of wearable technology. Individual differences (i.e., age, gender, experience) are also included and hypothesized to moderate both behavioral intention and usage. The conceptual model not only help marketers to formulate growth strategies for wearable technology, but also provide better insights for literatures.

Keywords: Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2); Wearable Technology; Behavioral Intention; Usage

INTRODUCTION

As mobile devices market is increasingly saturated, a brand-new gadget which known as wearable technology has started gaining popularity. Thanks to the continuous technology development, the wearable technology has now become a device that extends the usability of smartphones to another level (Rawassizadeh et al., 2015). In general, wearable technology which also known as smart wearable is now one of the fast-pace growing consumer segments (Cheng and Mitomo, 2017). As matter of facts, smart wearable devices are expected to become the next big thing that posits to have significant influence on our daily routines. From the market perspective, IDC 2017 foresees the annual worldwide shipment of wearable devices are expected to reach 214 million units in year 2019. According to the research, the amount has recorded a 250% growth compared to year 2015. On the other hand, Juniper research foresee that the smart wearable devices will take off from USD 4.5 million in 2014 to USD 53 billion in 2019. Hence, this is not surprising that the wearable devices not only spread in consumer segments (i.e., sports, personal safety, and lifestyle computing) (Cheng and Mitomo, 2017) but also significant for healthcare, human resource, and humanitarian and disaster relief purposes (Summerton and Summerton, 2016). In the context of consumer segments, the wearable devices enable users to track fitness activity, smart clothing, and etc. In the context of healthcare, medical professionals used website technology to monitor patients' blood pressure and heart rates. Besides, Lee et al. (2006) found that wearable devices as an ideal tool for disaster and emergency cases. Recognizing the importance, smart wearable devices in consumer segment has become an important research topic for both academicians and practitioners.

However, several research gaps can be drawn from the review of literatures. Firstly, the smart wearable gadget is forecasted as the next big thing, hence, many technology companies have allocated resources to wearable technology. Unfortunately, many wearable gadgets end up in drawers and remain unused after few months. According to PWC, abandonment has been regarded as the biggest challenge with wearable gadgets (as cited in The Star, 2017). Secondly, the wearable gadgets hit a new milestone of 33.9 million in last quarter of 2016 according to IDC Worldwide Wearable Device Tracker report. The report further reported that the figure was up 25% to 102.4 million for the entire year (as cited in the Star, 2017). Although, the market is consistently growing, however, the underlying determinants that influence users' adoption of smart wearable devices is remain unclear. As Malaysia' mobile phone penetration

rate is exceeding 100 percent, the research findings are interesting. Thirdly, the use decision is often dependent on the consumers' hand, understanding the determinants of wearable technology use is therefore important. In view the aim is to comprehend usage as a dependent variable by using UTAUT 2 as baseline model. This is not surprising that behavioral intention as a determinant of usage behavior is crucial. However, most of the studies using UTAUT only adopted a subset of the variables (i.e., dropping moderators) in the studies (Venkatesh et al., 2003). The use of all the subset of UTAUT 2 in this area is rarely seen so far. Hence, the paper aims to further extend UTAUT 2 model with the inclusion of design aesthetic, trust, and gender differences as the moderator in predicting the use of wearable technology. The flow of the paper begins with introduction with overview of wearable technology. Thereafter, the paper continued with the review of relevant literatures. Based on the previous research findings, the proposition development and research framework has been formulated and designed. Lastly, the paper ends with the implications and conclusion.

LITERATURE REVIEW

Unified theory of Acceptance and Use of Technology 2 (UTAUT 2)

UTAUT model was developed according to the renowned IS model such as Technology Acceptance Model (TAM). More specifically, UTAUT was developed by Venkatesh et al. (2003) after studying the eight renowned IS theories/models. Drawing from UTAUT, UTAUT 2 was developed by Venkatesh et al. (2012) to understand acceptance and usage of technology in consumer perspective. Based on UTAUT 2, the model incorporates three additional constructs such as hedonic motivation, price value, habit as well as inclusion of gender differences that moderate the effects on the constructs on acceptance and usage. According to this unified model, user adoption and usage of IT are derived by seven constructs, specifically, performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), hedonic motivation (HM), price value (PV), and habit (HB). Although UTAUT 2 model has not been extensively adopted as compared to other IS models (i.e., TAM) (Zhou et al., 2010), but it has increasingly drawn more researcher's attention to adopt the model in understanding adoption behavior in consumer perspective.

Even though UTAUT 2 provides a good foundation to explain user's adoption intention and usage, however, it has left out the construct of trust. Trust has not been examined in smart wearable technology behavioral intention and usage. The exist of trust can help to decreases scams, fears, doubts, and risks (Gefen et al., 2003; Pavlou and Gefen, 2004) which ultimately lead to higher adoption rate. If users trust smart wearable devices, the users' behavioral usage will be affected. In another word, users' trust has direct influence on behavioral usage. Hence, the following propositions are postulated:

P1: TR is positively correlated with behavioral intention of wearable technology.

P2: TR is positively correlated with use behavior of smart wearable technology.

Hsiao (2013) through the study on smartwatch adoption intention defined design aesthetics as the balance, emotional and visual appeal of smartwatch (i.e., color, shape, screen layouts). Several researchers found that design aesthetics play a key role in users' acceptance of information technology (Cyr et al., 2006, Nanda et al., 2008, Hsiao, 2013). The result simply implies that visual perceptions may transfer to user's sentiments. If smart wearable devices have a unique aesthetic appeal, the users' behavioral usage will be affected. In another word, design aesthetic can influence behavioral usage directly. Hence, the following propositions are postulated:

P3: AD is positively correlated with behavioral intention of smart wearable technology.

P4: AD is positively correlated with use behavior of smart wearable technology.

Like TAM model, performance expectancy is one of the key factors in UTAUT. PE refers to the extent to which adopting a technology will bring effectiveness to users in performing activities (Venkatesh et al., 2003, 2012). In the context of wearable devices, the effectiveness can be viewed as the extent to which the device can help users to track fitness activities, health management, and etc. This also indicates that if users believe that adopting

wearable devices can enable users to increase effectiveness, users are more likely to use the technology. The positive relationship is consistently supported in UTAUT 2 (Venkatesh et al., 2012). Like PE, EE is also one of the key factors in UTAUT. EE refers to the extent of ease related to user's use of technology (Venkatesh et al., 2012). In the context of wearable devices, EE is introduced to measure users' perceived ease of use wearable devices. Hensel et al. (2006) found that EE has positive influence towards users; intention to adopt wearable technology in healthcare. SI refers to the extent to which users perceive that important ones (i.e., friends and family) believe they should adopt a particular technology (Venkatesh et al., 2003). The impact of SI cannot be underestimated as Malaysian users are usually collectivist in their thinking. Past studies found that SI is positively influence users' intention to use healthcare wearable devices (Gao et al., 2015). This indicates that the users tend to seek for recommendations from the important ones to adopt wearable devices. FC refers to users' perceptions of the availability of resources and support to perform a behavior (Venkatesh et al., 2003). Unlike UTAUT, UTAUT 2 has included the direct relationship from FC to behavioral intention over the existing relationship between facilitating conditions and behavioral usage. Hence, the following propositions are postulated:

- P5: PE is positively correlated with behavioral intention of wearable technology.
- P6: EE is positively correlated with behavioral intention of wearable technology.
- P7: SI is positively correlated with behavioral intention of smart wearable technology.
- P8: FC is positively correlated with behavioral intention of smart wearable technology.
- P9: FC is positively correlated with use behavior of smart wearable technology.

HM has long been neglected as important construct in affecting technology acceptance and use (Brown and Venkatesh, 2005). HM refers to the extent to which the fun or pleasure resulting from using a technology in which affect the technology acceptance and use (Brown and Venkatesh, 2005). Truong (2013) reveals that enjoyment is the crucial factor for users. This also implies that the more fun and pleasure of wearable devices, the higher the behavioral intention to use wearable devices. Hence, the following proposition is postulated:

- P10: HM is positively correlated with behavioral intention of wearable technology.

Price is one of the element of marketing mix interested by both manufacturers and customers. Unlike the organizational technology use context, price has significant impact as consumers must bear the monetary costs correlated with the purchase of mobile devices and service subscription fees (Venkatesh et al., 2012). Hence, understanding the price value in behavioral intention is crucial. In marketing research, perceived value refers to the extent to which consumers' cognitive tradeoff between the perceived benefits and the monetary cost of adopting the applications (Dodds et al, 1991). Similarly, Venkatesh (2012, p161) define price value as "consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for adopting them.". The price value is positive if the benefits of adopting a technology are preconceived to be greater than monetary costs and such PV has a positive influence on intention (Venkatesh et al., 2012). Hence, the following proposition is postulated:

- P11: PV is negatively correlated with behavioral intention of smart wearable devices.

With the impact of learning, habit refers to the extent in which people tend to perform certain behaviors automatically (Limayem et al., 2007). The matter of whether the impact of habit operates directly on behavior or via behavioral intention has been reviewed in the literatures. Venkatesh et al. (2012) indicated that there are two causal pathways that habit eventually affect use behavior. They also found that habit has both direct and mediated effected effects on technology use. Hence, the following propositions are postulated:

- P12: HB is positively correlated with behavioral intention of wearable technology.
- P13: HB is positively correlated with use behavior of wearable technology.

The moderation of gender differences on various construct is derived from Venkatesh et al. (2012). Firstly, facilitating condition is theorized to be moderated by age, gender, and experience. Secondly, the impact of HM on behavioral intention is moderated by age, gender, and experience. Thirdly, their findings suggested that the impact of price value on behavioral

intention is moderated by age and gender. Fourthly, they found that the effect of habit on behavior is moderated by age, gender and experience. Lastly, they also found that the effect of behavioral intention on usage behavior of technology will drop as experience increases. Hence, the following propositions are postulated:

P14: Age, gender and experience has moderation effect of facilitating conditions on behavioral intention.

P15: Age, gender, and experience has moderation effect of hedonic motivation on behavioral intention.

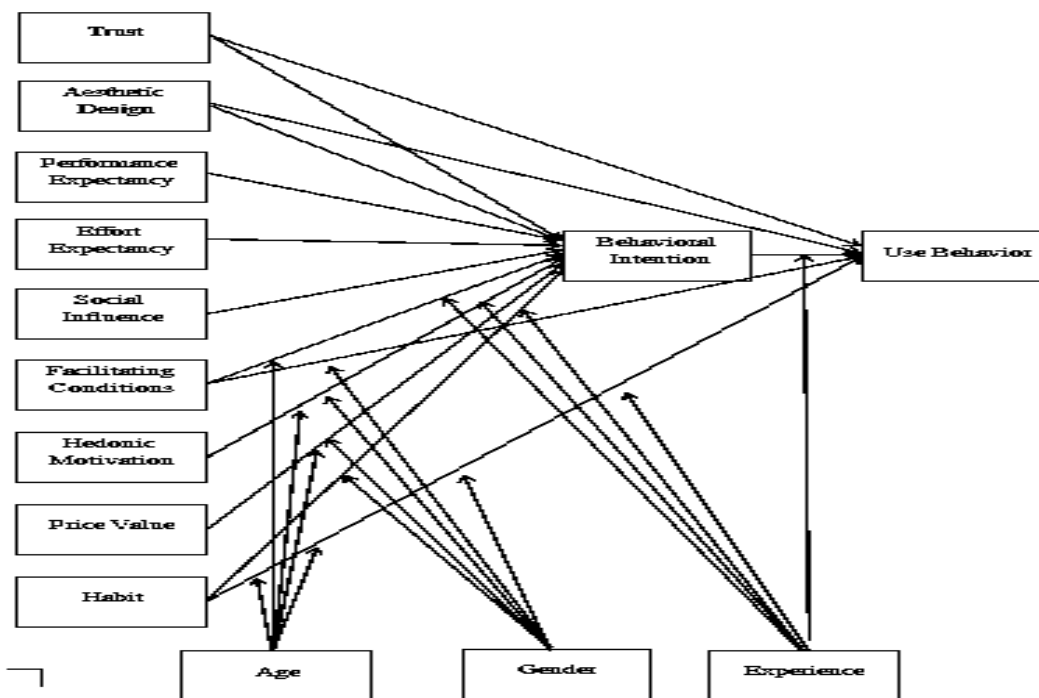
P16: Age and gender has moderation effect of price value on behavioral intention.

P17: Age, gender and experience has moderation effect of habit on behavioral intention.

P18: Experience has moderation effect of behavioral intention on use behavior.

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework



RESEARCH METHODOLOGY

Malaysia has recorded a high mobile penetration rate which more than 100%. The high penetration rate simply means that every Malaysians is a potential consumer of wearable devices. Out of the entire population, generation Z from university is the main respondents for several reasons (1) Malaysia has 9 million populations is a member of generation Z and they are the consumers of tomorrow. To reach generation Z, the study will use convenience sampling which draw from one of the largest private University in Malaysia. The university was chosen due to several reasons (1) the population of the university students may come from heterogenous culture with different religion from all over the states of Malaysia (2) university students are open minded and heavy users of new information technology (3) 25 years old is the highest percentage of hand-phone users which can be drawn from University students. Putting all together, the results can be generalized to represent the population of generation Z. For the data collection, a two-stage survey will be conducted. In the first stage, the data on the exogenous constructs and intention to use wearable devices. As an incentive, respondents will

be given a small token of appreciation. In the second stage of the survey, data will be collected from the previous respondents from the previous respondents four months later to collect their wearable devices use. The approach is similar with Venkatesh et al. (2002 and Venkatesh et al., (2012).

CONCLUSION AND DISCUSSION

The conceptual paper extended UTAUT 2 inclusion of trust and aesthetic design and inclusion of gender differences that moderate the effects on the constructs in acceptance and usage. There are several implications from this paper. Theoretically, the study provides a better understanding on the determinants that affect behavioral intention and usage of smart wearable technology. This is mainly due to limited studies extending UTAUT 2 model in the context of the usage of smart wearable technology. Besides, the inclusion of gender differences as moderators also provides better understating of the differences in the gender differences affecting the usage of smart wearable technology. Practically, the findings of this study enable smart wearable technology providers to formulate better growth strategies. The finding is believed to provide some insights for future smart wearable technology development.

REFERENCES

- Brown, S. A., & Venkatesh, V. (2005). Model of adoption of technology in households: A baseline model test and extension incorporating household life cycle. *MIS quarterly*, 399-426.
- Cheng, J. W., & Mitomo, H. (2017). The underlying factors of the perceived usefulness of using smart wearable devices for disaster applications. *Telematics and Informatics*, 34(2), 528-539.
- Cyr, D., Head, M., & Ivanov, A. (2006). Design aesthetics leading to m-loyalty in mobile commerce. *Information & Management*, 43(8), 950-963.
- Dodds, W. B.B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of marketing research*, 307-319.
- Gao, Y., Li, H., & Luo, Y. (2015). An empirical study of wearable technology acceptance in healthcare. *Industrial Management & Data Systems*, 115(9), 1704-1723.
- Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: an integrated model. *MIS quarterly*, 27(1), 51-90.
- Hensel, B. K., Demiris, G., & Courtney, K. L. (2006). Defining obtrusiveness in home telehealth technologies: A conceptual framework. *Journal of the American Medical Informatics Association*, 13(4), 428-431.
- Hsiao, K. L. (2013). Android smartphone adoption and intention to pay for mobile internet: Perspectives from software, hardware, design, and value. *Library Hi Tech*, 31(2), 216-235.
- Lee, J., Kim, D., Ryoo, H. Y., & Shin, B. S. (2016). Sustainable wearables: wearable technology for enhancing the quality of human life. *Sustainability*, 8(5), 466.
- Limayem, M., Hirt, S. G., & Cheung, C. M. (2007). How habit limits the predictive power of intention: The case of information systems continuance. *MIS quarterly*, 705-737.
- Nanda, P., Bos, J., Kramer, K. L., Hay, C., & Ignacz, J. (2008). Effect of smartphone aesthetic design on users' emotional reaction: An empirical study. *The TQM Journal*, 20(4), 348-355.

- Pavlou, P.A. and Gefen, D. (2004) 'Building effective online marketplaces with institution based trust', *Information Systems Research*, Vol. 15, No. 1, pp.37–59.
- Rawassizadeh, R., Price, B. A., & Petre, M. (2015). Wearables: Has the age of smartwatches finally arrived?. *Communications of the ACM*, 58(1), 45-47.
- Summerton, N., & Summerton, N. (2016). Why wearable tech matters to organisational wellbeing. *Strategic HR Review*, 15(2), 98-99.
- The Star Online (2017). Wearable Gadgets Seek Permanent Place in Users' Lives. Retrieved August 1, 2017, from <http://www.thestar.com.my/tech/tech-news/2017/03/02/wearable-gadgets-seek-permanent-place-in-users-lives/>
- Truong, Y. (2013). Antecedents of Consumer Acceptance of Mobile Television Advertising. In *User Perception and Influencing Factors of Technology in Everyday Life* (pp. 128-141). IGI Global.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology.
- Zhou, T., Lu, Y. & Wang, B. (2010). Integrating TTF and UTAUT to explain mobile banking user adoption. *Computers in Human Behavior*, 26(4), 760-767.

Consumers Attitude Towards Organic Food in Malaysia

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Abstract

The purpose of this paper is to identify the antecedents of consumers attitudes towards organic food based on Antecedents-Behavior-Consequence (ABC) Model. A survey consisting of 300 respondents was conducted and a SPSS was used to test the relationship between the constructs (i.e. healthier, better taste, food safety, environmental care and attitude). The findings shows all the hypotheses were supported. The data also established sufficient reliability and validity. This study has successfully ascertained the effects of healthier, better taste, food safety and environmental care on consumer attitude towards organic food. All independent variables had a positive significant effect on consumer attitude towards organic food. With the study addressed different factors towards organic foods in Malaysia perspectives, this paper has therefore filling a gap and shed further insights in the current literature. From this research, the organic industry players can use these findings as their guidelines for future operations to increase consumers' intake on organic foods. Retailers, marketers and growers could use the results as a basis to develop strategic marketing plans and acts as an effective communication which affects the consumer behavior and perception (Hassan & Mustapha, 2010)

Keywords: Organic Food and Attitude

INTRODUCTION

Improvements in lifestyles and changes in consumption pattern of consumers' behavior have increased the food demand globally. However, with the limitations of arable land, which were mainly the result of soil degradation, increased development and climate change, these have threaten the productivity of conventional farming systems. Hence, farming systems with a lower reliance on external inputs offer some promise of greater sustainability. One well-known and widely adopted low-input system is organic farming, where the practices rely more on environmentally sustainable methods of agricultural production. Organic farming is one of the ecosystems management used to grow sufficient food for the increasing population. It is a method of crop and livestock production that does not involves pesticides, fertilizers, genetically modified organisms, antibiotics and growth hormones (omafra.gov.on.ca). It relies on composting, mulching, green manuring, intercropping and crop rotation to build soil fertility, soil and water conservation, and biological methods to control weeds and pests (CETDEM).

Organic farming in Malaysia is facing challenges where for instance, there is unstable supply from the growers even though organic consumers have significantly increased (Somasundra, 2016). Many parties such as growers, marketers and consumers have less awareness on the production method and processing standards in Malaysia, thus, 60 percent of the organic products were imported to Malaysia due to our small organic industry (Somasundra, 2016). Today, people are concerned of their well being, product taste and environment protection by turning into potential organic food consumers. Consumers' attitude has changed their product preferences. They tend to be more concerned of the food quality, food safety and food eco friendly products.

Although many studies on organic food have been flourished in leading academic journals (Vukasovic, 2015; Zepeda, 2009), the primary focus for the earlier studies were generally in the United States and the mainland of European. There are still limited studies on consumers' perception towards organic food in Southeast Asia such as Malaysia, Singapore, Thailand, Indonesia and Vietnam, where these countries are found to have the most promising markets for organic food. Several studies found to be conducted in Malaysia were primarily focusing on the buying behavior of green foods (Shahnaei, 2012; Eze & Ndubisi, 2013; Teng,

Rezai, Mohamed & Shamsudin, 2011), in practice, the consumption pattern of organic food is still little to known to the farmers, organic industry players and organic consumers.

In accordance with ABC model, the potential factors that influenced consumers' attitude towards organic food is relevant in this study due to consumers' satisfaction level varied depends on various factors (Bhatia & Panwar, 2016). Some consumers choose organic food for healthier reason, some consumers are concerned on the environment, whereas some consumers are concerned on food safety, better taste and quality. There may be contradictory results from several studies due to different perceptions of consumers towards organic food. For instance, Paul and Rana (2012) stated consumer preferences in organic food were significantly build upon the perception concerning health effect and they are categorized as potential consumers of organic food. Coddington (1993) revealed that with the influence of environmental damage, some consumers have changed their perception to be more concerned on health and food safety. These two perceptions indicated as major attractions that increased organic food consumption. Besides these factors, consumers also considered attributes such as unique taste, visual appeal and freshness of organic food. Lin, Payson, & Wertz (1992) revealed that some consumers perceived appearance to have limited relevance and some consumers could not identify the variation of taste between organic food and conventional food (Jolly & Norris, 1991; Sparling, Wilken, & McKenzie, 1992). Thus, this study serves to identify the real motivation to consume organic food and to discover the attitude towards organic food in order to develop a clearer picture in this study. There is a need to conduct this study to determine the strongest predictor and influence of attitudes towards the purchasing of organic food due to the contradictory issues that have been acknowledged in organic food industry.

LITERATURE REVIEW

Consumer Attitude towards Organic Food

Schiffman and Kanuk (2000) defined attitude as an educated manner to carry on in a favorable or unfavorable way with recognition to a given object. Jung (1971) defined attitude as "a psychological construct which represents an individual's readiness to act or react in a certain way". Attitude can be evaluated as an object decisions and is obtained from an individual's thoughts (cognition), beliefs (values) and emotions (affection) towards the object (Hoyer & MacInnis, 2004; Dossey et al. 2009). Ajzen (1991) discovered a person's intention to perform a behavior is stronger when one's attitude towards a behavior (i.e. organic food consumption) is more favorable. Hence, a person's purchasing behavior of organic food can be foresee precisely using attitudes when provided there is no internal or external risk to that person's level of control (Ajzen, 1991; Sparks & Shepherd, 1992). In other words, attitude was used to estimate consumers' intention to buy organic food (Tarkiainen & Sundqvist, 2005).

Saba & Messina (2003) studied a sample of 947 Italian consumers who developed positive attitude towards eating organic fruits and vegetables as they agreed it were healthier, environmentally friendly and tastier compared with conventional fruits and vegetables. Several past studies were conducted on organic food consumption with behavioral attitudes such as health consciousness, food safety (Chinnici et al., 2002; Magnussin et al., 2003; Baker et al., 2004) and organic food attributes such as flavors, sense and freshness (Gil & Soler, 2006; Huggner et al., 2007). Since attitudes act as a superior indicator of organic food consumption, it is ideally to use in studying organic food practices (Tutunjian, 2004).

Healthier

Health symbolized as what consumers consumed. Health is getting more attention from the society as it concerned to one's diet and lifestyle. At such, health had become part of a person's everyday activities. Majority of consumers have the confidence on the nutrition they obtained when comes to consuming organic food (Hill & Lynchehaun, 2002). This is due to the impression of organic food are grown naturally (Padel & Foster, 2005) without the usage of pesticide (CETDEM) and it contained bigger proportion of minerals and vitamins. As a result, people take organic food as a substitute from conventional food for better well being. This is known as 'health conscious' which was also the primary motivation why a person developed positive attitude towards organic food (Chen, 2009). According to Davies et al, (1995) Lockie et al, (2002) and Padel & Foster (2005), health appeared to be the first motivation and strongest

motive for people when purchased and consumed organic food. However, Williams (2002) indicated there had not been a decisive affirmation that organic food contained more nutrition. Several studies disclosed organic products contained smaller amount of nitrate content and higher dry matter (Warman & Havard, 1998; Srikumar & Ockerman, 1991). In contradictory, studies from Petterson (1997) and Schuphan (1974) found organic foods consist of higher Vitamin C whereas other studies like Clarke & Merrow (1979) concluded that higher vitamin C levels were found in conventionally grown foods. However, all these contradicting findings depend on its maturity during harvesting and storage conditions (Bourn & Prescott, 2002).

Better Taste

Taste can be categorized into four basic tastes which are sweet, sour, salty and bitter (Erickson, 2008). Taste can be differentiated in terms of product types (Becker, 2007). Most consumers believed that organic food are tastier, intense, natural and rich in flavor. This had become the motivation of organic consumers to satisfy their needs (Becker, 2007). Aertsens et al. (2009) discovered that better taste was one of the highest motivations of purchasing organic foods due to organic food is viewed as more advantageous, more secured, better taste and higher quality than ordinary nourishment (Market and Opinion Research Institute, 1999; Consumers Association, 2000; Magnusson et al. (2001); Magkos et al. (2006). Qualities of organic foods are divided into two groups: general specific characteristics (i.e. flavors and shelf life) (Jolly & Norris, 1991; Sparling et al., 1992) and commodity specific characteristics (i.e. nutritional value and freshness) (Hansen, 2001). Both characteristics that will influenced organic consumers' purchasing decision. Many organic consumers tend to use commodity specific characteristics to differentiate between organic food and conventional food (Hansen, 2001). Several studies had been conducted that consumers had greater taste expectations experience after consumed organic food and they found organic food had better taste compared to conventional food (Hughner et al. (2007); Aertsens et al. (2009)). However, there was study by Jolly & Norris (1991) stated that consumers could not differentiate the taste of organic food and conventional food.

Food safety

Food safety indicated to consumers of food residues that contained chemical sprays, fertilizers, artificial additives and preservatives which are frequently connected to farming methods (Yee et al. 2005). Padel & Foster (2005) defined food safety is to be toxic free, contained no pesticide and is one of the motivations for purchasing organic food. This was supported by Ott (1990) and Jolly (1991) where consumers started to purchase organic food with the desire to keep a distance from the usage of chemicals in conventional food production. From Organochlorine Insecticide (DDT) to Dursban, the Environmental Protection Agency (EPA) had eliminated the pesticide usage from the food supply as pesticide is not safe and will caused a prickling sensation in the mouth, nausea, dizziness, headache, lethargy and tremors when working with the chemical. Lacy (1992) and Kouba (2003) revealed that consumers perceived organic farming methods to be safer than conventional farming and the characteristics such as nutritive, sensory and food safety impacted consumer decision towards organic food. Organic purchasers who are aware of physical threats were highly involved in organic food consumption (Yee et al., 2005; Zanolli & Naspetti, 2002). This is due to they gained more knowledge about the side effect of pesticide, insecticide, fungicide and herbicide that were used in food production (Teng et al., 2011). Thereafter, consumers started to acknowledge that organic foods were safer to consume (Rezai et al., 2012) which reflected their behavioral control and become one of the determinants of consumers' intention to buy organic foods. Food safety concern was then identified as an argumentation for purchasing organic food (Sanjuan et al., 2003).

Environmental Care

Environmental care symbolized "the degree to which people are aware of problems regarding the environment and support efforts to solve them the willingness to contribute personally to their solution" (Dunlap & Jones, 2002). A person who is concerned for the environment will have a straightforward relationship with the environmentally friendly behavior. Studies found that environmental concern was one of the factors that influenced consumers' attitude when buying organic food (Squires et al., 2001; Soler et al., 2002) and consumers who believed in buying organic food tend to have pro-environment behavior (Smith & Paladino, 2010). In Europe, environmental concern was ranked as the top preferences when purchasing

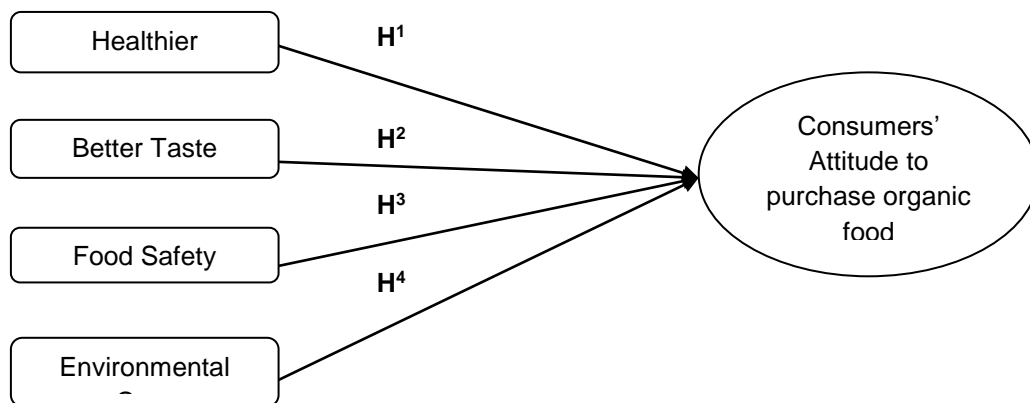
organic food (Sandalidou et al., 2002). Pirog and Larson (2007) stated the responsibility to protect the local environment has been developed when consumers are involved in the organic food consumption. These environmentally conscious consumers that evolved from conventional food to organic food are likely to become organic consumer (Shafie & Rennie, 2012). It was because consumers' attitude towards organic food will lead to reduction in using pesticides in the farming system. Farmers who emphasized of using reproducible assets and protection of soil and water could improve the environment quality in producing organic food too (Lian, Safari & Mansori, 2016).

CONCEPTUAL FRAMEWORK

Based on the previous literature on consumers' attitude towards organic food and its antecedents, this study predicts the following hypotheses:

- Hypothesis 1:* Health conscious will have a direct and positive effect on consumers' attitude towards organic food
- Hypothesis 2:* Better taste will have a direct and positive effect on consumers' attitude towards organic food
- Hypothesis 3:* Food safety will have a direct and positive effect on consumers' attitude towards organic food
- Hypothesis 4:* Environmental care will have a direct and positive effect on consumers' attitude towards organic food

Figure 1: Theoretical Framework of Organic Food Consumption



* Solid lines represent relationships hypothesized to be positive.

The figure above represents the proposed framework of this study. Healthier, better taste, food safety and environmental care are used to predict the attitude to purchase organic food.

RESEARCH METHODOLOGY

Sample and Procedures

We surveyed 320 respondents who aged above 18 years old via self administered questionnaires starting from 1 Mac 2017 to 31 Mac 2017. The close ended questionnaires were distributed to organic purchasers who patrolled to organic shops and also through online survey by using Google Forms. In return, respondents were rewarded with a RM5 vouchers from Zenxin Organic Shop. Respondents could be having purchase experience or without purchase experience in organic food as data collection were conducted at the corridor outside organic shop. In other words, every individual passed by the organic food store had an equal opportunity to be included in this research sample. Same concept applied to online survey where the respondents were reached through the sharing in particular organic page and Facebook group.

Pilot Test

A pilot test was administered to test the validity of the instrument. 60 sets of questionnaires were distributed to organic store and organic restaurant in Sungai Long area starting from 1 February until 28 February 2017. Out of 60, all respondents participated in the pilot test resulting in a 100% response rate for the pilot study. Respondents were asked to identify ambiguous or unclear items and provide suggestions for changes. Nonetheless, the pilot test revealed there was not any changes need to be done to the questionnaires thus, the researchers proceed with the data collection.

Administration of Survey

The population consisted of organic food purchasers and non organic food purchasers (N = 320). The questionnaire took 10 to 20 minutes to complete, although no time constraints were imposed. A total of 315 questionnaires were returned. Among the returned questionnaires, 15 were eliminated due to missing values which, in turn, reduced the final sample size to 300. The response rate was, therefore 95%.

Survey Instrument

In developing the questionnaire, multiple-item scales used in this study were obtained from different sources in the extent literature. The instrument used to gather the data for this study was a structured questionnaire consisting of four parts. The data was secured by means of eight pages of self-administered questionnaire using various forms of response. Responses to the items in all constructs scale were elicited on five-point scales ranging from 5 (*strongly agree*) to 1 (*strongly disagree*) and dichotomous questions were used in the questionnaire too.

Structure of Questionnaire

The first part of the questionnaire (Section A) required the respondents to indicate their demographic profile. This part consists of 8 items. Sample includes 'occupation', 'income' and 'dietary habit'. The second part of the questionnaire (Section B) contained 7 items indicate general question like 'how often do you purchase organic food in a month?', 'when was your last purchase of organic food?' and 'where do you shop for organic food?'. The following part of the questionnaire (Section C) was designed to examine the 4 constructs. Six (6) items were adapted from Michaelidou & Hassan (2008) to measure healthier. Sample items are 'I reflect about my health a lot,' 'I am very self conscious about my health' and 'I take responsibility for the state of my health'. Three (3) items were adapted from Slamet, Nakayasu & Bai (2016) to measure better taste construct. Sample items are 'Organic is tastier than conventionally grown', 'Organic is fresher than conventionally grown' and 'Organic is higher in quality than conventionally grown. Three (3) items were adapted from Steptoe, Pollard & Wardle (1995) to measure food safety. Sample items are 'Organic foods contain no additives', 'Organic foods contain no artificial ingredients' and 'Organic foods contain natural ingredients'. A 4-items scale developed by the Roberts & Bacon (1997) was used to measure environmental care constructs. Sample items are 'Human beings are severely abusing the environment', 'Humans must maintain the balance with nature in order to survive', and 'The balance of nature is very delicate and can be easily upset'. The final part of the questionnaire (Section D) included questions on respondents' attitude towards organic foods. There are six (6) items used in Section D. Sample includes 'I think that purchasing organic is good idea', 'I think that purchasing organic food is interesting' and 'I think that purchasing organic food is important'.

DATA ANALYSIS

Data Analysis

Data analysis was conducted starting with descriptive analysis to provide general description on the characteristic of respondents. The internal consistency method using Cronbach's alpha was calculated to confirm the reliability of each construct (see table 1). SPSS version 20 was employed to analyze the data. The relationships among healthier, better taste, food safety, environment care and attitude towards organic food were examined.

Table 1: The Reliabilities of the Measurement Model

<i>Construct</i>	<i>No of Items</i>	<i>Cronbach's Coefficient Alpha</i>
Healthier	6	.967
Better taste	3	.847
Food safety	3	.931
Environmental concern	4	.899
Consumer attitude towards organic food	6	.921

Pearson correlation was tested to investigate the relationship between the four independent variables (healthier, better taste, food safety and environmental concern) and the dependant variable which is consumer attitude towards organic food. Result shown all independent variables has significant positive relationship with consumer attitude towards organic food (see table 2). This can be simply explained as the greater the belief that organic food is healthier, the more favorable is the attitude of consumers towards organic food. This explanation is applied to all the variables above.

Table 2: Correlation Matrix of Construct

	Healthier	Better Taste	Food Safety	Environmental Care	Consumer attitude towards organic food
Healthier	1				
Better Taste	.332**	1			
Food Safety	.362**	.530**	1		
Environmental Care	.220**	.397**	.268**	1	
Consumer attitude towards organic food	.333*	.517**	.485**	.369**	1

** Correlation is significant at 0.01 level (2 tailed)

Multiple regression analysis was conducted to measure the association of independent variables (i.e. healthier, better taste, food safety and environmental care) with its dependant variable (i.e. consumer attitude towards organic food). Result shown all the independent variables were significant positively related to consumer attitude towards organic food. R square value shown 36.7% of the dependant variables can be explained by healthier, better taste, food safety and environmental care. Overall, better taste was the most influential towards consumer attitude on organic foods as its standardized coefficient was 0.270.

Table 3: Multiple Regression Analysis

Independent Variable	β	R Square	Adjusted R Square	Sig	F
Healthier	.104	.367	.356	.048	34.027
Better Taste	.270			.000	
Food Safety	.240			.000	
Environmental Care	.150			.006	

Independent variable: Consumer attitude towards organic foods

Next, the proposed Hypotheses were evaluated. An examination revealed that the Hypothesis 1, 2, 3 and 4 were supported and significantly related with consumer attitude towards organic foods ($r = .367$). The hypotheses verification summary is shown in table 4.

Table 4: Hypotheses Verification

Hypothesis	Coefficient	P Value	Result
Healthier → Consumer attitude towards organic foods	.104	0.048	Supported
Better taste → Consumer attitude towards organic foods	.270	0.00	Supported
Food safety → Consumer attitude towards organic foods	.240	0.00	Supported
Environmental Care → Consumer attitude towards organic foods	.150	.006	Supported

* $p < .05$, ** $p < .001$

CONCLUSION AND DISCUSSION

The purpose of this paper is to explore the perceptions and behaviors of consumers towards organic food as organic food are getting popular among consumers. This paper helped consumers to increase their knowledge and awareness of the benefits of consuming organic food too. 300 respondents were engaged to assist in this survey. Female respondents represent larger segment which comprised of 69% compare to male respondents which comprised of 31%. Majority of the respondents were at the age of 20 to 30 years old (34.3%), followed by the age above 50 years old (27%), whereas 4.3% are under the age of 20. Chinese formed the highest population (93%) followed by Indian and Malay which consisted 3% and 2.3% respectively. Majority of the respondents were married with children (46.7%) followed by respondents who were still single (45.7%) and 7.3% of the respondents married without children. All the hypotheses were supported. The data also established sufficient reliability and validity. This study has successfully ascertained the effects of healthier, better taste, food safety and environmental care on consumer attitude towards organic food. All independent variables had a positive significant effect on consumer attitude towards organic food.

With the study addressed different factors towards organic foods in Malaysia perspectives, this study has therefore filling a gap and shed further insights in the current literature. From this research, the organic industry players can use these findings as their guidelines for future operations to increase consumers' intake on organic foods. Retailers, marketers and farmers could use the results as a basis to develop strategic marketing plans and acts as an effective communication which affects the consumer behavior and perception (Hassan & Mustapha, 2010) For instance, terms such as "safe", "healthy", "better taste" and "environmental care" should be advertise on the food packaging to show a consistent images and impressions for organic products. Information on health benefits should be widespread in public where the messages should be understandable and how it is related to consumers' health. Marketers should enhance their ethical practices to include information pertaining to their production method and corporate social responsibility (CSR) activities in promoting organic food in order to remain competitive (Chan, 2001) and increased market share in this industry. Lastly, this study has proven consumers' attitude is linked with emotional benefits in driving demand of organic food. It possessed positive attitude from an individual when they correspond with the idea and perception of purchasing organic (Chan, 2001).

This study is limited in measuring the inward environmental attitude of consumer towards organic food, such as healthier, better taste, food safety and environmental concern. Despite of inward environmental attitude, researchers should expand the current research by including contextual factors to further enhance the integration of consumer characteristics and emotional evaluations towards organic products. There are extensive range of influences can be included in the contextual factors, such as "monetary incentives and costs, physical capabilities and constraints, institutional and legal factors, public policy support and interpersonal influences (social norms)" (Stern, 2000). According to Guagnano et al. (1995), external conditions that broadly include all external factors such as contextual variables are uncontrollable for the consumer (Eide, 2013) which indicated as an influential aspect that can be supportive or barriers to the behavior. Meanwhile, several researchers have found that high prices (Tregear et al., 1994; Roddy et al., 1996; Magnusson et al., 2001; Zanolli & Naspetti, 2002), lack of availability (Zanolli & Naspetti, 2002) and lack of knowledge and awareness

(Demeritt, 2002) are perceived as the barriers that may interfere the behavioral intention and actual purchase of organic food (Arttachariya, 2009). Hence, it is recommended to include these contextual factors for further studies as it could affect consumers' buying decision in organic food.

In conclusion, this research serves as a platform to have better understanding on consumer attitudes towards buying behavior in organic food. Researchers are contented that consumer attitudes serve as a strong indicator which ultimately affecting consumer buying decisions. Healthier, better taste, food safety, environmental concern and animal welfare each play vital role in influencing consumers' attitude towards organic food. Results shown from a demographic perspective, consumers who are young, perceive better taste as their primary motivation are likely to be regular purchasers of organic foods. Apart from that, the perception of organic food are healthier or more fresh than conventional products, more environmentally friendly and as well as supportive to the local economy also served as consumers' motives in purchasing organic food (Zepeda & Deal, 2009). The analysis test result and discussion of major findings for the variables are summarized in this study. Along with managerial implications, limitation and recommendations are provided for researchers to further improve for future research.

REFERENCES

- Aertsens, J., Verbeke, W., Mondelaers, K., & Van Huylenbroeck, G. (2009). Personal determinants of organic food consumption: a review. *British Food Journal*, 111(10), 1140-1167.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior And Human Decision Processes*, 50(2), 179-211.
- Arttachariya, P. (2009). Purchasing Behavior of Organic Food Consumers. *AU Journal of Management*, 7(2), 27-36.
- Baker, S., Thompson, K., Engelken, J., & Huntley, K. (2004). Mapping the values driving organic food choice. *European Journal Of Marketing*, 38(8), 995- 1012.
- Becker, T. (2007). Consumer Attitude and Behavior toward Organic Food: Cross-cultural study of Turkey and Germany. *Universitat Hohenheim*.
- Bhatia, V., & Panwar, S. (2016). Customer Perception Towards Organic Food Products in Selected Regions of Mumbai. *Practices And Research In Marketing*, 7(1&2).
- Bourn, D. and Prescott, J. (2002). A comparison of the nutritional value, sensory Bristol: Soil Association.
- Chen, M. F. (2009). Attitude toward organic foods among Taiwanese as related to health consciousness, environmental attitudes, and the mediating effects of a healthy lifestyle. *British Food Journal*, 111(2), 165-178.
- Chinnici, G., D'Amico, M., & Pecorino, B. (2002). A multivariate statistical analysis on the consumers of organic products. *British Food Journal*, 104(3/4/5), 187-199.
- Clarke, R.P. and Merrow, S.B. (1979). Nutrient composition of tomatoes homegrown under different cultural procedures. *Ecology of Food and Nutrition*. 8, 37-46.
- Coddington, W. (1993). *Environmental Marketing: Positive Strategies for Reaching the Green Consumer*, New York, United States: McGraw-Hill Inc.
- Dossey, B.M. and L. Keegan. (2009). *Holistic Nursing: A Handbook for Practice*, Sadbury, MA: Jones and Bartlett Publishers.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Dunlap, R. E. and R. Jones (2002). *Environmental Concern: Conceptual and Measurement Issues*. In Handbook of Environmental Sociology edited by Dunlap and Michelson, 482-542. London: Greenwood Pres.
- Eide, B. (2013). Consumer Behavior Theories – Purchasing Organic Food. Aarhus University, Department Of Business Administration.
- Erickson, R. (2008). A study of the science of taste: On the origins and influence of the core ideas. *Behavioral And Brain Sciences*, 31(01).
- Eze, U., & Ndubisi, N. (2013). Green Buyer Behavior: Evidence from Asia Consumers. *Journal of Asian And African Studies*, 48(4), 413-426.
- Gil, J., & Soler, F. (2006). Knowledge and willingness to pay for organic food in grown produce. *British Food Journal*, 96(4), 21-25.
- Guagnano, G., Stern, P., & Dietz, T. (1995). Influences on Attitude-Behavior Relationships. *Environment and Behavior*, 27(5), 699-718.
- Hansen, L. G. (2001). Modelling Demand for Organic Products—Implications for the Questionnaire.
- Hassan, S. H., & Mustapha, Y. A. (2010). Malaysian consumer knowledge and preferred information sources in selecting functional foods. *Journal of Agribusiness Marketing*, 3, 20-39.
- Hassan, S., Yee, L., & Ray, K. (2015). Purchasing Intention Towards Organic Food Among Generation Y In Malaysia. *Journal of Agribusiness Marketing*, 7, 16-32.
- Hill, H., & Lynchehaun, F. (2002). Organic milk: attitudes and consumption patterns. *British Food Journal*, 104(7), 526-542.
- Hoyer, W.D. and D. J. MacInis. (2004). *Consumer Behavior*. Boston: Houghton Mifflin.
- Hughner, R., McDonagh, P., Prothero, A., Shultz, C., & Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour*, 6(2-3), 94-110.
- Jolly, D. (1991). Differences between buyers and non buyers of organic produce and willingness to pay organic price premiums. *Journal of Agribusiness*, 9(1), 97-111.
- Jolly, D., Schutz, H., Diez-Knauf, K. & J. Johal. (1989). Organic Foods: Consumer Attitudes and Use. *Food Technology*, 43(11), 61-66.
- Jung, C.G. (1971). *Psychological Types, Collected Works*, Volume 6. Princeton,
- Lian, S., Safari, M., & Mansori, S. (2016). The Effects of Marketing Stimuli Factors on Consumers' Perceived Value and Purchase of Organic Food in Malaysia. *Jurnal Pengurusan*, 47(1), 119-130.
- Lin, B., Payson, S., & Wertz, J. (1996). Opinions of professional buyers toward organic produce: A case study of mid-Atlantic market for fresh tomatoes. *Agribusiness*, 12(1), 89-97.
- Lockie, S., Lyons, K., Lawrence, G. and Mummery, K. (2002). Eating Green: Motivations behind organic food consumption in Australia, *Sociologia Ruralis*, 42(1), 23-40.
- Lockie, S., Lyons, K., Lawrence, G., & Grice, J. (2004). Choosing organics: a path analysis of factors underlying the selection of organic food among Australian consumers. *Appetite*, 43(2), 135-146.

- Magkos, F., Arvaniti, F., & Zampelas, A. (2006). Organic Food: Buying More Safety or Just Peace of Mind? A Critical Review of the Literature. *Critical Reviews In Food Science And Nutrition*, 46(1), 23-56.
- Magnusson, M., Arvola, A., Hursti, U., Åberg, L., & Sjöden, P. (2003). Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behavior. *Appetite*, 40(2), 109-117.
- Magnusson, M., Arvola, A., Koivisto Hursti, U., Åberg, L., & Sjöden, P. (2001). Attitudes towards organic foods among Swedish consumers. *British Food Journal*, 103(3), 209-227.
- Market and Opinion Research Institute (1999). *Public Attitudes to Organic Food*. NJ: Princeton University Press.
- Ott, S.L. (1990). Supermarket shoppers' pesticide concerns and willingness to purchase certified pesticide residue-free fresh produce. *Agribusiness*, 6(6), 593-602.
- Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behavior. *British Food Journal*, 107(8), 606-625.
- Paul, J., & Rana, J. (2012). Consumer behavior and purchase intention for organic food. *Journal of Consumer Marketing*, 29(6), 412-422.
- Petterson, B.D. (1997). A comparison between conventional and bio-dynamic farming systems as indicated by yield and quality. *Biodynamic*, 124, 19-27.
- Pirog, R. and Larson, A. (2007) *Consumer perceptions of the safety, health and environmental impact of various scales and geographic origin of food supply chain*. Leopold Center, Iowa.
- Rezai, G., Teng, P. K., Mohamed, Z. & Shamsudin, M. N. (2013). Is it easy to go green? Consumer perception and green concept. *American journal of applied sciences*, 10(8), 793-800.
- Roddy, G., Cowan, C., & Hutchinson, G. (1996). Consumer Attitudes and Behavior to Organic Foods in Ireland. *Journal of International Consumer Marketing*, 9(2), 41-63.
- Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference*, 14(8), 637-645.
- Sandalidou, E., Baourkis, G. and Siskos, Y. 2002. Customers' perspectives on the quality of organic olive oil in Greece: A satisfaction evaluation approach. *British Food Journal*. 104(3/4/5): 391-406.
- Sanjuan, A., Sanchez, M., Gil, J., Gracia, A., & Soler, F. (2003). Brakes to organic market enlargement in Spain: consumers' and retailers' attitudes and willingness to pay. *International Journal of Consumer Studies*, 27(2), 134-144.
- Schiffman, L. G. & Kanuk, L. L. (2000). *Consumer Behavior* (7th ed.). Wisconsin: Prentice Hall.
- Schuphan, W. (1974). Nutritional value of crops as influenced by organic and inorganic fertilizer treatments. *Qualitas Plantarum*, 23(4), 333-358.
- Shafie, F., & Rennie, D. (2012). Consumer Perceptions Towards Organic Food. *Procedia - Social and Behavioral Sciences*, 49, 360-367.
- Shahnaei, S. (2012). The Impact of Individual Differences on Green Purchasing of Malaysian Consumers. *International Journal of Business and Social Science*, 3.
- Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18(2).

- Soler, F., Gil, J.M. and Sanchez, M. (2002). Consumers' acceptability of organic food in Spain: Results from an experimental auction market. *British Food Journal*, 104(8), 670-687.
- Somasundram, C., Razali, Z., & Santhirasegaram, V. (2016). A Review on Organic Food Production in Malaysia. *Horticulturae*, 2(3), 12.
- Sparks, P., & Shepherd, R. (1992). Self-Identity and the Theory of Planned Behavior: Assessing the Role of Identification with "Green Consumerism". *Social Psychology Quarterly*, 55(4), 388-399.
- Sparling, E., Wilken, K., and McKenzie, J. (1992). *Marketing fresh produce in Colorado supermarkets*. Report to Colorado Department of Agriculture and USDA Federate State Marketing Improvement Program, Fort Collins, Colorado, USA.
- Squires, L., Juric, B., & Bettina Cornwell, T. (2001). Level of market development and intensity of organic food consumption: cross-cultural study of Danish and New Zealand consumers. *Journal of Consumer Marketing*, 18(5), 392-409.
- Srikumar, T.S. and Ockerman, P.A. (1991). The effect of organic and inorganic fertilization on the content of trace elements in cereal grains. *Food Chemistry*, 42, 225-230.
- Srikumar, T.S. and Ockerman, P.A. (1991). The effect of organic and inorganic fertilization on the content of trace elements in cereal grains. *Food Chemistry*, 42, 225-230.
- Tarkiainen, A. & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808-822.
- Teng, P. K., Rezai, G., Mohamed, Z. & Shamsudin, M. N. (2011), Consumers' intention to purchase green foods in Malaysia. *International Proceedings of Economics Development and Research*, 14, 112-118.
- Tregear, A., Dent, J.B. and McGregor, M.J. (1994). The demand for organically grown produce. *British Food Journal*, 96(4), 21-25.
- Tutunjian, J. (2004). Are organic products going mainstream?. *Canadian Grocer*, 118(7), 31.
- Vukasovic, T. (2015). Attitudes towards organic fruits and vegetables. *Agricultural Economics Review*, 16(1), 20.
- Warman, P.R. & Havard, K.A. (1998). Yield, vitamin and mineral content of organically and conventionally grown potatoes and sweet corn. *Agriculture, Ecosystems and Environment*, 68, 207-216.
- Williams, P. R. D., & Hammitt, J. K. (2000). A comparison of organic and conventional fresh produce buyers in Boston Area. *Risk Analysis*, 20(5), 735- 746.
- Yee, W. M. S., Yeung, R. M. W., & Morris, J. (2005). Food safety: building consumer trust in livestock farmers for potential purchase behavior. *British Food Journal*, 107.
- Zanoli, R., & Naspetti, S. (2002). Consumer motivations in the purchase of organic food: a means-end approach. *British food journal*, 104(8), 643-653.
- Zepeda, L., & Deal, D. (2009). Organic and local food consumer behavior: Alphabet Theory. *International Journal of Consumer Studies*, 33(6), 697-705.

Testing Static Trade-Off and Pecking Order Theories: Empirical Evidence from Public Listed Companies (PICs) in Malaysia

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Abstract

Leverage decisions and choices are important to firms due to their irreversible nature and the constraints to raise the highest possible proceeds from the fundraising exercise. Both static trade-off and pecking order theories guide firms to follow a strict funding choice in order to maximise firms' values. This study examines exogenous and endogenous factors of leverage choices to provide clues to which theory best explaining the financing behaviours of Public Listed Companies (PLCs) in Malaysia, with a dataset ranging from 2010 to 2015. The panel data results revealed that the PLCs support the trade-off theory. Firms' total leverage, a measure of leverage choices, is found positively related to firm size, and negatively to profitability, liquidity and volatility. The robustness of that finding is validated as similar results are found using short term and long term leverage as alternative proxies for leverage choices.

Keywords: Leverage, Trade-off theory, Pecking order theory, Panel data, Capital structure choices

INTRODUCTION

Firm, disregard its private or public status, requires funding as an avenue to sustain growth or for survival purposes (Barclay, Fu, & Smith, 2012). In addition, any funding decision made by management teams in a company will influence company reputation (Salim & Yadav, 2012). The major concern of any inappropriate funding choice is its irreversible nature and any entailing actions as a form of correction will incur high costs, hence decrementing value, instead of creating value. Hence, it has long been an important issue from the strategic management standpoint since financial decision is linked to a firm's ability to meet the demands of stakeholders (Ross, 1973; Jensen & Meckling, 1976; Frank & Goyal, 2009; Barclay, et al., 2012). This has been further emphasized by Barclay and Smith (1999) that in the world with taxes and default costs, such as agency costs, bankruptcy and distress costs, an appropriate capital structure and the choice of funding are critical decisions for any business entity.

For decades, scholars (Modigliani & Miller, 1958 and 1963; Jensen & Meckling, 1976; Myers, 1984; Barclay & Smith, 1999; Shyam-Sunder & Myers, 1999; Baker & Wurgler, 2002; Hovakimian, 2004 & 2006; Fama & French 2005; Kayhan & Titman, 2007; Huang & Ritter, 2009; Frank & Goyal, 2009) have attempted to answer "How to make funding decision without decrementing shareholders' value?" puzzle by developing evidences on which capital structure theories that best explained the financing behaviours of firms and the subject continues to be in debate, both theoretically and empirically. At the backdrop of literatures, two most distinguished capital structure theories are the classic trade-off theory by Modigliani and Miller (1958, 1963) and the pecking order theory by Myers (1984). The motivation behind the introduction of these theories is to provide guidance to firms seeking funding. Putting importance on the paradigm of maximizing firm's value when making funding decisions, firm managers are encouraged to seek external funding via debt issuance under the trade-off theory. On the contrary, internal funding is primary to external funding under the pecking order theory. The pecking order theory posits that external funding will only be considered when capacity to fund internally is fully utilised.

Empirical results on which theory best explained the leverage choices thus far are mixed and vary across different economic environments; some corroborate with the trade-off theory while others lend support to the pecking order theory. Shyam-Sunder and Myers (1999), Lemmon, Roberts and Zender (2008) and Barclay et al. (2012) all reported that pecking order

theory has more statistical power than the trade-off theory when comes to funding choices in US markets. On the other hand, Chen and Chen (2011) provided evidence that pecking order theory is supported by Taiwanese electronic companies and proved that firms prefer to use retained earning rather than debt capital. However, Chen, Chen, Chen and Huang (2013) evidenced that public listed firms in Taiwan do not support pecking order theory as debt funding matches every dollar of the investment needs. Koksal and Orman (2015) study on Turkey firms stated that large private firms in non-manufacturing industry practice trade-off theory. In contrast, pecking order theory is practiced by small publicly-traded manufacturing firms. On average, their empirical findings suggested that the trade-off theory is in a better position to explain capital structure choices than pecking order theory. However, Frank and Goyal (2009) provided evidence that private and large firms seem to support both theorists but small public firms are against the theorists.

This study aims to expand on the current myopic views on determinants of capital structure choices in Malaysia over the period 2010 to 2015 by investigating into both exogenous and endogenous factors. In addition, this study also attempts to provide a satisfactory explanation on which capital structure theory that is mostly practiced by PLCs in Malaysia. Two main features distinguish this study from the past. First, we test which debt funding choice is significant when making financing decisions. Second, our study contributes in bridging the literature gap by providing a comprehensive study on the best theory that explains the leverage decisions in Malaysia context by including two exogenous factors namely GDP growth and interest rate as the determinations of funding choice. Taking the firm and time differences into account, our study revealed that the PLCs support the trade-off theory. Robustness tests have further validated the significant relationships between firm size, profitability, liquidity and volatility to total leverages. Both short-term and long-term leverages proved to provide consistent results with those evidenced by total leverages. The findings of this study are expected to provide insights to all types of firms on the determinants of debt financing in Malaysia. This study assists firms to identify the firm-specific strengths and weaknesses when making funding decisions, whilst considering the impact from external factors in order to improve overall firm's performance.

Capital Structure Theories: Trade-Off Theory (1958 & 1963) and Pecking Order Theory (1984)

Debt issuance represents an external funding where it introduced an external group of investors, the debt holders, to firm's capital structure. Firms are liable to deliver a series of promised cash flows to creditors throughout the borrowing term. Any defaults in payment to creditors will result in costly consequences, such as damage to reputation, higher financing costs, lawsuits and worst, financial distress (Fama & French, 2005). However, debt allows firms to enjoy tax-shield benefits. Interest payments are tax deductible, hence, contributing to higher retained earnings figures to firms (Frank & Goyal, 2009). This phenomenon is referred to as leverage effect as debt funding magnifies firm's rate of returns.

Modigliani and Miller's (1958) static trade-off theory posited a positive linear relationship between debt and firm's value under the assumption of no agency and default costs. The authors argued that firms should consider only debt as the major source of financing as higher the debt, higher the tax-shield benefits to the firms. This encourages firms to borrow as much as possible to enjoy the tax benefits. Modigliani and Miller (1963) relaxed the assumptions and posited that firms should endeavour to maximize values by balancing the tax benefits against the cost of defaults, resulting in an optimal leverage ratio. Accordingly, any deviation from the optimal level will require firms to adjust its capital mix, either by increasing leverage or redemption of borrowing.

On the other hand, the pecking-order theory rejects the notion that firm has an optimal capital mix. Myers (1984) advocates that firms' values are influenced by the existence of asymmetric information and investors' adverse selection. Asymmetric information assumes management of firms know more about the firm's prospect and ability to deliver results to stakeholders than the public and any financing actions taken by the management leads to signalling effect where investors interpret the firm's action accordingly. Investors in awareness of the information asymmetry will deduce an external funding as "bad news" in knowledge that firms may be facing financial deficit and an internal funding as "good news" implying firm's

strength to take on additional investment. Leverage is of no concern as long as internal funds are adequate. This resulted in a funding hierarchy as posited by Myers (1984)'s pecking order theory. The following discussion comprises three parts. First is to examine the literature review and hypothesize the relationships between the selected determinants under each theory. Following sections will cover the methodology and results for this study. Lastly, the final part reveals the discussion and conclusion with several important ideas of study.

LITERATURE REVIEW

Noticeably, a large number of past researches looked at a myopic perspective to determine financing choices. This is proven as there are an outpouring of empirical findings that employed firms-specific factors to determine the relevancy of capital structure choices in the literature and concentrated on developed countries such as United States (DeAngelo & Masulis, 1980; Rajan & Zingales, 1995; Titman & Wessels, 1988) and emerging countries such as China (Yang, Albaity & Hassan, 2015; Chen, 2015; Chang, Chen & Liao, 2014). These past researches examined into endogenous factors to assess the strength of the firms to fund with debt. Past researches that studied on firm-specific characteristics that have produced conflicting results on the determinants of the capital structure decisions are DeAngelo & Masulis, 1980; Titman & Wessels, 1988; Rajan & Zingales, 1995; Fama & French, 2005; Lemmon et al., 2008; Leary & Roberts, 2010. On the other hand, Frank and Goyal (2009) had identified as many as 36 variables that were correlated with leverage decisions in US. Our study adopts the suggestion by Deesomsak, Paudyal and Pescetto (2004) to include exogenous factors, where the researchers emphasized that capital structure is decided by a firm's own characteristics, as well as, by the environmental conditions in which they are operating.

Firm Leverage

Firms are liable to deliver a fixed amount of cash flows to debt holders throughout the borrowing term or to face costly consequences in case of defaulting (Fama & French, 2005). Debt choices are an interesting building block of this study. Both short-term and long-term debt induce changes to capital mix and to cash flow planning of leveraged firms, hence providing a solid framework to understand firm's financing behaviours. According to Rajan and Zingales (1995), the definition of leverage depends on the objective of the analysis. This study considers three different measures for leverage, namely short-term, long-term and total-debt over total assets. These three measurements of leverage are essential and superior to the norm leverage measurement of total liabilities to total assets (D/E ratio) due to their influences to leverage choices. Koksai and Orman (2015) stated that short-term debts project a number of risks to the financial and economic health of a firm, in particularly, maturity risk or rollover risk or liquidity risk. Higher short-term debts may pose hidden and higher risk than long-term debts. In addition, short-term leverage represents most of the financing activity of firms and so their influence is economically significant (Myers, 1984). Hence, we predict that different types of debt may provide different implications under trade-off and pecking order theories.

Determinants of Leverage

Firm-Specific Determinants

Past studies use a wide array of methods and data sources to test the capital structure theories. They vary in terms of identifying possible proxies for a particular attribute, application of methodologies and interpretations. Each method has its strength and weaknesses and it is believed that alternative methods allow for better explanation to the area of capital structure in terms of time and revolving environment dimensions. In this study, the discussion of the determinants is limited to the impact on financing choices under the two theories.

Size: The trade-off theory hypothesizes a positive relationship between firm size and debt. Larger firms are relatively steady and mature in their markets. The abilities to diversify assist in lowering variations in firms' cash flows, hence lowering the risk of financial distress. In addition, larger firms have higher bargaining power on the negotiation of direct costs when issuing due to their size advantages. The benefits outweigh the costs of debt funding, making debt funding an attractive source of capital. Thus, large firms have the edge to employ higher amount of debt than small firms. The pecking order theory, on the other hand, is generally predicting negative relationship since large firms are able to accumulate retained earnings due to their stability.

Positive relationships between size and leverage were established by Titman and Wessels (1988), Rajan and Zingales (1995), Barclay and Smith (1999), Deesomsak et al. (2004), Koksai and Orman (2015), Serrasqueiro and Caetano (2015), Nha, Bich Loan, and Nhung (2016), Ting (2016), Karacaer, Temiz, and Gulec (2016) and Nguyen and Rern (2016). In contrast, Icke and Ivgen (2011) and Hussain, Ilyas, Rehman, and Fatima (2016) evidenced negative relationship between size and leverage. On the other hand, Harc (2015) reveal that firm size indicates different outcome when taking into account of the leverage's duration. Negative relationship found between firm size and short-term leverage and positive relationship with long-term leverage.

Profitability: Trade-off theory predicts that leverage has positive relationship with firm profitability. Banking on higher profit, firms are easier to gain access to credit market and to lower direct cost of borrowing. In addition, trade-off theory also hypothesizes that firms with high profitability would employ higher debt to gain tax-incentives (Modigliani & Miller, 1963). However, the pecking order postulates that profitable firms negatively associated with leverage. This is due to the strength to accumulate higher internal funds for high profit firms. Empirical results that conformed to the pecking order hypothesis are Titman and Wessels (1988), Rajan and Zingales (1995), Chen and Chen (2011), Nha et al. (2016) and Koksai and Orman (2015). In addition, Ting (2016) evidenced that profitability affects leverage negatively in Malaysia perspective.

Tangibility: In accordance to trade-off theory, tangibility influences leverage positively. Tangible assets can be used as collateral to secure the debt, resulting in lower direct costs of debt funding. In addition, firms with collateralised debt suffer smaller loss of value in the event of distress or bankruptcy (DeAngelo & Masulis, 1980). On the other hand, pecking order theory predicts negative relationship between tangibility and leverage as higher tangible assets contributes to higher efficiency of operation, which in turn assists in generating higher cash flows to the firms, leading to lower reliance on external debt. Positive relationships between tangibility and leverage are found in Titman and Wessels (1988), Rajan and Zingales (1995), Koksai and Orman (2015) whilst negative evidences are provided by Ting (2016). However, the study of Dissanayake and Fernando (2016) shows no significance influence of tangibility to firms leverage.

Firm growth: The relationship between firm growth and leverage is profound. Trade-off theory predicts that leverage is negatively influenced by firm's growth. Pandey (2004) refers firm growth as a firm's intangible value that has no collateral value, thus does not assist in lowering cost of issuance. In addition, higher the growth opportunity to a firm will lead to higher funding requirements and frequencies. These high funding requirements increase the risks of underinvestment and financial distress. To protect against such uncertainties, lenders will ask for higher premium from firms to secure the debt. This resulted in lower debt capacity to the firms, predicting negative association between leverage and firm growth. By contrast, another school of thought of trade-off theory predicts positive relationship between growth and leverage. High growth rate presents opportunities to firm with higher negotiation power to reduce the direct cost of debt funding, resulting in higher debt capacity.

On the other hand, pecking order predicts a positive relationship between growth and leverage. Higher growth opportunity presents a higher need of funding and with the continuous high growth, internal capacity is limited and this forces firm to seek external funds in order to avoid underinvestment. This translates to higher the growth, higher the need to seek external, predicting a positive relationship between the firm growth and leverage. However, pecking order theory also predicts negative association between growth and leverage as higher growth will lead to stronger ability to accumulate internal funds. Past empirical results that provided negative relationship were Deesomsak et al. (2004), Pandey (2004) and Koksai and Orman (2015) while positive relationship by Ting (2016) and Nha et al. (2016). Empirical evidence on the relationship between firm growth and leverage is not conclusive.

Liquidity: Liquid assets serve as a reserve to firms, hence reducing the need to seek for external funding. This is consistent with pecking order theory, hence predicting association between liquidity and leverage. By contrast, trade-off theory predicts positive relationship between liquidity and leverages as firms with higher liquidity have higher ability to overcome

immediate distress and lower business risk. This provides the high liquidity firms with bargaining power to enjoy lower cost of debt funding, leading to higher debt capacity (Deesomsak et al., 2004).

Taxes paid: Trade-off theory predicts a positive relationship between corporate taxes paid and leverage. The studies of DeAngelo and Masulis (1980), Dissanayake and Fernando (2016) and Chen and Chen (2011) conform to this relationship. Interest payments for debt are paid prior to tax payments, offering a tax-shield benefits to firm. This infers that higher amount of taxes paid, higher the debt capacity to the firms. Hence, firms should seek for debt funding to reduce the taxes amount. On the other hand, pecking order theory argues that higher the taxes amount paid will lower the availability of retained earnings; hence, depleting the internal funds reserve. This posits a positive relationship. However, another school of thought of pecking order argues that firms with higher amount of cash taxes paid may refer to firms with potential (Barclay et al., 2012). The good prospect of the firms signifies the ability to generate earnings, despite the high cash paid as taxes, leading firms to refrain from debt funding. Hence, negative association between taxes paid and leverages are predicted.

Volatility: Trade-off theory predicts a negative relationship between firm volatility and leverage. This is evidenced by Koksai and Orman (2015). Trade-off theory implies that higher the volatility of earnings will increase the probability of financial distress. In addition, the higher premium charged by lender due to the probability of not being able to service the debt will refrain firms from debt funding. Conversely, pecking order theory emphasizes on adequate internal cash holdings to determine funding choice. High volatility of earnings lead to unsteady level of cash reserves in the firm, thus, encourages firm to go for debt funding. Hence, pecking order predicts a positive relationship between volatility and leverage. Dissanayake and Fernando (2016) proved that business risk is a factor to leverage decisions.

Country-Specific Determinants

GDP growth: The growth opportunities available to firms in an economy can be measured by a country real gross domestic product (GDP) growth. GDP growth also signifies the wealth of a country. Deesomsak et al. (2004) find that the health and stability of the economic environment exert significant effect on firms' capital structures. Trade-off theory predicts a negative relationship between GDP growth and leverage. This is due to the reason that in a healthy economy environment, taxes and interest rates are relatively and competitively higher than those during lower or no GDP growth environments. The costs of debt funding to firms supersedes the tax-shield benefits, leading firms to refrain from debt funding. By contrast, pecking order theory predicts a positive relation between leverage and macro economy growth since high ratio of growth opportunities to internal funds implies greater need for external finance (Koksai & Orman, 2015). The authors have also provided evidence that GDP growth negatively and significantly affects leverage decisions. Similar results are evidenced by Deesomsak et al. (2004).

Interest rate: According to trade-off theory, interest rate is predicted to have negative relationship with leverage as higher the interest rate will translate to higher direct cost of debt funding. Hence, firms should refrain from debt funding. Accordingly, pecking order theory also predicts negative relationship between interest rate and leverage as internal funding will be preferred due to cost effectiveness. However, empirical studies by Deesomsak et al. (2004) and Koksai and Orman (2015) demonstrate positive relationships between the variables.

HYPHOTESIS DEVELOPMENT

In this section, hypotheses are developed on the nature of the relationships between leverage and selected determinants through the lenses of trade-off and pecking order theories. Table 1 summarises the measurements of the three leverage choices following with proxies for firm-specific and macro-economic determinants. Theoretical predictions for the relations between dependent and each independent variable are also presented in Table 1.

Table 1: Determinants, measurements and theoretical prediction

Determinants	Measurement		
<i>Leverage (LEV):</i>			
Short-term leverage	Short-term debt/Total Assets		
Long-term leverage	Long-term debt/Total Assets		
Total leverage	Total debt/Total Assets		
		Trade-off theory	Pecking order theory
<i>Firm-specific determinants</i>			
Size	Natural logarithm of total sales	+	-
Profitability	EBITDA/Total Assets	+	-
Tangibility	Net Fixed Assets/Total Assets	+	-
Growth	Percent change in net sales	?	?
Liquidity	Cash and cash equivalents/Total Assets	+	-
Taxes Paid	Taxes paid/EBITDA	+	?
Volatility	Market capitalisation/Total Assets	-	+
<i>Macroeconomic-specific determinants</i>			
GDP growth	Percent change in real GDP	+	-
Interest rate	Malaysian 12-months Treasury Bills rate	-	?

This table presents the dependent and independent determinants and the theoretical predictions for the relationship between the determinants. “+” denotes positive association with leverage, “-” denotes negative association.

METHODOLOGY

Data

All proxy of variables is annual data obtained from Bloomberg. Our sample includes 929 PLCs in Malaysia for a 5-year period from 2010 – 2015. Upon data screening to remove incomplete data, 581 listed companies with complete data set is selected with 3,486 observations. Based on Bloomberg Industry Classification System (BICS), firms from finance, insurance and unit trust sectors are omitted from the sample due to differences in regulatory requirements and funding needs of the sectors. A balanced panel data is employed for this study.

Empirical model

Leverage is modelled as a function of nine selected determinants. In particular, the following panel data model is estimated:

$$LEV_{it} = \beta_0 + \sum_k \beta_k F_{k,it} + \mu_i + \varepsilon_{it} \quad (1)$$

Where LEV_{it} is one of the three measures of leverage (short-term, long-term and total leverage) of firm i in the year t ; F is the vector of the two types of leverage determinants (firm- and macroeconomic-specifics); μ_i are the time-invariant unobservable firm-specific effects and ε_{it} is the error term.

One-way cross-sectional fixed effects model is appropriate to capture firm-specific effect that is assumed to be constant for both the short-term and total leverage models. As for the long-term leverage model, one-way cross sectional random effects model is to address that firm-specific random effect. However, according to Nha et al. (2016), a fixed-effects model is

statistically preferable because it addresses correlations between explanatory variables and individual effects.

RESULTS

Descriptive Statistics

Table 2 presents the descriptive statistics for all variables during 2010-2015. The median is below the mean for all three leverage ratios. Our sample results also show that there are PLCs that employ zero leverage for all three debt choices (short-term, long-term and total debt) with a minimum of 0% leverage employed. The mean total leverage is approximately 18.58%, with minimum and maximum being 0% and 249.30%. This implies that Malaysian PLCs, on average, employ a high level of debt with more leverage concentrated on short-term loans with the higher median. Growth rate for firms based on sales shows the highest divergence between mean and median due to phenomenal growth rates registered by PLCs with minimum growth rate of a negative 99.85% to a maximum positive growth rate of 14,241.16%. Phenomenal growth rates of firms from certain industries are deemed to be reasonable in developing countries, including Malaysia (Rajan & Zingales, 1996).

Table 2: Descriptive Statistics

Determinants	Observations	Mean	Median	Maximum	Minimum	Standard Deviation
<i>Leverage (LEV):</i>						
Short-term leverage	3,447	10.28	6.82	246.85	0.00	11.66
Long-term leverage	3,447	8.30	4.15	75.37	0.00	10.76
Total leverage	3,447	18.58	16.27	249.30	0.00	16.16
<i>Firm-specific:</i>						
Size	3,447	5.45	5.43	10.76	-2.69	1.66
Profitability	3,447	8.21	7.82	105.06	-371.87	13.73
Tangibility	3,447	36.42	34.09	98.92	0.00	20.10
Growth	3,447	19.83	5.08	14,241.16	-99.85	268.61
Liquidity	3,447	13.65	10.05	91.15	0.00	12.50
Taxes Paid	3,447	1.47	1.02	25.61	-4.68	1.82
Volatility	3,447	0.77	0.49	14.48	0.02	1.05
<i>Macroeconomic- specific:</i>						
GDP growth	3,447	4.97	4.50	6.50	4.30	0.84
Interest rate	3,447	2.97	3.04	3.12	2.58	0.18

Panel Regression Results

Table 3 presents the results from estimating Eq. (1). The first seven rows of Table 3 display the estimated coefficients for our firm-specific determinants. The estimated coefficients of size, liquidity and volatility are significant at the level of 1% in all leverage models. Size is positively associated with all three leverage choices, suggesting that *ceteris paribus* larger firms possess higher debt capacity, i.e. the higher ability to take more debt funding. Thus, this supports the hypothesis of trade-off theory. The ability to diversify is more apparent in larger

firms, leading to less volatility in cash flow and earnings, providing an advantage to firm to undertake debt funding. By contrast, the negative association between liquidity and the three leverages implies that higher the liquidity of firm reduces the need to fund with debt, lending support to pecking order theory. Negative association is also discovered between volatility and the three leverages, supporting the trade-off theory hypothesis. The higher the variation of earnings of firms increases the premium solicited by creditors, making debt funding a costly avenue to raise funds, hence, refraining firm from debt funding. Profitability is negatively associated with all three leverages, which is consistent with pecking order theory. Firms with higher profitability are able to acquire strength to accumulate retained earnings, refraining firms from seeking funds externally.

PLCs in Malaysia portray that firm growth is positively associated with short-term leverage only and appears to be unrelated to long-term and total leverages. This translates that firms do not take growth factor as a consideration when comes to long-term debt funding choice but only marginally considering short-term debt. On the other hand, there is positive relationship between firm's tangibility and both long-term and total debt financings, but no association established with short-term leverage. The positive relationship suggested that firms with higher tangible assets have the edge to take on long-term debt in their capital structure. This brings support to trade-off theory hypothesis. Firms with higher tangible assets are at low cost advantage when fund with debt as the tangible assets can be used as collateral to secure the debt. Lastly, the estimated coefficients for cash taxes paid over total assets is negatively associated with all three leverages but the influence is only significant for long-term and total leverages. This is consistent with pecking order theory hypothesis as higher the cash taxes paid implies that such firms have high potential in generating cash flows, contributing to higher internal funds. As such, debt funding is deemed as secondary source of capital to the firms.

The bottom section of Table 3 presents the estimated coefficients for our macroeconomic-specific determinants. In all leverage models, no association was established in all three leverage models with GDP growth. This indicates that Malaysian PLCs put little concern on economic growth consideration when comes to funding decisions and choices. Besides, interest rate sensitivity for firm's debt financing is found to be negative in all leverage measures, but their significances are only found in the short-term and total leverages. On average, when interest rate increases by 1%, short-term and total leverages reduce by 1.96% and 2.49% respectively, holding other factors constant. These findings are consistent with trade-off theory hypothesis as higher direct cost of debt funding refrain firms from borrowing. Overall, considering all three leverage models, higher leverage firms appear to be larger firms and firms with higher tangible assets, but with lower profitability, liquidity, cash taxes paid and volatility. The finding of research also shown that lower the interest rates, higher the firm leverage.

Table 3: Panel Regression Results

Determinants	Short-term Leverage	Long-term Leverage	Total Leverage
<i>Firm-specific:</i>			
Size	1.1081*** (0.2906)	1.9391*** (0.1696)	3.0804*** (0.3603)
Profitability	-0.1664*** (0.0110)	-0.0188** (0.0094)	-0.1861*** (0.0136)
Tangibility	0.0006 (0.0138)	0.0906*** (0.0104)	0.0921*** (0.0171)
Growth	0.0010** (0.0005)	-0.0003 (0.0004)	0.0006 (0.0006)
Liquidity	-0.1257*** (0.0182)	-0.0420*** (0.0146)	-0.1611*** (0.0226)

Determinants	Short-term Leverage	Long-term Leverage	Total Leverage
Taxes Paid	0.0045 (0.1337)	-0.5310*** (0.1087)	-0.5497*** (0.1658)
Volatility	-0.8600*** (0.2666)	-0.6685*** (0.2062)	-1.6921*** (0.3305)
<i>Macroeconomic-specific</i>			
GDP growth	0.1458 (0.1423)	-0.0914 (0.1232)	0.0476 (0.1764)
Interest rate	-1.9586*** (0.6731)	-0.5655 (0.5759)	-2.4878*** (0.8346)
Number of observations	3,447	3,447	3,447
Adjusted R-squared	0.7037	0.0804	0.7629

Note: This table presents the results from the estimation of our "firm" fixed effects panel regressions for short-term and total leverage models and "firm" random effects panel regression for the long-term leverage. Standard errors are reported in parenthesis. ***, ** and * denote the statistical significance at the 1, 5 and 10 percent test levels, respectively.

CONCLUSION

In this study, we examine the determinants of leverages and their choices for PLCs in Malaysia. The novelty of this study derived from the fact that we employ the latest dataset that is substantially larger and more comprehensive in terms of firms and variables coverage compared to previous studies. Our dataset includes macroeconomic-specific variables, which assisted in bridging the literature gap where past studies concentrated only on myopic perspective in Malaysia context.

Our study investigated the effect of both firm- and macroeconomic-specific determinants on the leverage choices of PLCs in Malaysia during the period spanning from 2010 - 2015. Overall, our findings indicate that trade-off theory is in a better position in explaining Malaysian firm's total leverage choices as majority of the determinants lend support to trade-off theory than to pecking order theory. Robustness tests have further validated that trade-off theory is more appropriate in explaining the financing behaviours as both short-term and long-term leverages provide consistent results. Our results are consistent with Koksal and Orman (2015).

The limitations of this study enable future research to be carried on. This study had limit only to a country and focusing on the specific variable and specific time limit. Recommendation for future research is to apply different method of analysis, wider data set across border, as well as control variable to empower and to close the research gap in this area.

REFERENCES

- Barclay, M. J., Fu, F., & Smith, C. W. (2012). Rational financial management: Evidence from seasoned equity offerings. In AFA 2010 Atlanta Meetings Paper.
- Barclay, M. J., & Smith, C. W. (1999). The capital structure puzzle: another look at the evidence. *Journal of Applied Corporate Finance*, 12(1), 8-20.
- Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, 57(1), 1-32.

- Chang, C., Chen, X., & Liao, G. (2014). What are the reliably important determinants of capital structure in China?. *Pacific-Basin Finance Journal*, 30, 87-113.
- Chen, J. (2015). An Empirical Research: The Determining Factors of Capital Structure of Strategic Emerging Industry, Based on Data of Listed Enterprises in China. *Modern Economy*, 6(4), 458.
- Chen, L. J., & Chen, S. Y. (2011). How the pecking-order theory explain capital structure. *Journal of International Management Studies*, 6(3), 92-100.
- Chen, D. H., Chen, C. D., Chen, J., & Huang, Y. F. (2013). Panel data analyses of the pecking order theory and the market timing theory of capital structure in Taiwan. *International Review of Economics & Finance*, 27, 1-13.
- DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, 8(1), 3-29.
- Deesomsak, R., Paudyal, K., & Pescetto, G. (2004). The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14(4), 387-405.
- Dissanayake, T. D. S. H., & Fernando, C. S. P. K. (2016). Determinants Of capital Structure: Evidence from Sri Lanka. *International Research Symposium*, Rajarata University of Sri Lanka
- Fama, E. F., & French, K. R. (2005). Financing decisions: Who issues stock?. *Journal of Financial Economics*, 76(3), 549-582.
- Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: Which factors are reliably important?. *Financial Management*, 38(1), 1-37.
- Harc, M. (2015). The effect of firm size on SME's capital structure. *Economy of Eastern Croatian Yesterday, Today, Tomorrow*, 4, 315 – 324.
- Hovakimian, A. (2004). The role of target leverage in security issues and repurchases. *The Journal of Business*, 77(4), 1041-1072.
- Hovakimian, A. (2006). Are observed capital structures determined by equity market timing?. *Journal of Financial and Quantitative Analysis*, 41(1), 221-243.
- Huang, R., & Ritter, J. R. (2009). Testing theories of capital structure and estimating the speed of adjustment. *Journal of Financial and Quantitative Analysis*, 44(02), 237-271.
- Hussain, S., Ilyas, M., Rehman, M. & Fatima, T. (2016). Investigation of relationship between capital structure determinants and market power on leverage: A case of cement sector in Pakistan. *Sci. Int. (Lahore)*, 28 (3), 2847 – 2851.
- Icke, B.T., & Ivgen, H. (2011). How firm specific factors affect capital structure: An emerging market practice – Istanbul stock exchange. *Middle Eastern Finance and Economics*, 13, 90-101.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Karacaer, S., Temiz, H., & Gulec, O.M. (2016). Determinants of capital structure: An application on manufacturing firms in Borsa Istanbul. *International Academic Journal of Accounting and Financial Management*, 3 (2), 47-59.
- Kayhan, A., & Titman, S. (2007). Firms' histories and their capital structures. *Journal of Financial Economics*, 83(1), 1-32.

- Koksal, B., & Orman, C. (2015). Determinants of capital structure: Evidence from a major developing economy. *Small Business Economics*, 44(2), 255-282.
- Leary, M. T., & Roberts, M. R. (2010). The pecking order, debt capacity, and information asymmetry. *Journal of Financial Economics*, 95(3), 332-355.
- Lemmon, M. L., Roberts, M. R., & Zender, J. F. (2008). Back to the beginning: persistence and the cross-section of corporate capital structure. *The Journal of Finance*, 63(4), 1575-1608.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261-297.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *The American Economic Review*, 53(3), 433-443.
- Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), 574-592.
- Nguyen, T. H. & Rern, J. H. (2016). Determinants of capital structure of the listed companies on Vietnam stock market. *The International Journal of Business & Management*, 4 (6), 27-35.
- Nha, B. D., Bich Loan, N. T., & Nhung, N. T. T. (2016). Determinants of capital structure choice: Empirical evidence from Vietnamese listed companies. *Society and Economy in Central and Eastern Europe*, 38(1), 29-45.
- Pandey, I. M. (2004). Capital structure, profitability and market structure: Evidence from Malaysia. *The Asia Pacific Journal of Economics & Business*, 8(2), 78.
- Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance*, 50(5), 1421-1460.
- Rajan, R. G., & Zingales, L. (1996). *Financial dependence and growth* (No. w5758). National Bureau of Economic Research.
- Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review*, 63(2), 134-139.
- Salim, M. & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia- Social and Behavioral Sciences*, 65, 156-166.
- Serrasqueiro, Z., & Caetano, A. (2015). Trade-Off Theory versus Pecking Order Theory: Capital structure decisions in a peripheral region of Portugal. *Journal of Business Economics and Management*, 16(2), 445-466.
- Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51(2), 219-244.
- Ting, I. W. K. (2016). Estimating Dynamic Panel Model of Leverage Decision: Evidence from Malaysia. *Procedia Economics and Finance*, 35, 267-273.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance*, 43(1), 1-19.
- Yang, Y., Albaity, M., & Hassan, C. H. B. (2015). Dynamic capital structure in China: Determinants and adjustment speed. *Investment Management and Financial Innovations*, 12 (2), 195 – 204.

Assessing the Impact of Management Accounting Practices Adoption Towards Firm Performance

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Abstract

In Malaysia budget 2017, RM6.7 billion has been allocated to enhance small and medium enterprises' (SMEs) development which targets to push up the gross domestic product (GDP) contribution to 41% by 2020. SMEs, however, are still tough to maintain their growth and contribution. Management accounting practices (MAPs) are good tools which are able to provide essential information to companies and thus leading to their success. This study is purported to examine the adoption of MAPs (budgeting practice and costing practice) in influencing the firm performance (FP). Service sector of SME was selected as target population as it is essential elements in achieving Vision 2020. This study aims to provide empirical evidences of MAPs models in SME service industry in influencing FP as there is relatively less research in service sectors. Lastly, the results could contribute greater knowledge on the benefit of adopting MAPs to owners or managers of SME.

Keywords: management accounting practices, management accounting, small and medium enterprise, service sector, firm performance

INTRODUCTION

In this era of globalization, SME plays an essential role toward national economy (Ghorbel, 2016; Omar & Azmi, 2015) as it makes up most of the business population (Karanja, Mwangi & Nyaanga, 2014). Furthermore, Mitchell and Reid (2000) found that numerous small firms are able to form an important force in modern information-based economies. SME is the backbone of Malaysia's economy as it occupies 97% of Malaysia's business establishment ("Small is the New Big – Malaysian SMEs Help Energize, Drive Economy", 2016). According to SME Malaysia (2015), the sector which occupied the largest portion or 90.06% in Malaysia's SME establishments is the service sector. SME is defined as an enterprise with sales revenue not more than 20 million or less than 75 full time employees. It is further divided into micro, small and medium enterprise ("SME MALAYSIA," 2015).

Owners of SME are always aiming to achieve higher position in the market (Sleihat, Al-Nimer, & Almahamid, 2012) in order to have a better market share and profit for their companies. Management accounting (MA) is described as the procedure of measuring, analysing, and reporting financial and non-financial information to managers for decision making (Horngren, Datar, & Rajan, 2012). The word "management" indicates all levels of management from senior managers to supervisors in the organization (Talha, Raja, & Seetharaman, 2010), while, the word "accounting" refers to recording of business transactions (Sunarni, 2013). MA topics covers MA information and practices (Shields, 2015). Management accounting practice (MAP), hence, is one of the tools which are able to assist the firms to achieve optimum business performance through value creation (Sulaiman, Omar, & Rahman, 2005).

In a previous empirical study conducted by Ittner & Larcker (2002), MAPs is described as various types of methods that specially designed to assist MA process and organisation's infrastructure in manufacturing firm. MAPs are usually adopted to meet the needs of management (Gong & Tse, 2009). Adoption of MAPs brings benefits, such as cost reduction and quality improvement (Chand & Ambardar, 2013). In this research, budgeting practice (BP)

and costing practice (CP) are selected as the MAPs (Ashfaq, Younas, Usman, & Hanif, 2014; Ahmad, 2014).

In Malaysia budget 2017, various ministries and agencies have allocated a total of RM6.7 billion to advance the development of SME ("Malaysian accountants laud Budget 2017's support for SMEs", 2016) and push up the GDP contribution of SME to 41% by 2020 ("Small is the New Big – Malaysian SMEs Help Energize, Drive Economy", 2016). The latest statistic has shown that current SME's GDP is 36.3% ("SME Statistics", 2015). Further efforts are still required to achieve the goal of 41%. The SMEs in service industry in Malaysia plays an essential role as it occupied 580,985 or 90.06% of total SMEs' establishment ("SME MALAYSIA", 2015). This indicates the importance of service industry.

According to Malaysia SME Corporation's Chief Executive, Dato Hafsah Hashim, even with the support of funds from Malaysian government, SMEs are still facing difficulties to maintain the current growth and contribution towards national economy ("Small is the New Big – Malaysian SMEs Help Energize, Drive Economy", 2016). SME needs good tools, like MAPs, to achieve companies' goals and at the same time reach the target of 41% GDP contribution in 2020. Past literatures suggest MAPs as one of the tools which are able to enhance companies' performance (AbRahman, Omar, Rashid, & Ramli, 2016; Rahman, Rahman, Azhar, Omar, & Said, 2015; Mbawuni & Anertey, 2014). On top of that, MAPs are crucial and significant in providing information which enhances the effectiveness and efficiencies of management in realizing targets (Ahmad, 2014; Mbawuni & Anertey, 2014).

Most of the empirical studies on MAPs focus on manufacturing firms and hence, there is relatively less research on service sector (Ashfaq et al., 2014; Terzioglu & Chan, 2013; Sleihat, et al., 2012). This could be due to researchers found a scarcity of MAP's knowledge in service sectors (Ashfaq et al., 2014). Nevertheless, it is undeniable that non-manufacturing sectors are currently growing rapidly and has become significant to the nation's economy (Chea, 2011). Hence, with proper utilisation of MAPs, the service sector is able to grow rapidly and compete with other competitors (Ashfaq et al., 2014). This explains the need in examining the MAPs within services sector (Davila & Wouters, 2006; Sulaiman, Ahmad, & Alwi, 2004).

LITERATURE REVIEW

Goal Theory

Goal theory measures the extent an organization attains its internally planned targets (Chong, 2008). It is commonly adopted by SMEs as it helps organizations to focus internally with perceptions of simplicity and understandability. Managers and accountants can access the information easily for firm performance evaluation (Pfeffer & Salancik, 1978). Goals assist managers and staff to interpret and further improve on FP (Midgley, Anderman, & Hicks, 1995). For instance, MAPs are one of the decision making tools for manager to boost and improve FP. If the goal of a firm is to minimize costs and maximize profit, budgeting is then an appropriate tool to measure the profitability before conducting a business activity. In other words, the selection and usefulness of MAPs depends on the intention and goal which a firm wishes to achieve.

Goal theory provides clear focus and directions to organisations through financial measurements. These include profits, returns on sales and market shares. Although it is easy to understand, the financial measurements are historical and unavailable in public domain (Chong, 2008). Hence, as cited by Chong, 2008, Kunkel and Hofer (1993) suggested that managers should apply non-financial measures as well as financial measures for evaluation of FP. The combinations of these two measurements help managers or accountants to have a better and wider perspective in firm performance measurement and comparison. In most SMEs, indicators of firm performance include market shares and returns on investments. This study aims to adopt a combination of financial and non-financial indicators in the measurement of FP.

Firm Performance (FP)

In this study, firm performance (FP) represents the dependent variable. FP can be broadly described as the ability of a firm to accomplish its performance objectives with minimum

resources (Lusthaus & Adrien, 1998). FP brings significant consequences to the business as it enables organizations to grow, process and maintain competitiveness in the market (Gavrea, Iliu, & Stegorean, 2011). Abushaiba and Zainuddin (2012) stated that FP is associated to organizations' survival and success. It is essential for an organisation's long term sustainability.

Lebens and Euske (2006) have classified FP to two categories: financial performance and non-financial performance. Financial performance measures the degree of firm's overall financial health to accomplish company's objectives within a proper time period (Bhunia, Mukhuti, & Roy, 2011). It uses monetary terms in the evaluation of the firm's operations and policies. Thus, cost control, profitability, and liquidity are parts of the indicators for financial performance. Financial performance is essential to reduce, control costs and increase profit of a firm (Marie, Ibrahim, & Al Nasser, 2014). On the other hand, non-financial performance refers to qualitative measurements. The inclusion of non-financial measurements provide more relevant and appropriate evaluation to recover the deficiencies faced by organizations (Ahmad & Zabri, 2016). An organisation's value is created through non-financial performance measurements as well, as the non-financial performance measurements promote innovation, service quality, customer satisfaction and productivity (Marie, et al., 2014). Thus, both financial and non-financial performance measurements are able to strengthen the firm's competitiveness and profitability. The strengths and weaknesses of organisations could also be identified through these performance measurements (Ahmad & Zabri, 2016). Hence, this explains the inclusion of both financial and non-financial performance measurements as the indicators for firm performance.

Budgeting Practice (BP)

According to Sulaiman, et al. (2004), budgeting is a technique which aids in planning and assisting interdepartmental communication and coordination. BP allows companies to allocate scarce resources efficiently. It evaluates the performance of divisional and management (Garrison & Noreen, 2003). In a study conducted by Soltani, Nayebzadeh, and Moeinaddin (2014), questionnaire tools and descriptive methods were used to examine the direct effect of BP on the performance of tile companies in Yazd. 52 questionnaires were collected and data were tested by using structural equations modelling. It was found budgeting has significant and direct relationship with the performance of tile companies. Another study found BP is positively associated to FP (Ajibolade, 2013). 200 questionnaires were distributed to Chief Accounting Officers and Management Accountants in Nigerian manufacturing companies. The study received 144 responses and used moderation regression analysis to examine the hypothesis. Again, FP is found to be positively affected by BP. Thus, this leads to the first hypothesis of this study:

H₁: There is a positive and significant relationship between budgeting practice and firm performance.

Costing Practice (CP)

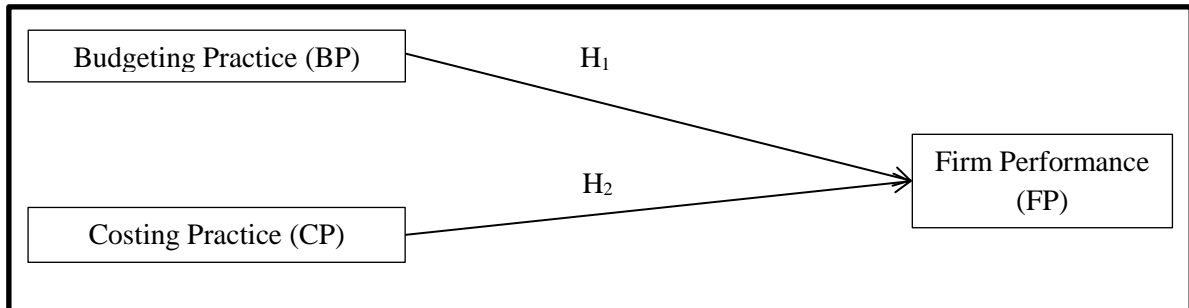
Costing practice (CP) refers to the steps involved in calculating the costs incurred in producing goods or providing services (Al-Omiri & Drury, 2007). Costing practices include calculation of overhead absorption rate, activity-based costing, etc. It represents one of the most important systems in MAPs (Laitinen, 2014). CP helps management to improve operational and strategic decisions and lead to better business performance (Jänkälä & Silvola, 2012). A research performed by Alsoboa, Al-Ghazzawi, and Joudeh (2015) showed CP has significant and positive relationship with performance in Jordanian Listed Manufacturing Companies. The questionnaires were distributed to the financial managers of manufacturing companies and response rate of 65.9% was achieved. Another study conducted by Diavastis, Anagnostopoulou, Drogalas, and Karagiorgos (2016) showed the activity-based costing and FP is significantly positive related. The questionnaires were distributed to the Finance Managers and Chief Accountants of services companies in Greece. 154 usable questionnaires was collected and analysed using descriptive statistics and multiple regression analysis method. Hence, this leads to the following second hypothesis of this study:

H₂: There is a positive and significant relationship between costing practice and firm performance.

CONCEPTUAL FRAMEWORK

Figure 1 below shows the relationship between management accounting practices (MAPs) and firm performance (FP). The independent variables of this study consists of two MAPs (i.e. budgeting practice and costing practice), while the dependent variable is FP.

Figure 1: Model of relationship between MAPs and FP



Sources: Ashfaq, et al. (2014) and Ahmad (2014)

RESEARCH METHODOLOGY

This research aims to explore the impact of management accounting practices (MAPs) towards firm performance (FP) in Malaysia's SME in service industry. According to Saunders, Lewis and Thornhill (2009), explanatory study is a study in analysing the causal relationship between variables. This study aims to adopt quantitative survey method. According to Hyde (2000), the use of quantitative survey method allows large and representative samples to be drawn from the population in short time.

The target respondents of this study are individuals in managerial positions, who are involve in MA processes. For instance, Chief Executive Officer, General Manager and Accounting Executive. As proposed by Lucas, Prowle, and Lowth (2013), MA is usually performed by the owners, managers or entrepreneurs of the SME's firms as these personnel have the major responsibility on firm's product costing, planning and control decisions (Pavlatos & Kostakis, 2015). Thus, this study plans to distribute questionnaires to these personnel in collecting their views. Lastly, as mentioned earlier, the service sector of SME is selected as the target population as the service sector of SME is indispensable elements in fulfilling Vision 2020 for Malaysia ("Small is the New Big-Malaysian SMEs Help Energize, Drive Economy", 2016).

CONCLUSION

This proposed study intends to contribute to the existing literatures by providing empirical evidence on the adoption of MAPs in the improvement of FP for SME in service industry in Malaysia. With proper utilisation of MAPs, SME service sector will be able to grow rapidly and continue to compete with other sectors. The research findings will also contribute to the practitioners as the owners and managers of SME will gain further insights as to how MAPs adoption will further improve the firm performance. The policymakers may also be benefited as such findings will provide further support to the country's GDP growth. The enhancement of SME in service industry will undoubtedly benefit and strengthens Malaysia's economy in the path to achieve Vision 2020 as SME in service industry occupies the largest portion in Malaysia companies' establishments.

REFERENCES

AbRahman, N. A., Omar, N., Rashid, N. M. N. N. M., & Ramli, A. (2016). Improving employees accountability and firm performance through management accounting practices. *Procedia Economics and Finance*, 35, 92-98.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Abushaiba, I. A., & Zainuddin, Y. (2012). Performance measurement system design, competitive capability, and performance consequences - A conceptual like. *International Journal of Business and Social Science*, 3(11), 184-193.
- Ahmad, K. (2014). The adoption of management accounting practices in Malaysian small and medium-sized enterprises. *Asian Social Science*, 10(2), 236-249.
- Ahmad, K., & Zabri, S. M. (2016). The application of non-financial performance measurement in Malaysian manufacturing firms. *Procedia Economics and Finance*, 35, 476-484.
- Ajibolade, S. O. (2013). Management accounting systems design and company performance in Nigerian manufacturing companies: A contingency theory perspective. *British Journal of Arts and Social Sciences*, 14(2), 228-244.
- Al-Omiri, M., & Drury, C. (2007). A survey of factors influencing the choice of product costing systems in U.K. organizations. *Management Accounting Research* 18(4): 399–424.
- Alsoboa, S., Al-Ghazzawi, A., & Joudeh, A. (2015). The impact of strategic costing techniques on the performance of Jordanian Listed Manufacturing Companies. *Journal of Finance and Accounting*, 6(10), 116-127.
- Bhunia, A., Mukhuti, S. S., & Roy, S. G. (2011). Financial performance analysis-a case study. *Current Research Journal of Social Sciences* 3(3), 269-275.
- Chand, M., & Ambardar, A. (2013). Management accounting practices in hospitality and service enterprises: A comparative research. *Journal of Commerce & Accounting Research*, 2(3), 1-9.
- Chea, A. C. (2011). Activity-based costing system in the service sector: A strategic approach for enhancing managerial decision making and competitiveness. *International Journal of Business and Management*, 6(11), 3-10.
- Chong, H. G. (2008). Measuring performance of small-and-medium sized enterprises: the grounded theory approach. *Business and Public Affairs*, 2(1), 1-10.
- Davila, T., & Wouters, M. (2006). Management accounting in the manufacturing sector: managing costs at the design and production stages. *Handbooks of Management Accounting Research*, 2, 831-858.
- Gavrea, C., Ilies, L., & Stegorean, R. (2011). Determinants of organizational performance: The case of Romania. *Management & Marketing*, 6(2), 285-300.
- Ghorbel, J. (2016). The relationship between the profile of manager and management accounting practices in tunisian SMIs. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(1), 61-72.
- Gong, M. Z., & Tse, M. S. C. (2009). Pick, mix or match? A discussion of theories for management accounting research. *Journal of Accounting Business & Management*, 16(2), 54-66.
- Horngren, C. T., Datar, S. M., & Rajan, M.V. (2012). *Cost accounting a managerial emphasis* (14th ed.). New Jersey, Upper Saddle River: Pearson Prentice Hall.
- Hyde, K. F. (2000). Recognising deductive processes in qualitative research. *Qualitative Market Research: An International Journal*, 3(2), 82-90.
- Ittner, C. D., & Larcker, D. F. (2002). Empirical managerial accounting research: are we just describing management consulting practice? *The European Accounting Review*, 11(4), 787-794.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Jänkälä, S., & Silvola, H. (2012). Lagging effects of the use of activity-based costing on the financial performance of small firms. *Journal of Small Business Management*, 50(3), 498-523.
- Karanja, J. C. N., Mwangi, E., & Nyaanga, P. (2014). Adoption of modern management accounting techniques in small and medium (SMEs) in developing countries: A case study of SMEs in Kenya. (Unpublished doctoral dissertation). St Paul's University, Kenya.
- Laitinen, E. K. (2014). Influence of cost accounting change on performance of manufacturing firms. *Advances in Accounting*, 30(1), 230-240.
- Lebens, M., & Euske, K. (2006). A conceptual and operational delineation of performance. In A. Neely (Ed.), *Business Performance Measurement* (pp. 65-79). UK: Cranfield School of Management.
- Lucas, M., Prowle, M. & Lowth, G. (2013). Management Accounting Practices of UK Small-Medium-Sized Enterprises. *Improving SME performance through Management Accounting Education*, 9(4), 1-14.
- Lusthaus, C., & Adrien, M. H. (1998). Organizational assessment: A review of experience. *Universalia Occasional Paper*, 31, 1-16.
- Malaysian accountants laud Budget 2017's support for SMEs. (2016). Retrieved February 12, 2017, from the SMB World Asia: <http://www.enterpriseinnovation.net/article/malaysian-accountants-laud-budget-2017s-support-smes-1642130991>
- Marie, A. A., Ibrahim, M. E., & Al Nasser, A. D. (2014). Effects of financial and non-financial performance measures on customers' perceptions of service quality at Islamic banks in UAE. *International Journal of Economics and Finance*, 6(10), 201-212.
- Mbawuni, J., & Anertey, A. R. (2014). Exploring management accounting practices in emerging telecommunication market in Ghana. *Accounting and Finance Research*, 3(4), 71-85.
- Midgley, C., Anderman, E. M., & Hicks, L. (1995). Differences between elementary and middle school teachers and students: A goal theory approach. *Journal of Early Adolescence*, 15(1), 90-113.
- Mitchell, F., & Reid, G. C. (2000). Editorial problems, challenges and opportunities: The small business as a setting for management accounting research. *Management Accounting Research*, 11(4), 385-390.
- Omar, C. M. Z. C., & Azmi, N. M. N. (2015). Factors affecting the success of bumiputera entrepreneurs in small and medium enterprises (SMEs) in Malaysia. *International Journal of Management Science and Business Administration*, 1(9), 40-45.
- Pavlatos, O., & Kostakis, H. (2015). Management accounting practices before and during economic crisis: Evidence from Greece. *Advances in Accounting, incorporating Advances in International Accounting*, 31(1), 150-164.
- Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. New York: Harper and Row.
- Rahman, I. K. I., Rahman, N. A. A., Azhar, Z., Omar, N., & Said, J. (2015). Management accounting best practices award for improving corruption in public sector agencies. *Procedia Economics and Finance*, 31, 503-509.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow, England: Prentice Hall.

- Shields, M. D. (2015). Established management accounting knowledge. *Journal of management accounting research*, 27(1), 123-132.
- Sleihat, N., Al-Nimer, M., & Almahamid, S. (2012). Exploratory study of the level of sophistication of management accounting practices in Jordan. *International Business Research*, 5(9), 217-234.
- Small is the New Big – Malaysian SMEs Help Energize, Drive Economy. (2016). Retrieved February 12, 2017, from The World Bank: <http://www.worldbank.org/en/news/feature/2016/07/05/small-is-the-new-big---malaysian-smes-help-energize-drive-economy>
- SME Statistics. (2015). Retrieved February 14, 2017, from SME Corp: <https://www.smeCorp.gov.my/index.php/en/policies/2015-12-21-09-09-49/sme-statistics>
- Soltani, S., Nayebzadeh, S., & Moeinaddin, M. (2014). The impact examination of the techniques of management accounting on the performance of tile companies of Yazd. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(1), 382-389.
- Sulaiman, M. B., Ahmad, N. N. N., & Alwi, N. (2004). Management accounting practices in selected Asian countries: a review of the literature. *Managerial Auditing Journal*, 19(4), 493-508.
- Sulaiman, S., Omar, N., & Rahman, I. K. A. (2005). Nafma as a value creation tool: Malaysian Scenario. *Malaysian Accounting Review*, 4(1), 117-134.
- Sunarni, C. W. (2013). Management accounting practices and the role of management accountant: Evidence from manufacturing companies throughout Yogyakarta, Indonesia. *Review of Integrative Business and Economic Research*, 2(2), 616-626.
- Talha, M., Raja, J. B., & Seetharaman, A. (2010). A new look at management accounting. *Journal of Applied Business Research*, 26(4), 83-96.
- Terzioglu, B., & Chan, E. S. K. (2013). Toward understanding the complexities of service costing: A review of theory and practice. *Journal of Applied Management Accounting Research*, 11(2), 29-44.

The Impact of the New Auditing Standard on Going Concern on the Predictive Value of Malaysian Listed Companies' Auditors' Reports

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Abstract

Users of financial statements rely on auditors' report to give signal on the going concern risk of the audited entities. However, the confidence level placed on the auditors' report is challenged when a few giant corporate scandals and studies showed that auditors tend to underreport the financial distress situation. In view of this, a few new International Standards on Auditing (ISAs) were issued effective from 15 December 2016 where auditors are required to exhibit more relevant information in the auditors' report. This research will examine whether it is the practice of Malaysian auditors to underreport going concern issues and whether the decision for disclosure or modification of auditors' report on going concern is affected by size of the audit firm. Altman's Z Score model will be used to analyse the annual reports of Malaysian public listed companies under the PN17 list and their comparators from 2011 to 2017 to determine the going concern risk. The risk levels computed will be compared with the disclosure and modification on going concern in the auditors' reports to check on their predictive value before and after the new ISAs. This research can give insights on whether the new ISAs can improve auditors' reports, and thus, contribute to future standard settings.

Keywords: audit opinion, going concern, predictive value, new auditing standards

INTRODUCTION

It has always been a disputed issue in the accounting profession as to whether principles-based or rules-based accounting standards should be adopted. The current International Financial Reporting Standards (IFRS) has adopted the principles-based standards, which allows great discretions in the accounting professions. However, with these flexibilities, many a time, professional judgments need to be made. One of the main audit issues that involve judgment is the suitability of using going concern assumption for the audited entity. According to the underlying assumption in the Conceptual Framework for Financial Reporting issued by International Accounting Standards Board (IASB),

"The financial statements are normally prepared on the assumption that an entity is a going concern and will continue in operation for the foreseeable future. Hence, it is assumed that the entity has neither the intention nor the need to liquidate or curtail materially the scale of its operations; if such an intention or need exists, the financial statements may have to be prepared on a different basis and, if so, the basis used is disclosed".

When it is the intention of an audited entity to discontinue operation, the risk on auditors is comparatively lower as auditors just need to obtain representation from the management on this intention. However, much higher risks are involved and significant judgments are needed for auditors to determine whether needs or necessities exist in the audited entities to cease operations.

According to Geiger, Raghunandan, and Riccardi (2014), the decision by auditor with regards to going concern opinion is a complicated process which is not fully comprehended or easily captured. Going concern assessment is one of the hardest and unclear audit tasks

(Carcello and Neal, 2003). Moreover, findings from Kuruppu, Laswad, and Oyelere (2012) and Martens, Bruynseels, Baesens, Willekens and Vanthienen (2008) showed that even though the auditors obtained the same audit evidence, the conclusions they arrived at may vary due to different interpretation of auditing standards. This implied that the assessment on going concern requires a substantial amount of judgment. As all judgments involve elements of doubt, it will inevitably lead to higher risk to the profession. There are basically 2 types of audit failure regarding going concern:

Type I Error: when auditors modified the audit opinion on going concern but the audited entities do not declare bankruptcy afterwards.

Type II Error: when auditors issued clean reports but subsequently the audited entities declared bankruptcy.

Problem Statement

According to Nazatul (2017), "Auditors of Malaysia's public-listed companies are expected to be more transparent and more informative with the implementation of enhanced auditor reporting. The new standards aim to increase transparency, improve audit relevance to stakeholders, and manage the audit expectations gap pertaining to expectations and information." One of the important improvement in the auditors' report highlighted is additional emphasis on going concern. According to "The Future of Audit", Accountants today, (Sept/Oct 2016) by MIA during the roundtable discussion in 2015 organised by Association of Chartered Certified Accountants (ACCA), a leading international accountancy body, and Grant Thornton, one of the world's leading organizations of independent audit, tax and advisory firms, "it was found that investors want early warning signals. They believe auditors hold significant insights into the audited entity that could be very useful to investors' decision-making."

Financial statements' users normally expect communication from the auditors with regards to insolvency possibilities of the audited entities as they have the privilege of information to assess the situation (Miglani, Ahmed & Henry, 2010). The going concern opinions by auditors are important signals for the shareholders on the financial distress of companies, which highlight the bankruptcy possibility (Sormunen, Jeppesen, Sundgren and Svanström, 2013). Going concern opinion can signal to the lenders on the differences between book value of the assets and the realizable values (Kausar and Lennox, 2011). The confidence level of the financial statements will be enhanced by the audit report, which will increase the usefulness of the financial statements for the purpose of decision making (Coram, Mock, Turner and Gray, 2011). However, loss of confidence towards auditor can be seen after a few giant corporate scandals happened around the world.

One of the world biggest corporate scandals for audit failure was the Enron case, an American energy company. Its auditor, one of the Big5 auditors then, had failed to disclose the company's manipulation of the financial report. The Enron case eventually lead to company's bankruptcy; the voluntary surrendering of Certified Public Accountant (CPA) license by its auditor and a new Act being enacted in the U.S: Sarbanes- Oxley Act, 2002 (SOX). SOX required enhanced disclosures in the financial statements in order to mitigate fraud and the Public Company Accounting Oversight Board (PCAOB) was created to supervise and guide the auditing profession (US Securities and Exchange Commission, 2014).

Public listed companies in Malaysia are also not free from scandals either. According to Alfiatul, Zuraidah and Sakthi, (2014), cases like Transmile, MEMs Technology, Megan Media, Nasioncom, Wimems, Welli Multi etc showed that accounting scandals are also prevalent in Malaysia. In 2007, the external auditor of Transmile Group Bhd had failed to detect the client's accounting manipulation (Krishnan, 2011). It had reported a profit of RM157.5 million in 2006 and RM84.4 million in 2005 but in actual fact it made losses of RM126.3 and RM369.6 million respectively as revealed in a special audit. The company and its securities were suspended and delisted in 2011 (Yeong, 2014). According to Geiger et al., (2014), the standard setters and regulators are getting increasingly concern with the responsibility of auditors to report on the financially troubled clients due to the global financial crisis (GFC). Complaints were received from the business press as well as the auditing regulators on many cases where insufficient prior warnings received from auditors before the filing of bankruptcy during GFC.

“Where were the auditors?” such question had been asked indicating auditors are expected to take a more proactive role in discovering and signaling substantial corporate failures and fraud (Humphrey, Loft and Woods, 2009). The audit failure can diminish the confidence in the function of statutory audit, which will be extremely costly for both investors and auditors as unforeseen bankruptcy will result in great economic losses (Myers, Schmidt, Wilkins, 2013 and Geiger, Raghunandan and Rama, 2005). As cited by Gomes, 2016 in *Accountants Today*, Jan/Feb 2016, pp 35, Lee Tuck Heng, Chairman of the Auditing and Assurance Standard Board, Malaysian Institute of Accountants, cautioned that:

“Auditors have been urged to provide more relevant information. Greater transparency is needed, especially after the global financial crisis. There is more attention now on the issue of going concerns and disclosures relating to this. The investor community values the information in the auditor’s report but currently, it is limited.”

Previously, the opinion in auditors’ reports is only a binary “pass/fail” which provides very limited information on the audited entity. Consequently, in April 2015, the International Auditing and Assurance Standards Board (IAASB) issued several new International Standards of Auditing (ISAs) which will take effect for audits of financial statements for periods ending on or after 15 December 2016. One of the revised ISA is ISA 570 (Revised) Going Concern. In the ISA 570 (Revised), one of the main changes is, if the auditors conclude that the use of going concern assumption is appropriate and a material uncertainty exists but sufficiently disclosed, the auditor should include in the auditors’ report under a new separate heading “Material Uncertainty Related to Going Concern” and not to lump under the emphasis of matter paragraph provided in the ISA 570. This is like flashing a spotlight on the going concern issues which requires auditors’ attention.

Together with the other new ISAs issued: ISA 700 (Revised), Forming an Opinion and Reporting on Financial Statements; ISA 701 (Revised), Communicating Key Audit Matters in the Independent Auditor’s Report; ISA 705 (Revised), Modifications to the Opinion in the Independent Auditor’s Report; ISA 706 (Revised), Emphasis of Matter Paragraphs in the Independent Auditor’s Report; ISA 260 (Revised), Communication with Those Charged with Governance, more relevant information are provided in the auditors’ reports and the financial statements, hence, increase users’ confidence. One of the benefits with the new reporting requirements is it will renew auditors’ focus on matters to be reported which could lead to an increase in professional skepticism (IAASB).

With effect from 2005, when a public company listed in main board of Bursa Malaysia is deemed financially distressed, it will be included in the Practice Note 17 (PN17) list in Malaysia. As long as a listed company fulfilled any one of the given criteria, it will have to be classified under PN17 list. Among others, there are two criteria which are concerning audit opinion. The first one is when a listed company gets an adverse or disclaimer opinion. The second one is when a listed company with shareholders’ equity that is 50% or less of the issued and paid-up capital of the company and received an emphasis of matter regarding going concern in audit (Bursa Malaysia, Main Market Listing Requirements, 2015). Currently there are only 17 companies under the PN17 list (Bursa Malaysia, list updated: 05 January 2017), meaning only 17 or less of public listed companies in the Main Board received GCO from auditors.

Kim-Soon, Mohammed, Ahmad and Tat (2013) and Mohammed (2012) discovered that not all companies under the PN17 list are financially distressed and companies under non-PN17 list could be financially troubled. The first point can be explained because there are other criteria besides GCO from auditors for a company to be listed under PN17 list. However, for the second point, it could be due to under reporting by auditors on going concern issues.

Deficiencies of Past Studies

Firstly, previous studies with regards to auditors’ going concern opinion were mostly not conducted in the Malaysia context. Those surveys conducted in Malaysia were mainly on predicting financial distress for public listed companies but were not linked to the predictive value of the auditors’ opinion.

Secondly, there were researches conducted on going concern opinion for the period of before and after the Enron case (2001). Researches were also conducted on auditors' going concern opinion before and after the global financial crisis (2008). However, the aftermath of financial crisis and regulatory changes were tested mainly overseas and mostly in United States.

Lastly, as the new auditing standards only took effect for auditors' report for the financial statement with year ended on or after 15 December 2016, the implications of the new auditors' report has not been analysed previously.

Research Purposes and Questions

General Objective	General Question
1. To identify whether auditors have the tendency to under report going concern issues of the audited entities.	1. Do auditors have the tendency to under report going concern issues of audited entities?
2. To identify whether Big4 accounting firms are less likely to highlight going concern issues or modify auditors' reports on grounds of going concern.	2. Are Big4 accounting firms less likely to highlight going concern issues or modify auditors' reports on grounds of going concern?
3. To identify whether with the effect of ISA 570 (Revised), the predictive value of the auditors' report will improve with regards to going concern issues.	3. Will the predictive value of the auditors' report improve with regards to going concern issues with the effect of ISA 570 (Revised)?

Significance of Study

- (i) This research will contribute to the better understanding of factors affecting auditors' judgment on going concern opinion and the accuracy of these judgments in Malaysia. It can be used to bridge the lack of studies in going concern opinion for financially distressed companies in Malaysia context.
- (ii) Through this research, we can identify the differences in the going concern evaluations between Big4 and non-Big4 audit firms in Malaysia.
- (iii) As the predictive value on going concern for public listed companies will be measured before and after the adoption of new auditing standards, it can show the effectiveness on these new auditing standards which will give insights for future development of the professional standards.

LITERATURE REVIEW

Under reporting of going concern risk by auditors

In the empirical studies conducted by Tagesson and Öhman (2015), only 21.8 % of the bankrupt Swedish companies had received going concern warnings in the latest audit report. In Adiloğlu and Vuran (2011), financially distressed companies under the manufacturing industry in the Istanbul Stock Exchange between 1998 and 2006 were assessed. The results reflected that auditors failed to highlight the going concern issues or express qualified reports. Going concern issues attracted public attention in Indonesia since 1995 as the auditors' of Summa Bank issued a clean report to it in the preceding year prior to its bankruptcy (Hasnah, 2009). Young and Wang, (2010) used the Altman's Z-score model to match the going concern risk levels of the audited companies against the modifications in the auditors' reports. It was noted that 75% of the going concern risks were under reported by auditors. With this, it was concluded that auditors had prominent agency characteristics and are not mainly served as a monitoring mechanism.

Björkstrand and Nordholm, (2014) posited that two stages were involved for auditors to issue going concern opinions. Firstly they need to have the capability to identify the companies under distress and then they have to decide on whether to issuance of going concern opinion (GCO). The research findings by Öhman and Nilsson (2012) concluded that although there were a number of insolvent companies that shown signs of financial problems, not many of them were issued going concern opinion by their auditors. This proved that it was the active decision by the auditors not to give GCO even though they were aware of the financial distress. In most cases, auditors are reluctant to modify the auditors' report on ground of going concern. Reasons given by Gallizo and Saladrignes, (2015) on this was firstly, pressure received from the client, secondly, auditor's belief in the audited entity and willingness to give time for improving the situation as qualified auditors' report will jeopardize the position further; and lastly the negative impact on the development of the audit firm.

As per Granath, Kumlin and Lundgren, (2013) and Alfredsson and Fransson, (2011), the under reporting by auditors with regards to going concern issue could be due to fear of losing the audit assignment if GCO were issued. Auditors may choose not to give a going concern opinion as Type I error may have negative impact on the client. It not only highlights the financial problems to the investors but also may hinder the client from getting financing. This might deteriorate the financial position further and thus, increase the probability of bankruptcy. (Myers et al., 2013; Öhman and Nilsson, 2012; Blay, Geiger, and North, 2011; Young and Wang, 2010). According to Granath et al., (2013), auditors were reluctant to give warning on the companies' financial problems for fear that it will eventually lead to the companies bankruptcies. Going concern opinion will affect the ability of the company to raise additional fund (Foster and Shastri, 2016). With the aim to prevent dissatisfaction from client or ever changing of auditor, auditors may purposely opt not to express a going concern opinion even though the client is in financial distress (Kaplan and Williams, 2012).

On the other hand, from the perspective of the auditors, litigation risk of audit failure could be high. When auditors do not issue GCO but the clients subsequently went bankrupt, it could be detrimental to the audit firms' reputation. Thus, auditors may issue GCO to financially distressed companies in order to safeguard themselves against potential lawsuits (Myers et al., 2013). According to Kaplan and Williams (2013), it appeared to be a strategic decision for auditors on the going concern issue as they need to weigh on the litigation and other risk factors. There is higher possibility for auditors in a more litigious environment such as United States (US) to issue GCO to their financially distressed clients so as to prevent from litigation exposure (Kaplan et al., 2012). Evidence gathered by Blay and Geiger (2013) implied that the decision on GCO may be affected by the future economic benefits expected from the client. The research results concluded that there was a negative relationship between the current year going concern decision and the subsequent two years' fees received by the auditor.

The Relationship between Audit Firm Size and Going Concern Opinion

According to Tagesson et al., (2015), there is a negative relationship between the size of the audit firm and the probability of issuance of going concern modification in the auditors' report. This result is consistent with researches conducted by DeFond, Francis and Hu, (2011); DeFond and Lennox (2011). These studies explained that Big 4 clients are less likely to be issued GCO because they were generally in better financial position than non-Big 4 clients. As per Tagesson et al., (2015), it was believed that larger size auditing firms can choose clients with better financial positions. In Foster et al., (2016), it was indicated that the decision for GCO was not influenced by the audit firm size. On the other hand, it was concluded that small audit firms are more reluctant to issue modified report or disclosed the financial indicators as compared to the big audit firms (Adiloğlu et al., 2011).

Read and Yezegel, (2016) posited that there were no significant relationship between auditor tenure and Type II errors (when auditors issued clean reports but subsequently the audited entities declared bankruptcy) for Big 4 audit firms. Conversely, evidence showed auditor tenure adversely affect the GCO for non-Big 4 firms in the first few years of an audit engagement but there were no noticeable effect in the later years. According to Myers et al., (2013), after the Enron case and the enact of SOX, there was an increase in auditors' skepticism on reporting of going concern and the change varies between Big N and non-Big N auditors. Analysis was carried out for the period of 2000-2006. It was noted that non-Big N

auditors had increased the going concern modification on auditors' reports resulting in the reduction of Type II error but with increase in Type I error. This implied that for smaller audit firms, the accuracy of audit opinion for those audited entities which subsequently went insolvent also came with more modified reports for those subsequently non-failing audited entities. On the other hand, it was noted that Big N auditors had reduced their Type II error without increasing the Type I error. It was thus concluded that with regards to going concern predictions, these events had resulted in the more conservative small audit firms but more accurate big audit firms. The result was expected as the authors predicted the Big N auditors will invest extra audit effort and thus improve the audit quality especially in the going concern aspect.

The Impact of Financial Crisis and Regulatory Changes on Going Concern Opinion

After the collapse of some high-profile corporates, namely, Enron, Worldcom and Tyco International, many researches had been carried out to see the impact on auditors with regards to going concern issues. Greiger et al, (2005), highlighted that after December 2001, they noted changes in the decision by auditors in reporting which had resulted in the increase in the going concern modification rates, given no clear differences in the client characteristics. This could be due to the effect of a number of high-profile collapses such as the Enron case, media scrutiny, increased litigations and intense regulation like the SOX. This was further confirmed by Fargher and Jiang (2008) that auditors had the tendency to be more conservative after the crisis period and the propensity to issue modification on grounds of going-concern had increased in the period of 2000-2002, but there was not such proof after 2003.

Based on the research by Feldmann and Read (2010), audit opinions issued within 1 year before the bankruptcy of the 565 companies between 2000 and 2008 were analysed. It was noted that there were a sharp increase in the going concern modification by auditors in 2002-2003 as compared to 2000-2001. However, this trend did not continue and was subsequently declined back to the pre-Enron level.

RESEARCH METHODOLOGY

Numerous models have been developed to test the risk on going concern and bankruptcy issues, which includes Altman's Z-Score Model (1968), Ohlson's O-Score (1980), Dugan and Zavgren's Zavgren Model (1989), and McKee's Rough Sets Theory (2003). Among which, Altman's Z-Score model has been proven to have a high predictive accuracy and still widely in use today. In Altman (1968), 33 bankrupt public listed manufacturers were chosen and paired with similar asset size non-bankrupt manufacturers that were chosen randomly. The prediction accuracy reached a high of 95% in this study. Later the Z-score model successfully predicted 82 % bankruptcy whereas only 46% of the auditors' reports were modified or gave warnings on going concern risk (Altman and MacGough, 1974). In Altman (1983), it predicted bankruptcy with 86% accuracy.

In Odibi, Basit and Hassan (2015), the accuracy of Z-Score was found to be between 85-99%. Altman Z-Score had successfully predicted the companies in PN17 at the distress zone (Yasser and Mamun, 2015). It was concluded in both Kim-Soon, Mohammed and Mostafa (2014) and Mohammed (2012) that Altman's Z Score model is a powerful tool for financial users to predict companies' financial failure. In Christopoulos, Gerantonis and Vergos (2009), it was posited that Altman Z-Score Model was a good predictive model as it took both market value data and financial statement information into consideration.

Sampling Design

It is proposed to select all companies currently under Practice Note 17 (PN17) list from Bursa Malaysia. As mentioned in the earlier chapter, there are currently 17 companies listed under PN17. Next, select the same number of the companies from the non-PN17 list in the respective industries with similar assets base as comparators. In many of the previous studies, samples for financial distressed and non-financial distressed companies were normally matched pair. This is a way to compensate for the differences in asset sizes and the effect of industries. Two companies have the same financial ratios could have different failure risk. This is because companies with larger asset bases generally will have comparatively lower failure probability

(Yap, Munuswamy and Mohamed, 2012). The companies under non-PN17 list are also selected with the purpose of identifying any under reporting by auditors on going concern issue.

Data Collection Method

Secondary data is to be used for this research. Financial statements and auditors' reports are obtained from published audited annual reports from Bursa Malaysia whereas the market prices for the shares are to be obtained from Yahoo Finance.

Research Model

The going concern risk levels for these 34 selected companies will be assessed by the Altman Bankruptcy Prediction Model - Z-score for 5 years before ISA 570 (revised) has taken effect (15 December 2016) and the subsequent 2 years. The results of the risk level will then be matched with the auditors' report for appropriateness of reporting with regards to the going concern issues. Comparisons are also made for Z-score computed before and after the new auditing statement for all companies.

The Altman Bankruptcy Prediction Model - Z-score model (Altman, 2006, p. 241) is as follows:

$$Z = 1.2X_1 + 1.4X_2 + 3.33X_3 + 0.6X_4 + 1.0X_5$$

X₁ = working capital/total assets
X₂ = retained earnings/total assets
X₃ = earnings before interest and taxes/total assets
X₄ = market value of equity/book value of total liabilities.
X₅ = sales/total assets.
Z = overall, index or score.

The lower the score, the higher the going concern risk. The threshold to determine a company's financial position using Altman Z- Score is as follows:

Failure Company	< 1.81
Non failure Company	> 2.99

This set of threshold had been used by many previous researchers i.e. Kim-Soon et al (2014); Thai, Goh, Teh, Wong and Ong (2014); Mohammed et al, (2012); Altman (1968) etc.

As for Z-score of $\geq 1.81 \leq 2.99$, it is considered a grey area.

With reference to both ISA 570 and ISA 570 (revised), there are 3 types of modification to auditors' reports with regards to going concern issues as follows:

Adverse opinion : auditors conclude that the going concern assumption is inappropriate.

Disclaimer of opinion : auditors are unable to obtain sufficient appropriate evidence to form an opinion whether the going concern assumption is appropriate.

Qualified opinion : going concern assumption is appropriate, a material uncertainty exists but it is not sufficiently disclosed.

In ISA 570, the auditors can also opt for not modifying the opinion but to have an "**Emphasis of Matter Paragraph**" when the auditors conclude that the use of going concern assumption is appropriate, a material uncertainty exists but is sufficiently disclosed. This is however, not allowed under the ISA 570 (Revised). Instead, the auditor should include in the auditors' report, under a new separate heading "**Material Uncertainty Related to Going Concern**".

According to Lam and Mensah (2006), disclaimers are issued in severe going concern, whereby financial distress is ranked as less serious by EOM, more serious by an exception for qualification and highest by disclaimers. In Carey, Geiger and O'Connell (2008), the study of

Australian companies in financial distress found that EOM was less severe than disclaimers. It is thus proposed to match the risk level computed by the Z-score model with the auditors' opinion as follows:

Going concern risk level:	Z-score	Auditors' Report
Low	> 2.99	Clean
Medium	$\geq 1.81 \leq 2.99$	Qualified/ Emphasis of Matter/ Material Uncertainty Related to Going Concern
High	< 1.81	Adverse or disclaimer

After this, the accuracy of the auditor's opinion is analysed for the before and after effect of the ISA 570 (revised) as well as by Big4 and non-Big4 auditors.

CONCLUSION

The Altman's Z-Score model will be used to compute the going concern risk level for the whole PN17 list in Bursa Malaysia and their comparator companies for five years before the effective date ISA 570 revised and 2 years after. The GC risk level will then be compared to the GCO in auditors' report to check the accuracy of the GCO.

REFERENCES

- Adiloğlu, B. and Vuran, B. (2011). A Multicriterion Decision Support Methodology For Audit Opinions: The Case Of Audit Reports Of Distressed Firms In Turkey. *International Business & Economics Research Journal*, Vol. 10, No. 12.
- Alfiatul R.M. H, Suhaily. H, Zuraidah, S, Sakthi, M. (2014). Accounting isstatements and Monitoring Mechanisms: A Literature Review. *Asia Pacific Journal of Accounting and Finance* Volume 3 (1).
- Alfredsson, R. and Fransson, M. (2011). Going concern assumption in a Swedish context -do auditors change their propensity to issue a going concern opinion in different stages of the business cycle? Master Thesis, University of Gothenburg, Published 2011-06-17. Available at: <http://hdl.handle.net/2077/25718>.
- Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *Journal of Finance* 23 (4): 589-609.
- Altman, E.I. (1983). *Corporate Distress: A Complete Guide to Predicting Avoiding and Dealing with Bankruptcy*, 3rd ed., Wiley, New York, NY.
- Altman, E.I. (2006). *Corporate Financial Distress and Bankruptcy: Predict and Avoid Bankruptcy, Analyse and Invest in Distressed Debt*, 3rd ed., Wiley, Chichester.
- Altman, E.I. and McGough, T.P. (1974). Evaluation of a company as a going concern. *Journal of Accountancy*, Vol. 138 No. 6, pp. 50-7.
- Björkstrand, A. and Nordholm, E. (2014). To issue or not issue a going concern opinion: A study of factors and incentives influencing auditors' ability and decision to issue going concern opinions (master's thesis). Uppsala University, Sweden.
- Blay, A. D., Geiger, M. A., & North, D. S. (2011). The auditor's going-concern opinion as a communication of risk. *Auditing: A Journal of Practice and Theory*, 30(2), 77-102.
- Blay, A.D. and Geiger, M.A. (2013). Auditor fees and auditor independence: evidence from going concern reporting decisions. *Contemporary Accounting Research*, Vol. 30 No. 2, pp. 579-606.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bursa Malaysia (January 27, 2015). Main Market Listing Requirements, Practice Note 17 – Criteria and Obligations of PN17 Issuers. <http://customer.bursamalaysia.com:8080/MainLR/Pages/MainPracticeNote17.aspx>
- Carcello, J.V., Hermanson, D.R. and Neal, T.L. (2003). Auditor reporting behaviour when GAAS lack specificity: the case of SAS no. 59. *Journal of Accounting and Public Policy*, Vol. 22 No. 1, pp. 63-81.
- Carey, P., Geiger, M.A. and O'Connell, B.T. (2008). Costs associated with going-concern-modified audit opinions: an analysis of the Australian audit market. *Abacus*, Vol. 44 No. 1, pp. 61-81
- Christopoulos, A. G., Gerantonis, N., & Vergos, K. (2009). Can Altman Z-Score Models predict business failures in Greece. *Research Journal of International Studies* (12), 21-28.
- Coram, P. J., Mock, T. J., Turner, J. L., & Gray, G. L. (2011). The communicative value of the auditor's report. *Australian Accounting Review*, 21(3), 235-252.
- DeFond, M. L., J. R. Francis, and X. Hu (2011). The Geography of SEC Enforcement and Auditor Reporting for Financially Distressed Clients. Working paper, University of Southern California, University of Missouri at Columbia, and University of Oregon.
- DeFond, M. L., & Lennox, C. (2011). The effect of SOX on small auditor exits and audit quality. *Journal of Accounting and Economics*, 52(1), 21–40.
- Dugan, M.T. and Zavgren, C.V. (1989). How a bankruptcy model could be incorporated as an analytical procedure. *CPA Journal*, Vol. 59 No. 5, pp. 64-5.
- Fargher, N. L., and L. Jiang. 2008. Changes in the Audit Environment and Auditors' Propensity to Issue Going-Concern Opinions. *Auditing: A Journal of Practice & Theory: Noverber 2008*, Vol.27, No.2, pp. 55-77.
- Feldmann, D.A. and Read, W.J. (2010). Auditor Conservatism after Enron. *Auditing: A Journal of Practice & Theory: May 2010*, Vol.29, No.1 pp.267-278.
- Foster, B., Shastri, T. (2016). Determinants of going concern opinions and audit fees for development stage enterprises. *Advances in Accounting, incorporating Advances in International Accounting*, 33 (2016) 68-84.
- Gallizo, J. L. and Saladrigues. R. (2015). An analysis of determinants of going concern audit opinion: Evidence from Spain stock exchange. *Intangible Capital*, <http://dx.doi.org/10.3926/ic.683>
- Geiger, M.A., Raghunandan, K. and Rama, D.V. (2005). Recent changes in the association between bankruptcies and prior audit opinions. *Auditing: A Journal of Practice & Theory*, Vol. 24 No. 1, pp. 21-35.
- Geiger, M. A., K. Raghunandan, and W. Riccardi. (2014). The global financial crisis: U.S. bankruptcies and going concern audit opinions. *Accounting Horizons* 28 (1): 59–75.
- Gomes, M., (2016, February). Auditors Must Change. *Accountants Today*, Malaysian Institute of Accountants, Jan/Feb 2016 pp.34-36.
- Granath, S., Kumlin, A. and Lundgren, N. 2013. Vad kan förklara revisorns yttrande angående företagens förmåga till fortsatt drift? Lund University. Published 2013-06-05. Available at: <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=3915042&fileId=391506>.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Hasnah, H., Bambang, H., Mahfooz, A., & Ishak, I. (2009). Factors influencing auditors' going concern opinion. *Asian Academy of Management Journal*, 14(1), 1-19.
- Humphrey, C., Loft, A. and Woods, M. 2009. The global audit profession and the international financial architecture: Understanding regulatory relationships at a time of financial crisis. *Accounting, Organizations and Society*, vol. 34, no. 6–7, pp. 810-825.
- IAASB (2015). International standard on auditing 570 (revised) — Going-concern. <https://www.ifac.org/publications-resources/international-standard-auditing-isa-570-revisedgoing-concern>
- International Standard on Auditing (ISA) 570 “Going Concern”, International Auditing and Assurance Standards Board (IAASB), 2009
- Kaplan, S.E. and Williams, D.D. (2012). The changing relationship between audit firm size and going concern reporting. *Accounting, Organizations and Society*, Vol. 37 No. 5, pp. 322-341.
- Kaplan, S. E., and D. D. Williams. (2013). Do Going Concern Audit Reports Protect Auditors from Litigation? A Simultaneous Equations Approach. *The Accounting Review* 88 (1): 199-232.
- Kausar, A., & Lennox, C. (2011). Going-concern opinions and asset values. Working paper. Nanyang Technological University.
- Kim-Soon, N. and Mohammed, A. A. E. & Ahmad, A. R. & Tat, H. H. (2013). Applicability of Altman's Revised Model in Predicting Financial Distress: A Case of PN17 Companies Quoted in Malaysian Stock Exchange. *Entrepreneurship Vision 2020: Innovation, Development Sustainability, and Economic Growth. Malaysia*, pp. 350-357.
- Krishnan, L. (2011). Legal issues on the scandals involving auditors. 2nd International Conference on Business and Economic Research (2nd ICBER 2011) Proceeding.
- Kim-Soon, N., Mohammed, A. A. E. and Mostafa, M. R. (2014). Using Altman's Z-Score Model to Predict the Financial Hardship of Companies Listed In the Trading Services Sector of Malaysian Stock Exchange. *Australian Journal of Basic and Applied Sciences*, 8(6) April 2014, Pages: 379-384
- Kuruppu, N., Laswad, F., and Oyelere, P. (2012). Assessing going concern, the practical value of corporate failure models and auditors' perceptions. *Pacific Accounting Review*, Vol. 24 Iss 1 pp. 33 – 50 Permanent link to this document: <http://dx.doi.org/10.1108/01140581211221542>
- Lam, C. K., & Mensah, Y. M. (2006). Auditors' decision making undergoing-concern uncertainties in low litigation risk environments: Evidence from Hong Kong. *Journal of Accounting and Public Policy*, 25(6), 706-739.
- Martens, D., Bruynseels, L., Baesens, B., Willekens, M. and Vanthienen, J. (2008). Predicting going concern opinion with data mining. *Decision Support Systems*, Vol. 45 No. 4, pp. 765-777.
- McKee, T.E. (2003). Rough sets bankruptcy prediction models versus auditor signaling rates. *Journal of Forecasting*, Vol. 22 No. 8, pp. 569-86.
- Miglani, S., K. Ahmed, D. Henry (2010). Corporate Governance and Financial Distress: Evidence from Australia. Paper presented at the Accounting and Finance Association of Australia and New Zealand (AFAANZ) Conference, Christchurch, New Zealand., 1-55.
- Mohammed, A.A.E. (2012). Financial Situation of PN17 Companies listed in the Malaysian Stock Exchange. Universiti Tun Hussein Onn Malaysia: Master's Thesis.

- Mohammed, A.A.E. and N. Kim-Soon (2012). Using Altman's Model and Current Ratio to Assess the Financial Status of Companies Quoted in the Malaysian Stock Exchange, *International Journal of Scientific and Research Publications*, 2(7): 2-4.
- Myers, L.A., Schmidt, J. & Wilkins, M. (2013). An investigation of recent changes in going concern reporting decisions among Big N and non-Big N auditors. *Review of Quantitative Finance and Accounting*.
- Nazatul I. (2017) - Enhanced Auditor Reporting. *Accountants Today, MIA*, Nov 2016-Feb 2017 pp 36-39.
- Odibi, S., Basit, A., Hassan, Z. (2015). Bankruptcy Prediction Using Altman Z-Score Model: A Case of Public Listed Manufacturing Companies in Malaysia. *International Journal of Accounting, Business and Management*. Vol 3 (no. 2), September, 2015.
- Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, New York: 18(1), 109–131.
- Öhman, P. and Nilsson, A. (2012). Pre-bankrupt going concern warnings : prediction accuracy, extent and degree of wording ambiguity and phrasing patterns in Sweden. Mid Sweden University, Department of Social Sciences, Centre for Research on Economic Relations. Available at: <http://pure.ltu.se/portal/files/41433959/647.pdf>.
- Read, W. J. and Yezegel, A. (2016). Auditor Tenure and Going Concern Opinions for Bankrupt Clients: Additional Evidence. *Auditing: A Journal of Practice & Theory*: February 2016, Vol. 35, No. 1, pp. 163-179.
- Sarbanes-Oxley Act (2002), Sarbanes-Oxley Act of 2002, P.L 107-204, Government Printing Office, Washington, DC.
- Sormunen, N., Jeppesen, K. K., Sundgren, S. and Svanström, T. (2013). Harmonisation of audit practice: empirical evidence from going-concern reporting in the Nordic countries. *International journal of auditing*, vol. 17, no. 3, pp. 308-326.
- Tagesson, T. and Öhman, P. (2015). To be or not to be – auditors' ability to signal going concern problems. *Journal of Accounting & Organizational Change*, Vol. 11 Iss 2 pp. 175 - 192
- Thai, S. B., Goh, H.H., Teh, B. H., Wong, J. C. and Ong T. S. (2014). A Revisited of Altman Z-Score Model for Companies Listed in Bursa Malaysia. *International Journal of Business and Social Science* Vol. 5, No. 12.
- The Conceptual Framework for Financial Reporting, International Accounting Standard Board (2010).
- The Future of Audit. *Accountants today, MIA*, Sept / Oct 2016, pp 10-14.
- US Securities and Exchange Commission (2014). The Laws That Govern the Securities Industry". US Securities and Exchange Commission. Retrieved 2017-03-22. Available at: <https://www.sec.gov/about/laws.shtml>.
- Yap, B. C. F., Munuswamy, S. and Mohamed, Z. (2012). Evaluating Company Failure in Malaysia Using Financial Ratios and Logistic Regression. *Asian Journal of Finance & Accounting* ISSN 1946-052X 2012, Vol. 4, No. 1.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Yasser, Q. R., Mamun, A.A., (2015). Corporate Failure Prediction of Public Listed Companies in Malaysia. Published in the Russian Federation European Researcher. Has been issued since 2010. ISSN 2219-8229, E-ISSN 2224-0136. Vol. 91, Is. 2, pp. 114-126, 2015. DOI: 10.13187/er.2015.91.114. www.erjournal.ru.
- Yeong, E. (2014, September 2). Transmile – the fall of a national cargo carrier. The Sunday. Retrieved from <http://www.thesundaily.my/news/1157215>.
- Young, A., Wang, Y. (2010). Multi-risk level examination of going concern modifications. *Managerial Auditing Journal*, Vol. 25 Iss 8 pp. 756 – 791.

Determinants of Government-Linked Companies (GLCs) Leverage: Panel Data Analysis

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Abstract

This study examines the determinants of the leverage of government-linked companies (GLCs) listed on Bursa Malaysia from 2010-2014. The data were collected from the annual reports for the period 2010-2014. Panel data analysis is used to investigate the relationship between firm's characteristics (firm's size, liquidity, profitability and tangibility) and capital structure, as measured by leverage. Based on 33 GLCs, the results showed that tangibility is positively related to leverage. The level of fixed assets, regardless of the company size (large or small), positively influenced the level of debt financing. The findings also indicated that companies which experienced low profit and liquidity levels were highly leveraged. The larger the size of the company, the lower the debt financing, as high profits and liquidity are preferred.

Keywords: Capital structure, Panel data, Leverage

INTRODUCTION

Capital structure decisions are widely acknowledged as having a great impact on the overall performance of a firm (Putek, Mahmood, Baharuddin & Mahadi, 2014). There have long been debates concerning the effects of capital structures on the costs of capital and firm values (Twairesh, 2014). Over the past 50 years, many capital structure studies have produced empirical evidences regarding the determinants of capital structure in the real business world (Al Ani & Al Amri, 2015). This study aims to identify the determinants of capital structure in the Malaysian Government-Linked Companies (GLCs) from 2011-2014. It attempts to answer the following question: what are the determinants of capital structure in GLCs? In Malaysia, there is very limited evidence on this aspect. Much of the literature focus on the capital structure of public listed firms in developed countries (Putek et al., 2014).

The incorporation of Malaysian Government Linked Companies (GLCs) began in 2004. The GLCs in Malaysia operate primarily on a commercial basis and the government has a direct controlling stake in the companies. Whilst some GLCs are financially viable, others strongly depend on government assistance. Further, the government also has a controlling stake in major decisions made by GLCs such as contract awards, strategy formulation, restructuring and financing, as well as acquisition and investment. It also has an influence on the appointment of the board of directors and senior management positions. Nevertheless, some of GLS have been partially privatized and are now listed in Bursa Malaysia. GLCs play a vital role in Malaysia's economy growth as they account for about one-third of the FTSE KLCI Composite Index (Ahmad & Rahim, 2013).

Capital structure decisions are crucial to the financial well-being of the GLCs. As with other companies, GLCs need to seek an ideal capital structure that could reduce the cost of capital and reach an optimal level of debt (Ahmad & Rahim, 2013). This paper contributes to the literature by providing a better understanding of the effects of firm's characteristics on the capital structure of Malaysian Government Linked Companies (GLCs). The rest of this study is organized as follows: Section two provides an empirical review of the capital structure theories while section three describes the methodology used in this study. Section four presents and discusses the empirical results. Finally, section five summarizes the findings and concludes the discussions.

LITERATURE RIEW

Capital structure theories

The theories suggest that firms decide on a capital structure based on the attributes that determine the various costs and benefits associated with debt and equity financing (Abor and Biekpe, 2009). Several theories of capital structure have been highlighted in the literature.

Modigliani and Miller Theory (M&M) forms the foundation of capital structure theories (Kumar and Rao, 2015). The assumption of the Modigliani and Miller Theory (1958) is that firms have a particular set of expected cash flows. After selection of a certain proportion of debt and equity to finance the firm's assets, the cash flow would be allotted among the investors. Investors and firms are assumed to have equal access to financial markets, which allows for homemade leverage. Therefore, the leverage of the firm has no effect on the market value of the firm (Luigi & Sorin, 2009). M&M assumed that the market is perfect and has no influence on the value of a firm, investors have homogeneous expectations, it is a tax free economy and there are no transaction costs. However, this theory is inapplicable as it is based on restrictive assumptions and is inconsistent with the real world. Investors prefer to buy undervalued shares and sell at higher prices to earn income (Salim & Yadav, 2012). Hence, Modigliani and Miller (1963) revised their position by incorporating tax benefits as determinants of capital structure. To strengthen this argument, M&M explained that a firm that honors its tax obligation benefits from partially offsetting interest called tax shield in the form of payment of lower taxes. Thus, the firms are able to maximize their value by employing debt due to tax shield benefits associated with debt use (Ahmad et al., 2012). M&M theory was criticized due to some weaknesses and inapplicable assumptions. Nevertheless, it provided the foundation for other theories put forth that took into consideration the market imperfections. The M&M theory has been expanded into the pecking order theory and trade off theory.

Pecking order theory (POT) propounded by Myers and Majluf (1984) argued that firms prioritize their sources of financing and usually prefer internal financing. If external financing is needed then debt is chosen and equity would be the last resort. To avoid the underinvestment problem, managers seek to finance new projects using a security that is not undervalued by the market, such as internal funds and riskless debt. This is because a firm has more information than outsiders and information asymmetry investors demand more premiums for information-sensitive securities (e.g. equity). However, many profitable firms prefer debt financing for new projects since they have sufficient funds in the form of retained earnings.

The last theory is trade off theory (TOT). It assumes the presence of an optimal capital structure that maximizes shareholder's wealth and simultaneously minimizes external claims to wealth. It considers the trade-off between benefits of interest tax shield of debt and cost of financial distress (Kumar & Rao, 2015). The advantage of borrowing allows companies to attain tax shield, that is, a company pays lower tax when it incurs more debt. Companies are most likely to use debt financing up to certain level until the cost of financial distress starts to surface (Saarani & Shahadan, 2013). A highly leveraged with a high debt ratio is always associated with the need for high returns. This is because the firm is exposed to bankruptcy risk if not managed well. This explains why highly leveraged firms require high returns to compensate for the risk. Incidentally, interest payment for debt is tax-deductible. An optimal capital structure could therefore be achieved by the firm to enjoy the maximum tax benefits.

Tangibility

Assets play an important role in determining the capital structure in a firm. Trade off theory suggests that firms with high ratios of fixed assets prefer to use debt financing, as fixed assets serve as collaterals for new loans (Pandey, 2004). A company holding more tangible assets has a greater ability to obtain secured loans (Kumah, 2013). Most empirical studies evidenced a positive influence of asset tangibility on leverage. Hewa and Locke (2014) found a significant positive relationship between firm's tangibility and leverage ratios, indicating that firms with more tangible assets have greater opportunities to issue more debts. According to Ibrahim and Masron (2011), fixed asset divided by total assets has a positive and significant association with long term debt, indicating that non-current assets are important and act as a protection to lenders from moral hazard problems.

Firm Size

The trade-off theory proposes that there is a greater need for large firms to be diversified than small firms and therefore are less prone to the risk of default (Paydar & Bardai, 2012; Putek et al., 2014). This theory implies that small firms are less leveraged than large firms due to their lower marginal corporate tax rates. However, the large firms are able to reduce bankruptcy costs by diversifying their businesses (Uyar & Guzelyurt, 2015). Pandey (2001) concurred that large firms incur lower direct costs in issuing debt or equity. Ahmad and Rahim (2013) found that size is a significant determinant of GLCs capital structure for debt ratios, that is, both short term and long term debt ratios. This implies that banks readily provide short term or long term debt to GLCs since they have more collateral than small companies. Thus, large firms are expected to use more debt financing than small firms. Hence, it could be concluded that based on the trade-off theory there is a positive relationship between firm's size and leverage.

Liquidity

Liquidity refers to the ratio of current assets over current liabilities (Kumah, 2013). According to the trade-off models of capital structure there is a positive relationship between liquidity the firm and its leverage. A high asset liquidity ratio could be considered by institutional investors to be a positive signal because it indicates that the firm is able to meet its obligations and hence face a lower risk of default (Al-Najjar & Taylor, 2008). In contrast, high liquidity companies use less debt and finance their business operations internally as propounded by the Pecking Order Theory (Saarani and Shahadan, 2013). This is consistent with the findings of Eriotis (2007) who mentioned that liquidity of firm is negatively related to its financial leverage. This indicates that firms with high liquidity tend to use less debt as they maintain a relatively large amount of current assets, which implies that their cash inflows are high. Putek et al. (2014) concluded that the firms with high liquidity use the cash to finance short term obligations as part of their long term investment plans.

Profitability

Trade off theory suggests that firms prefer to issue debt when profits are high in order to minimize the tax burden (Ting and Lean, 2011). Buferna et al. (2005) and Hewa and Locke (2014) found a significant positive relationship between firm's profitability and debt level. This could be because highly profitable small firms tend to have higher level of debts and accompanying tax shields. However, Zeitun and Tian (2007) noted that profitable firms were less likely to depend on debt in their capital structure than less profitable firms. As opposed to this, the Pecking Order theory argues that a firm would prefer to use internal capital sources when there is improved profitability. It explains the reasons for profitable firms to have low level of debt as compared to less profitable firms (Pandey, 2001).

This is consistent with Johanzeb and Bajuri (2014), Saarani and Shahadan (2013) and Ting and Lean (2011) who argued that less profitable companies are more likely to require external financing. Ahmad et al. (2012) were of the view that short-term debts are less expensive and therefore increasing short-term debts with relatively low interest rates would increase profit levels. Putek et al. (2014) also showed that GLC listed companies are less likely to finance their activities with debt as their profits increase. This is because the proportion of internal funds is substantially higher than external financing. However, there is no direct relationship between profitability and debt ratio as well as short term debt, but there is a negative relationship with long term debt ratio. It appears that as GLCs become more profitable, they tend to raise funds through equity and decrease the level of debt financing (Ahmad & Rahim, 2011).

METHODOLOGY

The sample data consists of 33 GLCs listed on Bursa Malaysia. The variables used are firm's size, profitability, liquidity and tangible assets for the period 2011-2014. A total of 33 observations were made from the annual reports for the said period. In this study, two models were developed to test the impact of different size levels on company leverage. They are:

Model 1: $DR = f(TA, FS, PROF, LIQ)$
 (1)
 Model 2: $GR = f(TA, FS, PROF, LIQ)$
 (2)

The results were further tested based on large and small sized companies for Model 1 and Model 2. The median value of firm size was taken to classify the data in terms of large and small firms. For large companies there were 82 observations, and for small companies there were 83 observations. The proxies for dependent and independent variables are as listed in Table I.

Table I: Description of Variables

Variables	Measurement
Dependent variables	
Debt Ratio (DR)	Ratio of book value of total debt to total assets
Gearing Ratio	Ratio of book value of total debt to total equity
Independent variables	
Tangibility asset (TANG)	Ratio of tangible assets (total fixed assets) to total assets
Firm size (FS)	Logarithm of total sales
Profitability (PROF)	Ratio of earnings before interest, tax and depreciation to total assets
Liquidity (LIQ)	Ratio of current assets to current liabilities

FINDING

Descriptive statistics

Table II provides the descriptive statistics of the variables used in this study for the period 2010 to 2014.

Table II: Descriptive Statistics for Variables Used in the Study for the Period 2010 to 2014

	Obs.	Mean	Median	Maximum	Minimum	Std. Dev.
DR	165	0.22	0.22	0.61	0.00	0.15
GR	165	0.34	0.27	1.56	0.00	0.31
TA	165	0.66	0.72	0.98	0.14	0.22
FS	165	7.05	5.20	54.18	0.53	8.49
LIQ	165	6.07	0.85	126.46	-0.67	18.97
PROF	165	2.85	0.12	9.85	-0.17	3.83

Notes: DR = Debt Ratio; GR = Gearing Ratio; FA = Tangibility; FS = Firm Size; LIQ = Liquidity; PROF: Profitability

This study found the average debt ratio (DR) in Malaysian Government Linked Companies (GLCs) to be 22 percent, with the maximum being 61 percent. This is low compared to the earlier study by Ahmad and Rahim (2013), where the average debt ratio of GLCs was 44 percent and the average and maximum gearing ratios (GR) were 34 percent and 156 percent, respectively. As for tangibility (TA), the average was 66 percent with a maximum of 98 percent. The average of GLCs firm size (FS) was 7.05 and it ranged from 0.53 to 54.18. The average liquidity and profitability position among Malaysian GLCs was 6.07 and 2.85, respectively.

Regression Results

Table III: Panel Regression Results on Leverage

Variables	Model 1	Model 2
TA	0.1691*** (0.0492)	0.2658*** (0.1085)
FS	0.0002 (0.0011)	0.0000 (0.0025)
LIQ	-0.0010* (0.0006)	-0.0017 (0.0013)
PROF	-0.0040 (0.0044)	-0.0109 (0.0094)
C	0.1267*** (0.0430)	0.2103** (0.0925)
R ²	0.1000	0.0592
Adj. R ²	0.0770	0.0357
F- Stat	4.4230***	2.5164**
Hausman Test	0.8738	0.6132

Notes: DR = Debt Ratio; GR = Gearing Ratio; FA = Tangibility; FS = Firm Size; LIQ = Liquidity; PROF: Profitability. Significance level *** 1 percent, ** 5 percent and * 10 percent.

Based on Hausman Test (Table III), the results for both models suggest that the random effects model is more appropriate for estimating the relationship between tangibility (TA), firm size (FS), liquidity (LIQ) and profitability (PROF) towards leverage of Malaysian GLCs companies. The results indicate that tangibility of the firm does influence the GLCs leverage, at 1 percent significance level. Moreover, debt financing also increase with a rise in the company's fixed assets. These results are consistent with previous studies by Pandey (2004), Kumah (2013) and Hewa and Locke (2014). According to them the company's fixed assets become the collateral when the company applies for more financing. Model 2 shows that an increase in the company's fixed assets leads to a surge in shareholders' equity. Meanwhile, the liquidity position of a company negatively influences its debts, at 10 percent significance level. The findings suggest that when companies face liquidity problems, they prefer to take more debt to cover their business operations. Eriotis (2007) was of the view that companies with high liquidity would prefer low debt levels as greater cash inflow could be used to finance future investments. However, Model 2 reveals a negative insignificant relationship. The size of a company and its profitability position insignificantly influence the GLCs leverage in both models

The Regression Results of Large and Small Sized Companies

Table IV reports the regression results of random effects model for debt ratios and gearing ratios based on large and small sized companies. Large companies tend to increase debt levels when their tangibility (fixed assets) enlarges. They face lower bankruptcy costs due to diversification of their business (Uyar & Guzelyurt, 2015) and lower costs of issuing debt or equity (Pandey, 2001). However, this study shows contradictory results from the earlier literature with respect to small sized companies. Small firms are noted to incur more debt when their fixed assets increase. Paydar and Bardai (2012) and Putek et al. (2014) documented that small firms have higher probability of default risks and hence, they prefer low levels of debt to secure their position. In addition, the results also revealed that regardless of the size of the company, the liquidity position negatively influenced the company's leverage, as measured by debt ratio and gearing ratio (Model 2). Highly profitable GLCs prefer to have low debt levels; significance at 1 percent level.

Table IV: Panel Regression Results of Different Sized Companies on Leverage

Variables	Debt Ratio (DR)		Gearing Ratio (GR)	
	Large Size	Small Size	Large Size	Small Size
TA	0.2610*** (0.0926)	0.2274*** (0.0384)	0.4306** (0.2096)	0.3305*** (0.0718)
LIQ	-0.0016** (0.0009)	-0.0017*** (0.0005)	-0.0031 (0.0025)	-0.0026*** (0.0008)
PROF	-0.0191*** (0.0059)	-0.0006 (0.0030)	-0.03609*** (0.0100)	-0.0008 (0.0050)
C	0.1002 (0.0702)	0.0685*** (0.02518)	0.1624 (0.1525)	0.1102** (0.0474)
R ²	0.1908	0.3246	0.1190	0.2105
Adj. R ²	0.1597	0.2989	0.0852	0.1805
F- Stat	6.1296***	12.6543***	3.5127***	7.0205***
Hausman Test	4.4398	0.8963	5.6884	1.5293

Notes: DR = Debt Ratio; GR = Gearing Ratio; FA = Tangibility; FS = Firm Size; LIQ = Liquidity; PROF: Profitability. Significance t level *** 1 percent, ** 5 percent and * 10 percent.

CONCLUSION

This study found that the GLCs debt levels certainly affect the company's tangibility. Small sized companies prefer to incur greater debt if they have higher tangibility. During the period of the study 2010 to 2014, profitable GLCs reduced the tendency to incur debt financing. Similarly, when companies experienced high levels of liquidity, debt financing decreased. This is consistent with the Pecking Order theory, which states that firms prefer internal financing as their source of financing for future investments. However, if the companies' cash inflows are not sufficient to cover the investments, they would go for external financing, either debt or equity.

REFERENCES

- Abor, J. & Biekpe, N. (2009). How do we explain the capital structure of SMEs in sub-Saharan Africa? evidence from Ghana. *Journal of Economic Studies*, 36(1), 83-97.
- Ahmad, Z., Abdullah, N. M. H., & Roslan, S. (2012). Capital structure effect on firms' performance: focusing on consumers and industrial sectors on? Malaysian firms, *International Review of Business Research Papers*, 8(5), 137-155.
- Al Ani, M. K., & Al Amri, M. S. (2015). The determinants of capital structure: an empirical study of Omani listed industrial companies. *Business: theory and practice*, 16(2), 159-167.
- Al-Najjar, B., & Taylor, P. (2008). The relationship between capital structure and ownership structure. *Managerial Finance*, 34(12), 919-933.
- Buferna, F. M., Bangassa, K., & Hodgkinson, L. (2005). Determinants of capital structure: evidence from Libya. *University of Liverpool*.
- Eriotis, N., Vasiliou, D., & Ventoura- Neokosmidi, Z. (2007). How firm characteristics affect capital structure: an empirical study. *Managerial Finance*, 33(5), 321-331.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Hewa Wellalage, N., & Locke, S. (2015). Impact of ownership structure on capital structure of New Zealand's unlisted firms. *Journal of Small Business and Enterprise Development*, 22(1), 127-142.
- Ibrahim, H., & Marson, T. A. (2011). Capital structure and the firm determinants: evidence from small and medium enterprises (SMEs) in Malaysia. *International Conference on Economics, Trade and Development*, 1-3.
- Jahanzeb, A., & Bajuri, N. H. (2014). Human capital and determinants of capital structure: empirical evidence from Pakistan. *Middle- East Journal of Scientific Research*, 22(2), 272-278.
- Kumar, S., & Rao, P. (2015). A conceptual framework for identifying financing preferences of SMEs. *Small Enterprise Research*, 22(a), 99-112.
- Kumah, S. P. (2013). Corporate capital structure determinants of listed firms in West African Monetary Zone- A review of related literature. *Research Journal of Finance and Accounting*, 4(19), 19-28.
- Luigi, P., & Sorin, V. (2009). A review of the capital structure theories. *Annals of Faculty of Economics*, 3(1), 315-320.
- Pandey, I. M. (2001). Capital structure and the firm characteristics: evidence from emerging markets.
- Pandey, I. M. (2004). Capital Structure, profitability and market structure: evidence from Malaysia. *Asia Pacific Journal of Economics and Business*, 8(2), 78.
- Paydar, M. P., & Bardai, B. (2012). Leverage behavior of Malaysian manufacturing companies: a case observation of the industrial sector companies in Bursa Malaysia. *Al-Madinah Management and Finance Science*.
- Putek, E. S., Mahmood, W. M. W., Baharudin, N. S., & Mahadi, M. I. (2014). Capital structure in Malaysian Government- Linked Companies (GLCs): evidence from panel data analysis. *Journal of Applied Environmental and Biological Sciences*, 4(5S), 72-75.
- Salim, M., & Yadav, R. (2012). Capital Structure and firm performance: Evidence from Malaysian listed companies. *Proceedings-Social and Behavioral Sciences*, 65, 156-166.
- Saarani, A., & Shahadan, F. (2013). The determinants of capital structure of SMEs in Malaysia: evidence from enterprise 50 (E50) SMEs. *Asian Social Sciences*, 9(6), p.64.
- Ting, I. W. K., & Lean, H. H. (2011). Capital structure of government-linked companies in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 7(2), 137-156.
- Twairesh, A. E. M. (2014). The impact of capital structure on firm's performance: evidence from Saudi Arabia. *Journal of Applied Finance and Banking*, 4(2), 183.
- Uyar, A., & Guzelyurt, M. K. (2015). Impact of's characteristics on capital structure choice of Turkish SMEs. *Managerial Finance*, 41(3), 286-300.
- Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: evidence from Jordan. *Australasian Accounting Business & Finance Journal*, 1(4), 40.

Will Accounting Undergraduates Continue to Pursue Accounting Professional Qualification? A Case Analysis of A Malaysian Private University

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Abstract

This study is to investigate the behavioural intention (BI) to pursue accounting professional qualifications from the perspective of accounting undergraduate students in a Malaysian private university. This is due to the enrolment of new students remains challenging to accounting professional bodies. Although number of new students who taking accounting professional qualifications is increasing in recent years, accounting professional bodies are still facing challenges to attain the targeted number of new students enrolled annually. Accounting professional bodies recruit new students from worldwide. However, less accounting undergraduate students are willing to pursue accounting professional qualifications upon graduation in Malaysia. The study adapted Theory of Planned Behaviour (TPB), integrated with knowledge (KL) construct as proposed conceptual framework. The conceptual framework has the independent constructs consist of attitude (AT), subjective norms (SN), perceived behavioural control (PBC) and KL that lead to dependent construct of BI. Survey questionnaire will be the primary data collection instrument. Private university accounting undergraduate students are the targeted population. Expected finding is to provide determinants that affect BI of accounting undergraduate students in pursuing accounting professional qualification. The findings can assist accounting professional bodies and education organisations to focus on the determinants that will increase the pursuit of professional accountancy qualifications among accounting graduates.

Keywords: Theory of Planned Behaviour (TPB), behavioural intention, knowledge, accounting, professional qualifications

INTRODUCTION

Accounting professional qualification is a key qualification of an individual to become a qualified accountant in Malaysian Institute of Accountants (MIA) (MIA, 2017). Accounting professional qualification is also defined as a combination of technical exams and practical hands-on business experience which allowing potential accountants to apply their skills and knowledge in difference industries (Sani, 2014). Accounting undergraduates are students who chose accounting course as major degree in private universities. Private universities are educational institutions, which are not established or maintained by the Government to provide higher education or distance education, approved and registered under Private Higher Educational Institutions Act 1996 (Laws of Malaysia, 2015).

The enrolment of new students remains challenging to accounting professional bodies. In recent years, number of new students to pursue accounting professional qualifications is increasing. However, accounting professional bodies such as Association of Chartered Certified Accountants (ACCA) and Chartered Institute of Management Accountants (CIMA) claimed that the actual number of new students enrolled yet to achieve their targeted number of new students (ACCA, 2016; CIMA, 2017). ACCA has recruited 480,813 students in the period from 2015 to 2016 which only 2,187 less than the targeted number of new students, 483,000 students (ACCA, 2016). Meanwhile, CIMA stated that there are 33,604 new students recruited in 2016 which nearly hit its target of recruiting for 35,300 new students (CIMA, 2017).

According to a survey conducted by Committee to Strengthen the Accountancy Profession (CSAP), there are only 41% of 477 respondents have interests to pursue accounting

professional qualifications upon graduation in Malaysia (CSAP, 2014). Hence, the objective of this paper is to investigate the factors that can influence behavioural intention (BI) to pursue accounting professional qualifications from the perspective of accounting undergraduate students in a Malaysian private university. Moreover, this study intends to discover the most significant factor(s) which can influence BI of accounting undergraduate students in a Malaysian private university to pursue accounting professional qualifications.

This research aims to provide some practical and theoretical contributions. This research may provide some useful insights and better understanding of factors that can influence BI of accounting undergraduate students to pursue accounting professional qualifications. Accounting professional bodies need to identify and understand thoroughly the factors that affect the BI to pursue accounting professional qualifications among accounting undergraduate students in order to stimulate the enrolment of new students. Besides, educational organisations also need to understand the causes that can influence the BI of accounting undergraduate students to pursue accounting professional qualifications in order to help those accounting professional bodies to improve the number of accounting students to pursue accounting professional qualifications upon graduation. In theoretical perspective, this study proposes to examine the factors that influence BI of accounting undergraduate students to pursue accounting professional qualifications by applying Theory of Planned Behaviour (TPB). Moreover, this research proposes to integrate knowledge (KL) as additional independent construct with TPB model in order to discover whether (1) KL fits in with TPB model and (2) KL is one of the significant factors that influence BI of accounting undergraduate students to pursue accounting professional qualifications.

LITERATURE REVIEW

Theory of Planned Behaviour (TPB)

This study aims to use TPB to examine factors that influence accounting undergraduate student's BI to pursue accounting professional qualifications. According to Ajzen and Fishbein (as cited in Ajzen, 1991), TPB was developed from the Theory of Reasoned Action (TRA). TPB provides a theoretical framework to study intention toward behaviour. TPB used three independent constructs to illustrate the BI to perform an actual behaviour (Ajzen, 1991). The independent constructs consist of attitude (AT) towards the behaviour, subjective norms (SN) and perceived behavioural control (PBC). Definition of AT towards the behaviour is the level of an individual's favourable or non-favourable appraisal on the behaviour. SN is defined as perception of an individual towards social pressure as whether to undertake the behaviour. PBC refers to perception of an individual towards ease or difficulty in performing such behaviour by taking into account of past experience, obstacles and barriers that had incurred. There is an interrelationship among these three independent constructs. BI is expected to significantly influence behaviour. General rule stated that a person is more likely to perform behaviour if there are more favourable in AT and SN together with higher PBC which lead to stronger BI to perform such behaviour. However, importance of these independent constructs varies depend on the situations and behaviour involved (Ajzen, 1991).

Behavioural Intention (BI)

BI is the degree of an individual's willingness to try to execute certain behaviour (Ajzen, 1991). Ajzen and Fishbein's study (as cited in Chung, 2016) found out that an individual tends to execute actual behaviour when the intention to execute the behaviour becomes strong. When the BI is favourable, there is likelihood that accounting undergraduate students will pursue accounting professional qualifications. When the BI is unfavourable, there is likelihood that accounting undergraduate students will not pursue accounting professional qualifications.

Attitude (AT)

AT refers to the degree of individuals' evaluation on their expected behaviour performance whether positive or negative (Chung, 2016; Ejiaku, 2015; Tang & Seng, 2016). In this study, AT is defined as accounting undergraduate students' evaluation in pursuing accounting professional qualifications whether is positive or negative. Most of the past studies indicated that AT had positive correlation with BI (Chung, 2016; Ejiaku, 2015; Yang, Lee, & Zo, 2017). Moreover, in the studies of Akbari, Rostami, and Rezaei (2015) as well as Ferencz-

Kaddari, Shifman, and Koslowsky (2016), AT had the highest R^2 value among all the constructs, which indicated that AT was the most significant determinant of BI. In other words, AT was a better determinant than SN and PBC. However, these studies were carried out in different fields. Therefore, the applicability of these past studies' results on accounting undergraduate students' evaluation in pursuing accounting professional qualifications were unknown. AT is positive when individual intended to perform the behaviour that has positive evaluation (Ferencz-Kaddari et al., 2016), perhaps accounting undergraduate students in Malaysia may have different evaluation toward pursuing accounting professional qualifications. To test the commonality of the results of the past studies, AT was tested in order to identify whether AT is the most significant determinant for accounting undergraduate students to pursue accounting professional qualifications. The following proposition is developed:

P1: There is a positive relationship between attitude and behavioural intention to pursue accounting professional qualifications.

Subjective Norms (SN)

SN refers to perceived social pressure faced by individual in decision making process (Wen, Hao, & Bu, 2015). In this study, SN is defined as whether decision to pursue accounting professional qualifications made by accounting undergraduate students will be influenced by their peers, family members, society, academic instructors, government and professional bodies' members. Some of the past studies such as Chung (2016), Yang et al. (2017), as well as Zandi, Naysary, and Sok Kwan (2013) mentioned that SN had positive correlation with BI. Individual faces social pressure in decision making, and these pressures come from the person whom decision maker cares about (Ejiaku, 2015; Wen et al., 2015). Some studies found that peers, family members, academic instructors, professionals, and government are significant factors in affecting an individual's decision (Tang & Seng, 2016; Wen et al., 2015). Besides, people from different countries will have different social pressure level process (Wen et al., 2015). Hence, these results may not applicable to accounting undergraduate students in Malaysia. As a result, SN is included in this research to test whether SN positively influence someone's BI to pursue accounting professional qualifications in Malaysia. Thus, a proposition is made as follow:

P2: There is a positive relationship between subjective norms and behavioural intention to pursue accounting professional qualifications.

Perceived Behavioural Control (PBC)

PBC is the degree of perceived ease or difficulty of an individual to perform a particular behaviour in a particular circumstance (Ejiaku, 2015; Tang & Seng, 2016). In this study, PBC is defined as whether accounting undergraduate students perceive pursuit of accounting professional qualifications is easy or difficult. In most of the past studies, results indicated that PBC positively affect behaviour directly and indirectly via intention. PBC is strongly influenced by people's confidence, control beliefs and perception whether these people capable to handle the thing or not (Akbari et al., 2015; Tang & Seng, 2016; Wen et al., 2015). Besides, Kim and Karpova (2010) also mentioned that the expected difficulties will be evaluated by an individual based on perceived availability of resources and opportunities. Therefore, when an individual has enough confidence and resources, the individual may have BI to proceed his action. In other words, when an accounting undergraduate student has perception that pursuing accounting professional qualifications is difficult, the student may experience a psychological barrier to perform the behaviour. According to Randall and Gibson (as cited in Kim & Karpova, 2010), PBC also reflects an individual's experience and expected difficulties. Different individual has different experience and expected difficulties toward certain situation. Hence, the standard of PBC was not clear and might not suitable to apply in all countries. Furthermore, these past studies were conducted outside Malaysia. Some of the past empirical studies showed that PBC is a determinant in predicting BI (Akbari et al., 2015; Chung, 2016). Therefore, this study tested whether PBC is one of the independent constructs in predicting BI. This led to the proposition that:

P3: There is a positive relationship between perceived behavioural control and behavioural intention to pursue accounting professional qualifications.

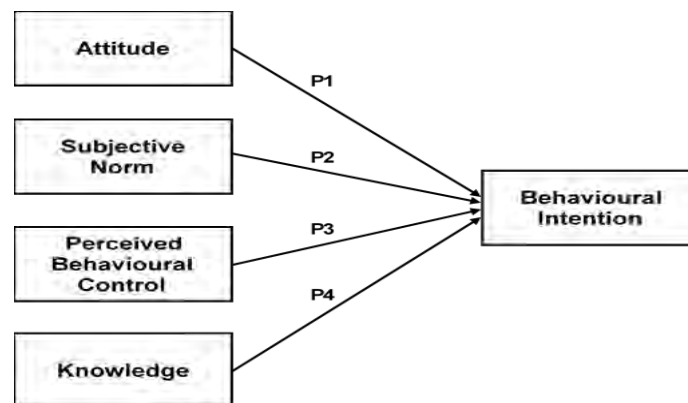
Knowledge (KL)

Sang and Bekhet (2015) defined KL as familiarity with information, facts, descriptions, or skills acquired through education or experience as well as theoretical or practical understanding of a subject. In this study, KL is defined as information and understanding about accounting professional qualifications obtained through exposure to accounting education and experience. There are few past studies that illustrated KL can positively influence BI (Lee, Jin, & Kim, 2013; Ng et al., 2017; Sang & Bekhet, 2015). Sugahara, Hiramatsu, and Boland (2009) discovered that students were encouraged to have a high aspiration of becoming a Certified Public Accountant (CPA) through an earlier exposure of accounting. Yusoff, Omar, Awang, Yusoff, and Jusoff (as cited in Mbawuni & Nimako, 2015) asserted that accounting KL has significant impact on the intention of student to become a public accountant. In past study of Ng et al. (2017), accounting career KL had a positive impact on the decisions of future career path made by accounting undergraduate students. In addition, favourable information about the accounting professional qualifications can attract accounting graduates to pursue the professional qualifications (Mustapha & Hassan, 2012). Lack of KL and misleading information on the responsibilities and duties of an accountant may affect the decision of accounting undergraduate students to pursue accounting professional qualifications (Mustapha & Hassan, 2012). However, there were very limited studies that had integrated KL with TPB model to test BI to pursue accounting professional qualifications. Therefore, in this paper, KL fits into TPB model to test BI to pursue accounting professional qualifications among accounting undergraduate students. A proposition is developed as follows:

P4: There is a positive relationship between knowledge and behavioural intention to pursue accounting professional qualifications.

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Framework to Examine the Relationship between AT, SN, PBC, KL and BI



Adapted from: Lee et al. (2013), Wen et al. (2015).

Figure 1 demonstrates the proposed conceptual framework of this research. This framework is adapted from TPB model. Ajzen (1991) permitted that additional constructs can be included in TPB. KL is integrated into the proposed conceptual framework in this study. As shown in Figure 1, BI is the dependent construct of this paper. On the other hand, AT, SN, PBC and KL are the independent constructs. In this research, correlation between BI and behaviour is not examined. Tan and Laswad (as cited in Wen et al., 2015) indicated that BI can be used as a proxy measure of behaviour since there is no perfect relationship between BI and actual behaviour.

RESEARCH METHODOLOGY

This research will be conducted in a Malaysian private university. Accounting undergraduate students of a Malaysian private university are chosen as target respondents in this study. This is because those accounting undergraduate students are the group who are more likely to take professional qualifications in accountancy due to their educational background. Sampling is used instead of census as it would be unrealistic to survey the entire population due to time and budget constraints (Saunders, Lewis, & Thornhill, 2009). An ideal sample size for a research should have item-to-response ratios in the range of 1:4 and 1:10 for each set of constructs to be factor analysed (Hinkin, 1995).

Non-probability sampling technique which is judgemental sampling will be applied in this paper because of the unknown population and sampling frame cannot be found. Judgemental sampling is used since judgement is needed to select units who can answer the research objectives and questions (Saunders et al., 2009). Questions such as "Are you an accounting undergraduate student?" or "Do you plan to take accounting professional qualification after graduate?" will be asked to judge whether an individual is the unit or not.

Self-administered survey questionnaire is employed to collect primary data for this research. According to Oluka, Nie, and Sun (2014), survey questionnaire is used to collect valid and reliable information from respondents and contributes in data collection for constructs measurement in various behaviour models. Before the survey questionnaire is distributed, a pilot test will be conducted to examine the normality and reliability of the questionnaire designed for this paper. Hill (1998) mentioned that 10 to 30 target respondents were sufficient to be involved in the pilot test. Items in the survey questionnaire will be adapted from past studies.

CONCLUSION

The aim of this study is to investigate the determinants that can affect BI to pursue accounting professional qualifications among accounting undergraduate students in a Malaysian private university. The proposed conceptual framework of this research seeks to test whether KL can be integrated with the TPB model to study the BI. Further research should be conducted to examine the proposed conceptual framework. Recently, survey questionnaire used to gather primary data from accounting undergraduate students in a Malaysian private university is being designed. The data analysis and results obtained will be reported in a future paper. The expected findings can assist accounting professional bodies and education organisations to focus on the determinants that will increase the pursuit of professional accountancy qualifications among accounting graduates.

REFERENCES

- ACCA. (2016). Building for the future. *ACCA Integrated Report for the year ended 31 March 2016*.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Akbari, M., Rostami, F., & Rezaei, A. (2015). Determinants of farmers' participation in horticulture-based extension program in Iran: Application of the Theory of Planned Behavior. *International Journal of Agriculture Management and Development*, 5(2), 141-151.
- Chung, K. C. (2016). Exploring customers' post-dining behavioural intentions toward green restaurants: An application of Theory of Planned Behavior. *International Journal of Organizational Innovation*, 9(1), 119-134.
- CIMA. (2017). Accounting in extraordinary times. *Integrated Report 2016*.

- CSAP. (2014). *Report on the strengthening of the accountancy profession in Malaysia*. Retrieved February 19, 2017, from https://www.sc.com.my/wp-content/uploads/eng/html/aob/csap_141211.pdf
- Ejiaku, S. A. (2015). Factors influencing students' attitudes to computer utilization in tertiary institutions: An exploratory study. *Journal of International Technology and Information Management, 24*(1), 83-93.
- Ferencz-Kaddari, M., Shifman, A., & Koslowsky, M. (2016). Modelling psychologists' ethical intention: Application of an expanded Theory of Planned Behavior. *Psychological Reports, 118*(3), 691-709.
- Hill, R. (1998). What sample size is "enough" in internet survey research? *Interpersonal Computing and Technology: An Electronic Journal for the 21st Century, 6*(3-4), 1-10.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management, 21*(5), 967-988.
- Kim, H., & Karpova, E. (2010). Consumer attitudes toward fashion counterfeits: Application of the Theory of Planned Behavior. *Clothing and Textiles Research Journal, 28*(2), 79-94.
- Laws of Malaysia. (2015). *Act 555 - Private Higher Educational Institutions Act 1996*. Retrieved April 16, 2017, from [http://www.agc.gov.my/agcportal/uploads/files/Publications/LOM/EN/Act%20555%20-%20Private%20Higher%20Educational%20Institutions%20Act%201996%20\(As%20at%201%20December%202015\).pdf](http://www.agc.gov.my/agcportal/uploads/files/Publications/LOM/EN/Act%20555%20-%20Private%20Higher%20Educational%20Institutions%20Act%201996%20(As%20at%201%20December%202015).pdf)
- Lee, S., Jin, P. N., & Kim, H. (2013). Relationships among knowledge of healthy food, health concern, and behavioural intention: Evidence from the United States and South Korea. *Journal of Quality Assurance in Hospitality & Tourism, 14*(4), 344-363.
- Mbawuni, J., & Nimako, S. G. (2015). Modelling job-related and personality predictors of intention to pursue accounting careers among undergraduate students in Ghana. *World Journal of Education, 5*(1), 65-81.
- MIA. (2017). *Accountants Act 1967 part IV – membership of the institute*. Retrieved February 19, 2017, from http://www.mia.org.my/v1/membership/services/legislation_details.aspx?ID=4
- Mustapha, M., & Hassan, M. H. A. (2012). Accounting students' perception on pursuing professional examination. *International Journal of Education, 4*(4), 1-15.
- Ng, Y. H., Lai, S. P., Su, Z. P., Yap, J. Y., Teoh, H. Q., & Lee, H. (2017). Factors influencing accounting students' career paths. *Journal of Management Development, 36*(3), 319-329.
- Oluka, O. C., Nie, S. & Sun, Y. (2014). Quality assessment of TPB-based questionnaires: A systematic review. *PLoS ONE, 9*(4), 1-8.
- Sang, Y. N., & Bekhet, H. A. (2015). Exploring factors influencing electric vehicle usage intention: An empirical study in Malaysia. *International Journal of Business and Society, 16*(1), 57-74.
- Sani, R. (2014, June 25). Professional qualifications: Careers to take into account. *New Straits Times*. Retrieved March 25, 2017, from <http://www.nst.com.my/news/2015/09/professional-qualifications-careers-take-account>
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). Harlow, England: Prentice Hall, 2009.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Sugahara, S., Hiramatsu, K., & Boland, G. (2009). The factors influencing accounting school students' career intention to become a Certified Public Accountant in Japan. *Asian Review of Accounting*, 17(1), 5-22.
- Tang, L. C., & Seng, C. (2016). Factors influence students' choice of accounting major in Cambodian universities. *Asian Review of Accounting*, 24(2), 231-251
- Wen, L., Hao, Q., & Bu, D. (2015). Understanding the intentions of accounting students in China to pursue Certified Public Accountant designation. *Accounting Education*, 24(4), 341-359.
- Yang, H., Lee, H., & Zo, H. (2017). User acceptance of smart home services: An extension of the Theory of Planned Behavior, *Industrial Management & Data Systems*, 117(1), 68-89.
- Zandi, G., Naysary, B., & Sok Kwan, S. (2013). The behavioural intention of Malaysian students toward accounting discipline. *Accounting and Management Information Systems*, 12(3), 471-488.

Islamic Credit Cards (ICCs) vs Conventional Credit Cards (CCCs): Comparison of Attributes for Attraction

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Abstract

Over the years, banking industry in Malaysia had expanded to offer a range of Islamic financial products, inclusive Islamic credit cards to cater for diverse group of consumers of distinct preferences. Credit cards are becoming an essential mode of payment device in today's society as users adopt credit cards for various needs. In practice, controversy arises as to how Islamic credit cards different from Conventional credit cards. Thus, this conceptual paper aims to compare the attributes of conventional credit cards relative to Islamic credit cards offered by banks in Malaysia to fill in the research gap. This conceptual paper concluded that there are certain distinct differences in features between Islamic credit cards and conventional credit cards. The outcomes obtained from this conceptual paper are expected to educate and enhance knowledge on, at the same time stimulate adoption of Islamic credit card. In addition, policymaker will implement policies that are able to fulfill different cardholders' needs. This conceptual paper is also useful to card issuers to identify the differences of features of their cards, hence enabling them to offer cards that cater more closely to cardholders' needs. It is interesting to know whether customers perceive the Islamic banking products as superior or inferior in comparison to the conventional banking products. Finally, it would be enriching to look into the Islamic products in term of their financial implication and utility benefits.

Keywords: Credit card, Islamic credit card (ICC), Conventional credit card (CCC),

INTRODUCTION

Over the years, banking industry in Malaysia had expanded to offer various Islamic financial products to cater more consumers. With the initial establishment of Bank Islam Malaysia Berhad (BIMB) in year 1983, the Islamic banking in Malaysia has developed well with increasing number of conventional banks offering Islamic financial products such as Islamic credit cards that are in compliance with *Shari'ah* requirements (Hussin, 2011). Credit cards are becoming an essential mode of payment in today's society as users adopt credit cards for various needs. However, there has been some controversy where issuance of Islamic credit cards seems to compete with Conventional credit cards. In fact, both conventional and Islamic banks are in the race and are competing with each other in the offering of Islamic credit cards. However, the awareness towards Islamic credit cards receives lower rate of response from consumers. This implied that there is less attention from consumer on the selection Islamic credit cards based on the product specification and the attributes of the Islamic credit cards which will be served as attractions to the prospects. The outcomes obtained from this paper are expected to educate and enhance knowledge on, at the same time stimulate adoption among targeted consumers towards Islamic credit card.

CONCEPTS OF CREDIT CARD

Credit cards are 'plastic money' issued by a bank or other financial institutions that allow customers to obtain credit from a large number of retail outlet. Similarly, the Islamic credit cards are 'plastic money' which also offer the "buy first and pay later" option; however Islamic credit cards are strictly conducted under the *Shari'ah* values (Mohd Dali & Yousafzai, 2012), principles and objectives (Jamshidi, Hussin, Jafarian & Hooi, 2014; Amin, 2012). In banking system, credit can be defined as method of purchasing goods whereby a person can purchase and take a

possession of something and pay for it later under a binding contract of agreement (Shahwan & Mohd Dali, 2007).

Credit cards are usually used as an alternative to cash, as an essential mode of payment in day-to-day transactions (Johana & Putitb, 2012). Normally, the merchants pay around 2.5% to 3% to the bank as a processing fee. In addition, clients are given grace period in order to pay the loan free from charge of late payment. This convenience has led to the widespread of credit cards. Therefore, not only conventional banks are interested to issue credit cards, Islamic banks which notably have to comply with the Islamic principles also start to issue this product (Ferdian, Dewi, & Rahman, 2008). Indeed, credit card issuers may be more successful in capturing customer's needs and preferences into their marketing strategies once they identify credit card users' characteristic and understand their needs. Different customers have utilized credit cards for different purposes (Hussin, Kassim & Jamal, 2013).

MALAYSIAN CREDIT CARD INDUSTRY

Credit cards industry in Malaysia that begun in the end of 90's has brought a new dimension to payment methods (Shahwan & Mohd Dali, 2007). To cater to the demands of Malaysian customers, a series of aggressive introduction strategies on Islamic credit cards are marketed and promoted to initiate an alternative to conventional credit cards. Unfortunately, the emergence of Islamic credit cards does not resemble and represent the level of awareness among Malaysian on the *Shari'ah*-based contracts applied on Islamic credit cards (Shahwan & Mohd Dali, 2007). This phenomenon was in line with the finding from the study conducted by Putit and Johan (2015). They mentioned that the existing conventional credit card users are more familiar with the usage of conventional credit cards, as so they do not intend to seek for the information on Islamic credit cards. The credit cards industry in Malaysia is fast-growing and unique because it operates in a dual banking system where conventional and Islamic banking systems are allowed to operate side by side (Mohd Dali, Yousafazai & Hamid, 2015). The total number of credit card holders in Malaysia recorded is increasing since beginning of 2015. Table 1 shows the number of credit card holders from January until March 2016

Table 1: Total number of credit card holder in Malaysia (January 2015 – March 2016)

Month	Total number of credit card holders ('000)
January-15	8160.4
February-15	8170.6
March-15	8172.5
April-15	8216.5
May-15	8270.0
June-15	8351.3
July-15	8382.8
August-15	8403.1
September-15	8494.5
October-15	8587.1
November-15	8683.1
December-15	8741.1
January-16	8802.2
February-16	8841.3
March-16	8897.7

Source: Bank Negara Malaysia, 2016

In the banking industry, Malaysia pioneers in Islamic finance and offers various types of Islamic credit cards products (Hussin, 2011). Currently, Islamic banks in Malaysia are required to offer as many facilities and services possible in order to remain competitive and profitable in banking industries (Jamshidi & Rezaei, 2012). Introduction of Islamic credit card as an Islamic product to expand a bank's operation portfolio and to attain more benefits, is one of these varied facilities offered by Islamic banks. However, even though Islamic credit cards are issued by different banks in Malaysian banking context, there is high possibility that Islamic financial product remains unnoticed by different bank clients (Jamshidi & Rezaei, 2012). It is agreed by

Mohd Dali et al. (2015) that topic of Islamic credit cards is still under-research. Importance of Islamic credit cards as an Islamic banking innovation could provide for bank customers as well as to recognize the perception Islamic card usage and advantages of it (Jamshidi & Hussin, 2012).

Malaysia can be classified as the front-runner in the history of development and operationalisation of Islamic banking and products (Noor & Azli, 2009). AmBank launched the country's first Islamic credit card under the name "Al-Tasliif" in December 2001, marking an end of the monopolization of conventional credit cards. In less than a year, Bank Islam Malaysia Berhad, although is the first Islamic Bank of Malaysia, launched its first Islamic credit cards in July 2002. The Islamic credit cards in Malaysia are executed under the principles of Bay'al-inah, Tawarruq and Ujrah and are governed and recognized by Shariah Advisory Council of Bank Negara Malaysia (BNM) under the Guidelines of ICC (Noor & Azli, 2009). In fact, certain Islamic terms used in banking products offered by the banks have created misconception to the consumers. This leads to hindrance in promoting the Islamic financial products to the consumers (Mansor & Che Mat, 2009). Amin (2013) suggested that marketers may promote the Islamic credit cards by clarifying differences of Islamic credit cards with conventional credit cards in terms of the credit cards' characteristics to attract prospective users.

According to Mohd Dali and Hamid (2007), Islam itself permits the use credit card so long it does not involve the element of usury and at the same time does not contravene with the principal of *Shari'ah*. Therefore, if the credit card serves as a charge card, where the holders only pay plus service charge, the transaction is permitted because it does not involve with any element of usury. Islamic credit card must meet at least three criterions of Islamic principles. First, the card must adhere to *Shari'ah* compliant on lending transactions by avoiding three essential prohibitions of *riba* (interest on payments), *gharar* (uncertainty by excluding monthly repayment or service charges that varies based on bank's policies and regulation) and *maysir* (preventing card holder from accessing on line gambling sites) in Islamic finance. *Shari'ah* compliance is based on Bai-Inah which is a contract of sale and purchase of an asset whereby the bank refers "seller" sells to cardholder as the "buyer" at marked up deferred price and subsequently buys back the same asset at lower price (credit card limit). Secondly, ICC must have an assurance of worldwide acceptance and lastly Islamic credit cards must avoid non-halal activities (Johana & Putitb, 2012). Moreover, Jamshidi, Hussin, Jafarian, & Hooi (2014) stated that Islamic banks are not allowed to participate in the illegal activities or dealing with the interest. Since its inception, ICC has been subjected to debate over its genuine introduction.

According to Kassim (2010), ICC faces slower adoption due to ambiguity arising from ICC basic principles. Certain users are not convinced that the ICC operates differently than the CCC. They are questioning whether the ICC is a "halal" product at the first place. The author also highlighted that the Malaysian ICC has been criticized for not being wholly-shariah compliant compared to other Islamic country, due to different interpretations within Islam on what is acceptable, given the schools of thought on shariah laws are heterogeneous. Particularly, Islamic and conventional credit cards have discrepancies as set out in following paragraph. In Malaysian context, there are only nine banks (Ambank Islamic Banks Bhd, Bank Islam (M) Bhd, Bank Simpanan Nasional, Bank Kerjasama Rakyat (M) Bhd, CIMB Islamic Bank Bhd, HSBC Amanah (M) Bhd, Maybank Islamic Bhd, RHB Islamic Bank and Public Bank Islamic Bank) offering Islamic credit card. Islamic credit card were introduced by Malaysia's Bank Islam in 2003 and followed by AmIslamic Bank Cards named Al-Tasliif later same year (Johana & Putitb, 2012). The need for Islamic credit cards primarily based on two main reasons: first, it was introduced in order to meet the demands of customers who intended to possess a card which can deal with Islamic financial transactions only. Second, the Islamic credit card is important for assisting a commercial bank to diversify its source of financing (Amin, 2012).

LITERATURE REVIEW

The usage and adoption of conventional credit cards (CCC) are extensively discussed in the literature backdrop, however the field of study on Islamic credit cards (ICC) remains unexplored and these cards are said to be under-used by bank customers (Amin, 2012; Mohd Dali et al., 2015). The credit cards market, without debate, remains dominated by the

conventional banks worldwide, including Malaysia. The history of CCC can be dated back to 1920s and originated in United States (US) (Drury and Ferrier, 1984), however, the industrialization of CCC is in fact in the year of 1950, with the introduction of Diner's Club (Mohd Idris, 2012). In Malaysia, the introduction of CCC in Malaysia traces back to the 1970s (Noor & Azli, 2009). CCC has proved to becoming a necessity for every household considering their long standing history and the evolvement of human lifestyle. CCC issuers, in order maintain their competitiveness in the credit card market; have no choice but to vigorously distinguish them by offering attractions to retain card users, not to mention the difficulties to attain new users. On the other hand, the CCC users are enjoying the options available to them in their selection of CCC.

CCC allows cash payments to purchases in a later date, replacing the traditional cash-on-sale transactions. Another feature of CCC is the credit limit allowable, where users are allowed to draw a pre-determined amount of credit from the CCC without additional charges. CCC also provides revolving credit facility to users, where users enjoy the credit as long as the minimum monthly payment is fulfilled. Another distinguish feature of CCC is the interest-free period offered to users on purchases, namely the grace period. The last but not least, CCC offers rewards and loyalties programme to users. Overall, cardholders can benefit from the grace period and large purchases can be spread across several periods, as long as the cardholder meets the minimum amount requirement. Malaysian customers are also attracted to credit cards for various other benefits including zero interest instalment plans, cash back, zero percent balance transfer and points collections on transactions made, which can be redeemed for free travel, products, hotels, airline tickets and the like.

The credit card market and its existing CCC are further condensed with the introduction of ICC. With the persevering promotional strategy of Islamic products, ICC are becoming compelling in the credit card market, gradually eating into the market share of CCC. The history of ICC is closely associated to the development of Islamic finance worldwide. Interestingly, since a decade ago, the financial industry has seen a wave of Islamic bank products coming into the market. Unlike the conventional bank products, which were originated from US, Islamic products rooted in and are more popular in Asian and Middle Eastern emerging countries? Islamic banking has experienced vigorous growth since its development in the mid-seventies (Hussin, 2011). This is supported by earlier study of Asutay (2010) which emphasized that the industry has become one of the most prospective industries in finance constitution, having recorded 'double digit' annual growth rates since its establishment and the future growth of the industry is foreseen to be positive. With the increased importance of the role of Islamic finance plays in the new financial environment, the ICC is expected to record similar trend of growth.

In practice, ICC possesses similar functions and features of CCC with exemption in one distinguish feature, namely its *Shari'ah* compliance. ICC is adhered by the religion of Islam; hence ICC should not deal with those against the teaching of Islam. ICC should be disassociated from forbidden dealings include *riba* (which is permissible under the CCC) and unfavourable practices such as unfairness, deception and monopoly (Hussin, 2011). As such, any fee imposed to ICC holder, such as renewal, replacement, membership and withdrawal fees are permitted as long as no involvement of interest. ICC has a few restrictions on the usage, where purchases made through ICC and the merchants allowing the purchases are controlled; hence, only *halal* and Islamic-allowable transactions and its corresponding merchants are permissible. To name a few, purchases on alcoholic beverages, bars, discos and clubs and certain entertainments are restricted under the ICC (Kassim, 2010). This implied that the usage of ICC should be narrower than CCC since users have to exercise discipline in their purchases.

Malaysia's credit cards in the literature backdrop, without exception to those of worldwide, are pre-dominantly centered in CCC. A study by Mansor & Che Mat (2009) examined the impact of demographic factors on the usage of ICC and CCC. The study found that CCC are preferred than ICC from a group of academicians respondents. Similar results are produced by Kassim (2010) in his study to gauge the usage rate of ICC and CCC from a group of online respondents. Shahwan and Mohd Dali (2007) in their study on the understanding and awareness on ICC among a group of academic staff found that efforts have to be taken to increase the understanding and create higher awareness on ICC. Choo, Lim and Sanusi (2007)

reported that the ownership of ICC is relatively low despite its special features offered to users. Their results further showed that the employed individuals are significantly related to ICC selection and the adoption of the ICC is higher among the government staff than those employed in the private sector. Mohd Idris (2012), interestingly, found that statistically, religion does not play any role on the adoption of either ICC or CCC, but on the spending amount. ICC users spend lesser than CCC users in the short run as excessive debt is discouraged in the contest of Islamic teaching.

COMPARISON BETWEEN ISLAMIC CREDIT CARD AND CONVENTIONAL CREDIT CARD

The genuine intent of the introduction of Islamic banking in the marketplace is similar to those of conventional banks, which is to maximize profit for the organization; however the major difference between Islamic and conventional products is whether the bank charges interest or riba (Mohd Dali & Hamid, 2007). As a matter of practice, the users of ICC cards enjoy the same privileges as those of conventional credit cards. Likewise, the fees that they pay match those paid to conventional banks.

Credit limit

The cardholder for the Islamic credit card holder with the minimum amount given is RM3,000 and the maximum amount is RM100,000 while for the conventional credit card holder, it has the same minimum amount given which is RM3,000 but the maximum amount is RM500,000.

Annual fees

The annual fees charge for Islamic credit card holder is from free of charge to RM530 while the annual fees charge for the conventional credit card holder is from free of charge to RM1,060. Through the annual fee waiver plan, the bank will only waive the annual fee for both of the Islamic credit card holder and conventional holder if the credit card holder swipes a minimum of 1 time or up to 12 times a years, regardless of amount.

Late payment charges

The late payment charges for Islamic credit card and conventional credit card vary from minimum RM10 or outstanding amount up to a maximum of RM100.

Cash withdraw charge

For cash withdraw charge, both Islamic credit card holder and conventional credit card holder enjoy the minimum of cash withdraw charge of RM10 or maximum 5.3% of withdrawn amount for every cash withdrawal made at any bank ATM (Automatic Teller Machine).

Interest rate or Riba

For Islamic credit card holder, the minimum charge of the interest rate or riba is 8.85% p.a while the maximum charge is 15% p.a while for the conventional credit card holder, the minimum charge of the interest rate is 13.5% and the maximum charge is 15% p.a.

Privileges given to Cardholder

For Islamic credit cardholder, Takaful coverage guarantees the settlement of the outstanding balance. If the cardholder passes away, under "Khairat Kematian", the bank will pay the premium to cover any outstanding amount. While for the conventional credit card, the credit shield protection will be optional for the credit cardholder but some of the bank will provide free travel insurance or emergency helpdesk for their customer. Certain distinguish privileges of Islamic credit cards comprises the weekly opportunity to Muslim users to win an Umrah package and contribution to charity fund, for example, every spending of RM1 by user, the bank will contribute 0.1% for charity purposes.

For the cash back privileges, both Islamic credit cardholder and conventional credit cardholder enjoy for minimum of 1% and maximum 8% of cash rebate on their spending on certain areas. For point reward privileges, both Islamic credit cardholder and conventional credit cardholder enjoy spending of RM10 to 1 point and maximum RM1 to one point. Both Islamic credit

cardholder and conventional credit cardholder can enjoy the card acceptance and emergency cash from any ATMs over the world. If the transaction is affected in the currencies other than Ringgit Malaysia, it will be converted into US dollar on the date the transaction is received and processed by the bank. The value of the US dollar is then converted into Ringgit Malaysia and the exchange rate may vary according to the market fluctuations and the amount converted is subject to the exchange rate at the processing time. But both of the Islamic credit cardholder and conventional credit cardholder will be charge on the same rate, 18% p.a for the interest rate or the Riba on the cash withdraw.

Minimum annual income

For Islamic credit card, minimum requirement of annual income for the credit card application is RM24,000 and up to RM60,000 while for the conventional credit card, minimum requirement of the annual income for the credit card application is RM24,000 but is up to RM150,000.

Specific characteristics of Islamic credit card and conventional credit card

Characteristics	Islamic credit cards	Conventional credit cards
Transaction type	Transaction is based on trade, eliminated from money lending.	Transaction is based on loan and relates to money lending
Interest	Do not charge interest when customers are late or do not pay their duties but they do bear an extra fee. The fee can be treated as the bank's revenue but it can also be as a shodaqoh (donation) depending on the agreement between the parties. If the bank treats the additional fee as its income, it will be mentioned in the agreement. If the bank does not treat it as an additional income then the fee will be included as voluntary alms and the bank will transfer these funds to a charity.	Interest is chargeable and relies on the unsettled amount.
Interest charge	The revenue charge is non-compounding; the bank's profit margin is fixed. The profit calculated on a monthly basis, based on outstanding due or monthly total transaction.	Compound of profit based on the remaining balance.
Collateral	Most banks oblige a main deposit or undated check.	No collateral is required.
Transaction restrictions	Purchases can be made on HALAL items only, hence control imposed on transactions and merchants.	No restriction on purchases as long as under the credit limit amount. No control on transactions or merchants, user is allowed to purchase whatever they require.

Source: Developed for research

CONCLUSION AND DISCUSSION

Since the Islamic credit card's market still in greenhorn relative to conventional credit card market; thus, the relevant policy makers in banking industry could promote and advertise the Islamic credit card to increase public awareness among prospects as well to existing conventional credit card users. This will lead to contribution of growth to Islamic banking industry as in the same time maintaining the existing conventional banking industry. On the other hand, the credit card users may obtain more information on Islamic financial products from the nearest bank branches.

As conclusion, future researchers are encouraged to consider interaction mode with samples by conducting focus group discussion or face-to-face questionnaire survey to improve on the accuracy on information collected on how to attract prospective and existing credit card holders

to utilize credit cards for payment. Finally, it would be enriching to look into the Islamic products in term of their financial implication and utility benefits.

REFERENCES

- Asutay, M. (2010). Islamic Banking and Finance and Its Role in the GCC-EU Relationship: Principles, Developments and the Bridge Role of Islamic Finance, *The EU and The GCC: Challenges and Prospects*, Christian Koch, Leif Stenberg eds., Dubai, United Arab Emirates: Gulf Research Center, 35-58.
- Amin, H. (2012). Patronage factors of Malaysian local customers toward Islamic credit cards. *Management Research Review*, 35(6), 512-530.
- Amin, H. (2013). Factors influencing Malaysian bank customers to choose Islamic credit cards. *Journal of Islamic Marketing*, 4(3), 245-263.
- Bank Negara Malaysia. (2015). Number of Cards and Users of Payment Instruments (end of period). Retrieve from: http://www.bnm.gov.my/payment/statistics/pdf/03_cards.pdf
- Drury, T., & Ferrier, C. W. (1984). *Credit Cards*. London: Butterworths.
- Choo S. Y., Lim H. E. & Sanusi N. A. (2007). The consumer choice of Islamic-based credit card: an analysis of bivariate probit model. In: *Readings in Islamic Economics and Finance*, Sintok, Universiti Utara Malaysia Press.
- Ferdian, I. R., Dewi, M. K., & Rahman, F. L. (2008). The practice of Islamic credit cards: A comparative look between Bank Danamon Indonesia's Dirham card and Bank Islam Malaysia's BI card. In *IAEI International Conference Surabaya, Indonesia*.
- Hussin, S. R., Kassim, S., & Jamal, N. (2013). Credit card holders in Malaysia: Customer characteristics and credit card usage. *International Journal of Economics and Management*, 7(1), 108-122.
- Hussin, N. (2011). *An Analysis of Attitudes to Islamic and Conventional Credit Cards in Malaysia: Perspectives on Selection Criteria and Impact Analysis*. Durham theses, Durham University.
- Jamshidi, D., & Hussin, N. (2012). A conceptual framework for adoption of Islamic credit card in Malaysia, *Kuwait Chapter of Arabian Journal of Business and Management Review*, 2(3), 102-110.
- Jamshidi, D., Rezaei, A. (2012). Islamic credit card adoption: A conceptual framework. *Austrian Journal of Basic and Applied Sciences*, 6(10), 53-60.
- Jamshidi, D., Hussin, N., Jafarian, Z. & Hooi, L. W. (2014). Investigating the factors that influence acceptance of Islamic credit card as a new banking service. *Arabian Journal of Business and Management Review (Nigeria Chapter)*, 2(6), 102-114.
- Johana, Z., & Putitb, L. (2012). Islamic credit card compliance: Modeling halal attributes, *International halal conference, PWTC, Kuala Lumpur*.
- Kassim, S. (2010). Viability of Islamic credit card as an alternative to conventional credit card. In: *14th MACFEA National Seminar: Halatuju Penyelidikan Kepenggunaan: Isu dan Cabaran*, Hotel Equatorial, Bangi.
- Mansor, N. & Che Mat, A. (2009). Islamic Credit Card: Are Demographic Factors a Good Indicator?. *Asian Social Science*, 5(12), 17-26.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Mohd Dali, N. R. S., & Hamid, H. A. (2007). A study on Islamic credit cards holder, In *First National Conference on Islamic Finance (NCIF 2007)*, Kuala Terengganu.
- Mohd Dali, N. R. S. & Yousafzai, S. (2012). An exploratory study of the Islamic credit card users' satisfaction. *Journal of Management and Islamic Finance Research*, 9, 1-23.
- Mohd Dali, N. R. S., Yousafzai, S., & Abdul Hamid, H. (2015). Credit cards preferences of Islamic and conventional credit card. *Journal of Islamic Marketing*, 6(1), 72-94.
- Mohd Idris, U. (2012). Effects of Islamic Credit Cards on Customer Spending. *The Business and Management Review*, 3(1), 108-119.
- Noor, A. M., & Azli, R. M. (2009). A review of Shariah Compliant Instruments for Islamic Credit Card as Adopted by Malaysian Financial Institution. *International Journal of Monetary Economics and Finance*, 2(3-4), 221-238.
- Putit, L. & Johan, Z. J. (2015). Consumers' acceptance of 'Halal' credit card services: An empirical analysis. *Journal of Emerging Economies and Islamic Research*, 3F(1), 1-9.
- Shahwan, S., & Mohd Dali, N. R. S. (2007). Islamic credit card industry in Malaysia: customer's perception and awareness. In *Proceedings of 3rd Unites International Business Management Conference*.

CURRENCY COMPOSITION OF RESERVES, TRADE INVOICING AND CURRENCY MOVEMENTS: ASIAN PERSPECTIVE

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Abstract

This paper analyses the relationships between the unit of account and the means of exchange functions of an international currency, on the one hand, and their store of value in official use, on the other hand. The paper will study the historical patterns of changes in the composition of currency reserves during the interwar period of World War II (WWII) and the 1960s and 1970s where during the sterling dominance period, the reserve composition of most countries shifted towards/away from sterling. We will examine the link of the currency composition of reserves to currency movements and investigate the empirical determinants of the currency composition of foreign exchange reserves and the currency denomination of trade on the ten (10) Asian economies in Asia namely Indonesia, India, Korea, Malaysia, the Philippines, Singapore, Thailand, Hong Kong, China and Taiwan. This paper will focus for explanation of reserve composition on the two units of account concepts, the currency anchoring and the denomination of trade and will investigate if both the trade-invoicing and currency movements drive changing official reserve composition in Asian countries. The implications of the results will suggest for the prospect for the RMB to enlarge its current portion of official foreign exchange reserves in these Asian countries.

Extended Abstract

China's foreign exchange reserves rose to USD3.09 trillion as at end of August 2017²¹ to its highest level since October 2016 when RMB was added to the special drawing rights basket on 1 October 2016. The rise was the result of China's tightening its rule on moving capital outside the country since beginning of January 2017. The rising share of Chinese trade with Asian countries (and also with the rest of the world) that is denominated in, or at least settled in, renminbi (RMB), may have affected the foreign currency composition of these 10 Asian countries. Claims (and deny) that the renminbi's movements may have substantially influence movements of these Asian currencies.

We therefore investigate the empirical determinants of the currency composition of foreign exchange reserves where we particularly focus for the explanation of reserve composition on the two units of accounts concepts, the anchoring of a given currency as between dollar, euro and yen (Frankel & Wei, 1996; Haldane & Hall, 2016) on the one hand, and the currency denomination of trade, on the other as depicted in the table 1 below (the bolded and italicized entries in the middle column).

Table 1: International currency functions by sector

	Means of exchange	Unit of account	Store of value
Official	Intervention currency	<i>Currency anchoring</i>	<i>Foreign exchange reserves</i>
Private	Vehicles in forex market	<i>Denomination of trade</i>	International assets and debts

Sources: (Cohen, 1971) and (Kenen, 2005)

²¹ <https://www.bloomberg.com/news/articles/2017-09-07/china-foreign-reserves-rise-a-seventh-month-amid-yuan-strength>

There has been debate regarding whether in 2014, the emerging market reserves have peak to USD7.7 trillion and were then followed by an extended draw-down of reserves as countries, including China, resist currency depreciation against a rising dollar. The reserve drawdown, to some extent, is the counterpart of emerging firms reducing their net dollar liabilities. If the portfolio balance helps to determine major exchange rates (Blanchard, 2005), emerging market firms' repayment of dollar debt matched by a liquidation of official reserves can serve further strengthen the dollar (and to put upward pressure on bond yields). The more that emerging market central banks have diversified from the dollar, the more reserve unwind, putting upward pressure on the dollar, as they sell dollars for domestic currency and then sell euros and other currencies for dollars to rebalance their portfolios. Thus the currency composition of emerging market and other Asian market reserves could matter from hereon.

The numeraire that is used to measure risks and returns has a very strong influence on calculated optimal currency allocations (Borio, Galati, & Heath, 2008; Papaioannou, Portes, & Siourounis, 2006). Its choice depends on the intended uses of the reserves. If reserves are held mainly to intervene in the currency market, then a plausible numeraire would be the currency against which the domestic currency trades most heavily, especially in the spot market where most central banks operate. If the reserves are held mainly to ensure purchases of foreign goods and services, then an import basket would be plausible, or the currency denomination of trade might be the point of reference. Or if, reserves are held mainly as a hedge against (or to pay) debt service, then the currency composition of outstanding debt would be a plausible choice. The domestic currency may serve as the numeraire for economic or institutional reasons. Where reserves exceed transaction or insurance need, their value as domestic wealth can be measured in terms of domestic currency. Or, the domestic currency may be used as a numeraire owing to its use in valuing foreign exchange reserves in striking the central bank's accounting profit and reported capital. These may affect the central bank's reputation or even its operational independence.

Therefore, the findings have an implication for the possible evolution of China's reserves and the renminbi as a major reserve currency especially for the Asian countries. The currency composition of reserve is strongly related in the cross-section to both currency movements and the currency denomination of trade. If the renminbi displaces the USD in trade invoicing, it will not provide guidance in the choice of China's own reserve composition, since China cannot hold its own currency in its reserves. Instead, the management of the renminbi against major currencies will provide guidance. For China's trading partners, both changing trade invoicing and currency movements could make renminbi reserves more attractive. This is fully supported with the report from SWIFT Tracker that in July 2017, the RMB has regained its position as the fifth (5th) most active currency for global payments with the share of 2%, an increase from 1.98% in June 2017²². The strategy of renminbi internationalization since 2009 has been to allow the renminbi to be used across borders in the settlement of trade. Invoicing in renminbi would mean a redistribution of currency risk between two trading counterparties as a reserve currency.

Keywords: International currency, Currency denomination of trade, Currency composition of official reserves, Chinese renminbi (RMB), US dollar (USD).

REFERENCES

- Blanchard, O. (2005). International Investors, the U.S. Current Account, and the Dollar. *Brook. Pap, Econ Act 2*, 1–65.
- Borio, C., Galati, G., & Heath, A. (2008). FX reserve management: trends and challenges. *BIS Papers*, (40).
- Cohen, B. J. (1971). *The Future of Sterling as an International Currency*.
- Frankel, J., & Wei, S. (1996). *Yen bloc or dollar bloc? Exchange rate policies of the East Asian*

²² <https://www.swift.com/our-solutions/compliance-and-shared-services/business-intelligence/renminbi/rmb-tracker>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

economies. Nber (Vol. 3).

Haldane, A. A. G., & Hall, S. G. (2016). *Sterling's Relationship with the Dollar and the Deutschmark : 1976-89* Published by : Wiley on behalf of the Royal Economic Society Stable

Kenen, P. B. (2005). Stabilizing the international monetary system. *Journal of Policy Modeling*, 27, 487–493.

Papaioannou, E., Portes, R., & Siourounis, G. (2006). Optimal Currency Shares in International Reserves : *NBER Working Paper Series, Working Paper 12333*.

The Association Between Audit Quality Characteristics and Audit Fees: A Conceptual View

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Abstract

This study extends the previous researcher on the audit fees by examining the association between audit fees and audit quality characteristics. The study specifically investigates the impact on the audit quality characteristics namely audit tenure, auditor size and reputation, auditor industry classification and frequency of audit committee meeting. This study aims to provide further understanding on association between audit fees and audit quality characteristics so that it can be served as a basic decision making for companies in determining the audit fees indicators. This study contributes to the growing of literature to enhance the knowledge of stakeholders or company on designing the audit fees. The findings are also relevant to the policy-maker and to practitioners in term of determining the factors effecting to audit fees.

Key words: Audit fees, Audit quality, characteristics

INTRODUCTION

The demand for audit quality has been arising in recent years. The presentation of true and fair view has also become one of the most important concepts of auditing in public's perception. Cases for audit failures are still being seen in these few years and a series of accounting scandals such as Enron, Xerox and Worldcom has flustered the market around. In Malaysia, Transmile company also involved in financial scandals with tenderly give some implication to the financial reporting quality. Concerning to the financial reporting quality, the auditor must play the vital roles to ensure the reporting process and financial statement in high quality. Hence, the requirement of auditor and the audit procedures is highly demanded to be more efficient and effectively and the greater audit quality may give implication to the audit fees.

There are extensive literature relate to the audit fees such as Simunic (1980), Palmrose (1986), Rubin (1988) conducted the audit fee models that relate external audit fees to auditee firm characteristics. Simunic (1980) conducted a research to investigate the impact of the audit firm size variable, after controlling for cross-sectional in auditee characteristics. The study indicates that auditor size was the most important determinants of audit fees and suggests that a specific Big 8 audit firm may more likely be associated with higher audit fees. While Palmrose (1986) conduct a study about the association between audit firm size and audit fees. The study find that there is positive relationship between audit fees and audit firm absolute size. Rubin (1988) tested the municipal audit fee model which aimed to provide evidence on the determinants of audit fees paid by municipalities to their external auditors. Rubin concluded that there was a significant positive relationship of organization size and audit fee. Based on the previous discussion, it shows that many studies of determinants of audit fees are now well established. Motivated by that, the current study will explore the linkages between audit fees and the audit quality characteristics. Thus, there are several characteristics can be measured for audit quality to relates with the audit fees.

Problem statement

In exchange for performing an audit related work, companies will be charged an amount of fees to the external auditor. The fees charged by the auditor are normally vary depending on the companies under auditing. Palmrose (1986) and Francis and Simon (1987) documented that there is an association between audit quality and a fees premium paid to the auditor. Their

studies in the past decades had used Big 6 auditors in private sector to test the relationship. Determinants of audit fees are also vary among different audit firms. Past researchers indicate that fees paid to auditors can affect audit quality and when the auditors were paid large fees, the effort utilized by auditors may increase (Hoitash, Markelevich, & Barragato, 2007).

Simunic (1980) provides an economic analysis of competition within the market audit services and his work can be considered as the stimulus for this literature. He analyzes audit fees by developing a model which controls 1'or factors affecting audit quantity and price. Simunic's results generally indicate that measures of auditee complexity and risk are associated with audit fees. Several studies has expanded upon Simunic's original work by using similar research design and generalized his findings both to different national settings (for example, Francis, 1984, to the Australian market; Firth, 1985, to the New Zealand market; Low, Tan & Koh, 1990, to the Singapore market), and to different sizes of firm (Francis & Stokes, 1986; Francis & Simon, 1987). There remain, however, several gaps in the prior literatures. For example, little published work was compared on UK audit fees (Taylor & Baker, 1981; Taffler & Ramalingam, 1982, Chan, Ezzamel & Gwilliam, 1993). The past researches to date have been limited to an examination. Further researches regarding this limitation have been come out due to this problem. To shed light on this issue, an extensive conceptual view study will be explored the variables associates with audit fees. Too add, one of the audit committee characteristics namely frequency of audit committee meeting also will explain in details.

Therefore, mixed results have been found in the interrelationship between audit fees and audit quality as general. Audit quality may influence audit fees downwards because the quality of the financial reporting may strengthen the internal control in the company. Moreover, it may give significance to the company by having effective audit procedures may increase the quality of reporting. Thus, it may directly give impact on the audit fees.

Research Question

The purpose of the study is to investigate the factors that associates between audit fees and audit quality characteristics. Thus, the study poses the following research questions:

1. What is the association between audit tenure and audit fees?
2. What is the association between auditor size and reputation and audit fees?
3. What is the association between auditor industry classification and audit fees?
4. What is the association between frequency of audit committee meetings and audit fees?

Research Objectives

Therefore, the main purpose of this study is to answer the followings:

1. To examine the association between audit tenure and audit fees.
2. To examine the association between auditor size and reputation and audit fees.
3. To examine the association between auditor industry classification and audit fees.
4. To examine the association between frequency of audit committee meetings and audit fees.

Purpose of the Study

This research aims to provide further understanding on association between audit fees and audit quality characteristics. It can also be served as a basic of decision making companies to determine the level of audit fees pay to auditor. Moreover, this research is expected to make the following contributions. First, it specifically estimates and develops a model for the relation of audit fees determinants and audit quality characteristics that is relevant to the firm. The exact and specific results for this relationship remain unclear and the research will test the result and enhance the value of previous result. Second, it allows a more significant test of whether audit fees is influenced by those characteristics of audit quality. It may possibly enhance the knowledge of stakeholders or company on the design of audit fees. Finally, it may be useful for future researchers in developing countries to identify factors that are specific to their countries. This research is said to provide a deeper insight that some new phenomena may also be responsible for variations in audit fees because there still have some deviations in past studies.

LITERATURE REVIEW

Theoretical/Conceptual foundation

The basic paradigm that this research employs is agency theory. Agency theory has provided a general framework in audit pricing internationally (Nikkinen & Sahlström, 2004). Agency theory has been widely used to establish the agent and principal relationship between managers and shareholders of companies (Watts and Zimmerman, 1986). According to the agency theory proposed by Jensen and Meckling (1976), it refers to the monitoring costs incurred by the shareholders to monitor the managers' behavior. Hence, the audit fees are one of the important components of these monitoring costs since auditors have a duty to ensure that the managers are behaving according to the owners' interest. (Nikkinen et al. 2004).

Agency theory was used to study principal-agent relationships between management, owners and auditors. Jensen (1976) proposed that the agency costs of free cash flow are lower for firms with high levels of management ownership. This is because managers' interests are more aligned with shareholders' interests if they own a larger proportion of the shares. Based on the theory of Jensen (1976), higher free cash flow might cause serious agency problem in firms. Consequently, the firms with agency problems caused by free cash flow are thus likely to pay higher audit fees (Gul & Tsui, 2001; Nikkinen et al. 2004).

There is also argument about managers may manipulate the accruals to communicate with the value relevance information (Healy & Palepu, 1993). It indicates that accruals may be used by managers as a tool to communicate with their private information (Subramanyam, 1996). Motivated by that, it is expected that the auditor may put a lot of audit efforts in order to reduce the audit risk seems the manipulation of accruals by managers may give effect to the audit quality. Thus, the audit risk may have significance impact to the audit quality of the firms and as auditor they might need to work with more audit procedures and audit efforts. Thus, it is expected the higher audit fees has positive association with the audit quality. Moreover, variables affecting the audit fees, specifically audit tenure, auditor size and reputation, auditor industry specialization and frequency of audit committee meetings should be incorporated into a model in order to test the relationship between them.

Audit fees and audit quality

An audit provides an independent assurance on the financial statements provided by a company, which help to maintain the integrity and public confidence (Duits, 2012). Based on study by Palmrose (1988), audit quality is defined in relative to the level of assurance and accredited auditors. On the other hand, Riyatno (2007) defined audit quality as something that is intangible, hard to measure and can only be perceived by the users of audit services while Chen, Hsu, Huang, and Yang (2013) defined audit quality in terms of human capital of the audit firm. Besides, Pham, Amaria, Bui, and Tran (2014) determined audit quality based on auditor competence and auditor independence. However until today, there is no identical and absolute definition of audit quality although audit quality plays a vital role in ensuring the reliability of financial information to the users of financial statements especially to the shareholders of the companies. An auditor can be viewed as a watchdog for the shareholders and higher quality of audit is needed to ensure that the interests of the shareholders and other users of financial statements are being cared.

The discussion on the relationship between audit fees and audit quality have been in the literature since years ago. That includes a study by Hoitash, Markelevich, and Barragato (2007) which documented that audit fees are negatively related to audit quality. They had investigated a data set comprises of 13,860 observations for firms that reported total fee data for year 2000 until 2003 using multiple regression model within the context that auditor profitability will better exhibit the relation between audit quality and auditor independence. Furthermore, to proxy for unobservable auditor risk and effort, Hoitash et al. (2007) had used client size and estimates of expected fees paid to auditors in their study. Similarly, Ettredge, Fuerherm and Li (2014) also showed that there is negative association between audit fee pressure and audit quality. Their study measured audit quality by using inverse method, which is misstatements in audited data. Their sample included 3,039 public listed companies and logistic regression revealed that there is negative association between audit fee pressure and audit quality. On the contrary, Yuniarti (2011) found that audit fees has positive relationship with

audit quality when audit fee was tested as independent variable individually. The study used a population of auditor in public accounting firm who registered by Indonesian Institute of Accountants in 2009 with the final sample size of 27 firms and using primary data to analyze the results. Multiple regression model was employed in Yuniarti (2014) to analyze the data collected. However, when the researcher tested audit firm size and audit fee as independent variable simultaneously, the result showed that audit fees do not have any effect on audit quality.

Audit tenure

Audit tenure has primarily been of interest within the analytical literature as it relates to audit pricing and the observed discounting of initial year audits. Prior studies indicated that the relationship between audit fee and audit tenure is that higher audit fee implies higher audit quality, either through audit tenure or through a greater expertise of the auditor. This literature goes back to the study by Palmrose (1986) when the Big 8 audit firms exhibited both higher audit fees and audit hours. It was found that audit hours declined with audit firm tenure while audit fees remained stable. Besides, the initial audits were associated with lower audit fees, higher audit hours, and naturally lower fees per hour (Deis & Giroux, 1996). Study by Stanley and Todd DeZoort (2007) indicated a negative relationship between audit fees and likelihood of client's financial restatements in short tenure engagements. Due to a lack of client-specific knowledge and low audit fees on new audit engagements, this result is consistent with concerns about reduced audit quality.

However, study by Liu & Wang (2008) do not support the argument that long auditor tenure has adverse effects on audit quality. Using a sample of 1,981 company-year observations of potentially, financially stressed companies over an eight-year period from 1995 to 2002, the authors defined audit tenure as CPA tenure and CPA-firm tenure and found that there is no evidence that the going-concern opinion has negative significant relationship with auditor tenure. However, their empirical results indicate that there is a significantly positive relationship between auditor tenure and audit quality if there were some changes made to the samples. They limit the samples to the period after the effective date of SAS No. 33: *The Auditor's Report on Financial Statements* which were from 1999 to 2002, changed the definition of auditor tenure which based on short, medium and long tenures (rather than the number of years) and include samples from electronic industry only. The authors also restricted the going concern variable to three different categories based on the firm-year with a standard unqualified opinion and the firm-year with either a standard unqualified opinion or an unqualified opinion modified for mandatory change in accounting principle. Nevertheless, there is no conclusion from the authors as whether the mandatory auditor rotation will decrease audit quality as the motivation and behaviour of an auditor under mandatory auditor rotation may be different. Apart from that, Suprpto and Suwardi (2013) studied the association between audit partner tenure, audit fees and audit quality and documented that there is no significant relationship between audit partner tenure and audit quality. The target respondent was selected based on purposive sampling and the sample period was from year 2007 to year 2011. The researchers used Binary logistic regression model in examining the relationship between audit partner tenure and audit quality and found no significant relationship.

Auditor size and reputation

In this research, the indicator variables for audit firm size and reputation are Big 4 and non-Big 4. The relationship of audit fees and audit firm size depends on market competition (Jere, 1984). In a competitive audit market, a fee differential between audit firms represents a return to higher quality. Therefore, it is important to have a test on examining the fee charged by large audit firms in order to assess the quality differential between large and small auditors (Ireland and Yennox, 2000). Paradoxically, there is theory suggests that high quality companies are more likely to hire large audit firms and are more likely to pay low fees. This is due to that there is less audit work requirement in high quality companies if compared to low quality companies (Titman and Trueman, 1986; Thornton and Moore, 1993). The result previously showed that there is a negative relationship between auditor firm size and audit fees. However, this is not always true based on other researches.

Choi, Kim, Kim, & Zang (2010) found a different result. They examined the relationship between size of audit firm and audit fees and audit quality. The focus of their study was beyond

national-level audit firm size and office-level industry leadership but on examining whether the office size is an additional, engagement-specific factor determining audit quality and audit pricing. Their results show that audit firm size is significantly and positively related to both audit quality and audit fees. The significant positive relationship support the view that larger and reputable audit firms provide higher quality audits compared with smaller audit firms. Differences in quality are priced in the market for audit services to the companies. In addition, Aronmwan, Ashafoke, and Mgbame (2013) investigated the relationship between audit firm reputation and audit quality by choosing the listed trading companies trading on the Nigerian Stock exchange as a sample. Their data consists of audited annual report as at 2010 of 35 sample companies. The Ordinary Least Square Model estimation technique was used and the results revealed that the audit firm reputation is significantly and positively affect audit quality. Therefore, it can be said that when the auditor is a reputable auditor and rendering a higher quality audit, the fees charged to audit clients will be higher if compared to smaller audit firms.

In contrast, Han (2012) had examined whether Big 4 audit firms will provide high audit quality and found that Big 4 audit firms will provide high audit quality. The sample covered 132 companies for the period from 2007 to 2010. The data was categorized in few ways to execute a market analysis by auditor size and industry in terms of the amounts of clients and the total assets. The findings showed that there is no difference impact on audit quality whether it is performed by Big 4 audit firms or non-big 4 audit firms. Hence, since there is no difference in the quality of audit services provided, it will not affect the fees charged by the auditor.

Auditor industry specialization

“Auditor specialization is auditor as having deep understanding (refer to the knowledge) and have long experiences of the client’s specific business and industry, having knowledge about the company’s nature, and specific accounting and auditing guidance which are essential for doing a high quality audit.” (Arens, Best, Shailer, Fidler, Elder, & Beasley, 2011). Many literatures also discussed that auditor’s industry specialization is auditor as applied long experiences and deep understandings of on general and specific accounting guidance to the specific client’s industry, and includes an understanding of operational challenges and the degrees of such industry (Tuanakotta, 2011; Cohan, Jeter, & Naiker, 2010). Addition, the companies engage with the auditor specialization in the audit process of their particular clients industry, will be able to implement the audit procedures more effectively compared to non-specialization (Rittenberg, Johnston, & Gramling, 2010; and Balsam, Krishnan, & Yang, 2003). It is said that the competence and expertness are obtain from the repetitive tasks on the audit procedures in specific industries (Sarwoko & Agoes, 2014).

Based on the previous discussion, it is conclude that the auditor specialization may have significant impact on audit quality. Higher audit quality are likely to have higher audit fees (Palmrose, 1986). It suggests that the auditor do more extensive audit procedures to ensure the sufficient works and effectiveness. Thus, the relationship between audit fees can be highlighted when the audit fees relates to the degree of auditor specialization. Existing result find mix result between audit fees and auditor specialization. Palmrose (1986) did not find any relationship between audit fees and auditor industry specialization. However, other study find that higher audit fees associates with auditor specialization (Hay, 2010). It is supported by previous studies such Ward, Elder and Kattelus (1994), find higher fees for one specialized auditor, and contradict result by Chase (1999) finds lower fees for a specialized auditor. Based on the mixed empirical evidence and conceptual view arguments for either positive or negative effect, it is proposed that the following hypothesis in next section.

Frequency of Audit Committee Meeting

Due to the importance of existing of audit committee, the audit committee characteristics are extensively studied incorporate with audit fees. The results of prior research demonstrate that the association between audit committees meeting frequency and audit fees are in various. Past studies find that audit committee characteristics have a positive relationship to audit fees because one of the functions of this body namely audit committee is to review internal control and financial reporting process and this will result to the lower audit fees (Goddard & Masters, 2000 and Goodwin-Steward & Kent, 2006). Therefore, it may reduce audit hours, substantive test and risk of the company and as a result may lower audit fees (Goddard & Masters, 2000 and Goodwin-Steward & Kent, 2006).

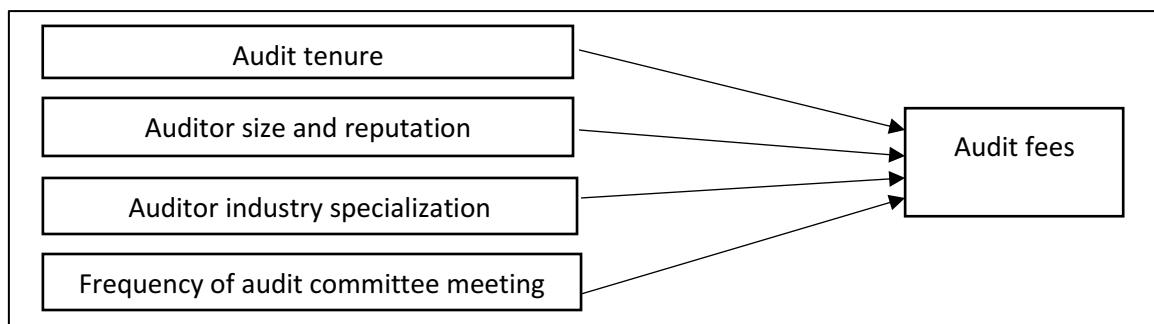
According to Yatim, Kent and Clarkson (2006), the audit fees are positively and significantly associated with the audit committee meeting frequency. With respect to the best corporate governance practices, audit committees should carry out their responsibilities (the Blue Ribbon Committee, 1999; Kalbers & Fogarty, 1993). Recent Malaysian Code on Corporate Governance 2017, highlighted the audit committee need appropriate communications insights, view and concerns about relevant transactions and events to internal and external auditors. Thus, the number of audit committee meetings need to held annually. It indicates that communications between audit committee is importance through the meeting pertaining to the financial reporting. Other study also suggests that an audit committee that meets frequently can reduce the financial reporting problems. This indicates that by having meeting regularly; the audit committee can alert the auditor on the auditing issues, which can give greater attention to the auditor itself (Scarborough, Rama, & Raghunandan, 1998). Therefore, it is expected that a more frequent audit committee meeting is likely to reduce financial reporting problems, thus, it may lower the audit fees.

In contradict, a research data indicate that there is no significance relation between audit fees and audit committee meeting frequency. (Abbott, Parker, Peters, & Raghunandan, 2003). Thus, this current study liase with the audit committee characteristic as one of the audit quality variables to test the significance impact on the audit fees. Therefore, this research hypothesizes that specific audit committee characteristic namely audit committee meeting frequency is associated with audit fees despite of the previous researchers' results are coming with inconsistency, it aims to explore the possibility of interaction effects without predicting a direction.

CONCEPTUAL FRAMEWORK

Based on the literature and the above discussion leads to the following theoretical framework:

Figure 1: Conceptual Framework of Audit Quality Characteristics and Audit Fees



This study proposes the following hypotheses bases on the above past studies:

H1: There is a relationship between audit tenure and audit fees.

H2: There is a relationship between auditor size and reputation and audit fees.

H3: There is a relationship between auditor industry specialization and audit fees.

H4: There is a relationship between frequency of AC meeting and audit fees.

CONCLUSION AND DISCUSSION

Based on the literature review, a conceptual model has been developed. This study proposes to test the above hypotheses with the effects of audit quality characteristics, namely audit tenure, auditor size and reputation, auditor industry specialization and frequency of audit committee meeting on audit fees. Further research should be carried out to test, validate and enhance the model especially in empirical evidence. The results obtained will be presented in a later article.

REFERENCES

- Abbott, L. J., Parker, S., Peters, G. F., & Raghunandan, K. (2003). The association between audit committee characteristics and audit fees. *Auditing: A Journal of Practice & Theory*, 22(2), 17-32.
- Arens, A. A., Best, P., Shailer, G., Fidler, B., Elder, R. J., & Beasley, M. S. (2011). *Auditing Assurance Services in Australia: An Integrated Approach*. 8th edition. Pearson Australia, NSW 2086
- Aronmwan , E. J., Ashafoke, T. O., & Mgbame, C. O. (2013). Audit firm reputation and audit quality. *European Journal of Business and Management*, 5(7), 66-75.
- Balsam, S., J. Krishnan, & J. S. Yang. (2003). Auditor Industry Specialization and Earning Quality. *Auditing: A Journal of Practice & Theory*. Vol. 22, No.2:71-91.
- Blue Ribbon Committee (BRC), The. (1999), Report and Recommendations on Improving the Effectiveness of Corporate Audit Committees, The New York Stock Exchange and the National Association of Securities Dealers, New York.
- Carcello, J. V., & Nagy, A. L. (2002). Auditor industry specialization and fraudulent financial reporting. In *Symposium on Auditing Problems*.
- Chan, P., Ezzamel, M., & Gwilliam, D. (1993). Determinants of audit fees for quoted UK companies. *Journal of Business Finance & Accounting*, 20(6), 765-786.
- Chase, B. W. (1999). The influence of auditor change and type on audit fees for municipalities. *Research in Government and Nonprofit Accounting*, 10, 49-63.
- Chen, Y. S., Hsu, J., Huang, M. T., & Yang, P. S. (2013). Quality, size, and performance of audit firms. *The International Journal of Business and Finance Research*, 7(5).
- Choi, J.-H., Kim, C. (Francis), Kim, J.-B., & Zang, Y. (2010). Audit Office Size, Audit Quality, and Audit Pricing. *AUDITING: A Journal of Practice & Theory*, 29(1), 73–97. <https://doi.org/10.2308/aud.2010.29.1.73>
- Cohan, S.F., Jeter, D.C., & Naiker, V. (2010). Are All Industry Specialist Auditors The Same? Working Paper at Auckland Business School, University Of Auckland. NZ
- DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of accounting and economics*, 3(3), 183-199.
- Deis, D. R., & Giroux, G. (1996). The effect of auditor changes on audit fees, audit hours, and audit quality. *Journal of Accounting and Public policy*, 15(1), 55-76.
- Duits, H. (2012). The demand for audit: Evolution of a theory. In H. Duits, *The added value of auditing in a non-mandatory environment*, 21-49
- Ettredge, M., Fuerherm, E. E., & Li, C. (2014). Fee pressure and audit quality. *Accounting, Organization, and Society*, 39, 247-263
- Finance Committee on Corporate Governance. (2017). *The Revised Code on Corporate Governance*. Kuala Lumpur, Malaysia: Securities Commission.
- Firth, M. (1985). An Analysis of Audit Fees and their Determinants in New-Zealand. *Auditing-A Journal of Practice & Theory*, 4(2), 23-37.
- Francis, J. R. (1984). The effect of audit firm size on audit prices: A study of the Australian market. *Journal of accounting and economics*, 6(2), 133-151.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Francis, J. R., & Simon, D. T. (1987). A test of audit pricing in the small-client segment of the US audit market. *Accounting Review*, 145-157.
- Francis, J. R., & Stokes, D. J. (1986). Audit prices, product differentiation, and scale economies: Further evidence from the Australian market. *Journal of Accounting Research*, 383-393.
- Goddard, A. R., & Masters, C. (2000). Audit committees, Cadbury code and audit fees: an empirical analysis of UK companies. *Managerial Auditing Journal* 15 (7). Pg. 358 – 371.
- Goodwin-Steward, J. & Kent, P. (2006). The relation between external audit fees, audit committee characteristics and internal audit. *Accounting & Finance*. 46 (3). Pg. 387 - 404.
- Gul, F. A., & Tsui, J. S. (2001). Free cash flow, debt monitoring, and audit pricing: Further evidence on the role of director equity ownership. *Auditing: A Journal of Practice & Theory*, 20(2), 71-84.
- Han, Y. S. (2012). Audit quality in Kazakhstan: Does big 4 provide high-quality audits? *Journal of Modern Accounting and Auditing*, 8(12), 1789-1797
- Hay, D. (2010). The Accumulated Weight of Evidence in Audit Fee Research: Further Steps in Meta-Analysis. Ebookbrowse. com/the-accumulated-weight-of-evidence-in-audit-fee-research-furthersteps-in-meta-analysis-pdf-d197393478.
- Healy, P. M., & Palepu, K. G. (1993). The effect of firms' financial disclosure strategies on stock prices. *Accounting Horizons*, 7(1), 1.
- Hoitash, R., Markelevich, A., & Barragato, C. A. (2007). Auditor fees and audit quality. *Managerial Auditing Journal*, 22(8), 761-786.
- Ireland, J. C. and Lennox, C. S. (2000). *The large audit firm fee premium: A case of selective bias?*. Discussion Paper- University of Bristol Department of Economics, 2000, 506, 1362-3850.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360.
- Jere R. Francis. (1984). The effect of audit firm size on audit prices: A study of the Australian Market. *Journal of Accounting and Economics*, 6(2), 133-151.
- Kalbers, L.P. & Fogarty, T. J. (1993), "Audit committee effectiveness: An empirical investigation of the contribution of power", *Auditing: A Journal of Practice & Theory*, Spring, pp. 24-49
- Liu, C., & Wang, T. (2008). Auditor tenure and audit quality. *Management Review*, 27(4), 1-28.
- Low, L. C., Tan, P. H. N., & Koh, H. C. (1990). The determination of audit fees: An analysis in the Singapore context. *Journal of Business Finance & Accounting*, 17(2), 285-295.
- Maggie, R.P. & Tseng, M. C. (1990). Audit pricing and independence. *Accounting Review*, April, 315-336.
- Nikkinen, J., & Sahlström, P. (2004). Does agency theory provide a general framework for audit pricing?. *International Journal of Auditing*, 8(3), 253-262.
- Palmrose, Z. (1988). An analysis of auditor litigation and audit services quality. *The Accounting Review*, 55-73.
- Palmrose, Z. V. (1986). Audit fees and auditor size: Further evidence. *Journal of accounting research*, 97-110.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Pham, H., Amaria, P., Bui, T., & Tran, S. (2014). A study of audit quality in Vietnam. *International Journal of Business, Accounting, and Finance*, 8(2), 73-110.
- Rittenberg, L.E., Johnston, K.M. & Gramling, A.A. (2010). *The Public Accounting Profession: Auditing, a business Risk Approach*, 7th Edition, South Western Engage Learning, Mason USA: 21- 22
- Riyatno. (2007). Public accounting firm size effect on earnings response coefficients. *Journal of Financial and Business*, 5(2), 148-162.
- Rubin, M. A. (1988). Municipal audit fee determinants. *Accounting Review*, 219-236.
- Sarwoko, I., & Agoes, S. (2014). An Empirical Analysis of Auditor's Industry Specialization, Auditor's Independence and Audit Procedures on Audit Quality: Evidence from Indonesia. *Procedia-Social and Behavioral Sciences*, 164, 271-281.
- Scarbrough, D. P., Rama, D. V., & Raghunandan, K. (1998). Audit committee composition and interaction with internal auditing: Canadian evidence. *Accounting Horizons*, 12(1), 51.
- Stanley, J. D., & DeZoort, F. T. (2007). Audit firm tenure and financial restatements: An analysis of industry specialization and fee effects. *Journal of Accounting and Public Policy*, 26(2), 131-159.
- Subramanyam, K. R. 1996. The pricing of DAs. *Journal of Accounting and Economics* 22: 249-281.
- Suprpto, E., & Suwardi, E. (2013). *The effect of audit partner rotation and audit firm's fee on audit quality*. London: Imperial college, 1-12.
- Taffler, R. J., & Ramalinggam, K. S. (1982). *The determinants of the audit fee in the UK: an exploratory study*. City University Business School.
- Taylor, M. E., & Baker, R. L. (1981). An analysis of the external audit fee. *Accounting and business research*, 12(45), 55-60.
- Titman, S., and B, Trueman. (1986). Information Quality and the Valuation of New Issues. *Journal of Accounting and Economics*, 8, 159-172.
- Tuanakotta, T. M. (2011). *Critical Thinking in Auditing*. Jakarta: Salemba Empat, 302-312.
- Ward, D. D., Elder, R. J., & Kattelus, S. C. (1994). Further evidence on the determinants of municipal audit fees. *Accounting Review*, 399-411.
- Watts, R. L., & Zimmerman, J. L. (1986). *Positive accounting theory*.
- Yatim, P., Kent, P., & Clarkson, P. (2006). Governance structures, ethnicity, and audit fees of Malaysian listed firms. *Managerial Auditing Journal* 21 (7). Pg. 757 – 782.
- Yuniarti, R. (2011). Audit firm size, audit fee and audit quality. *Journal of Global Management*, 2(1), 84-97.

Usefulness of Financial Ratios in Predicting Share Prices

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Abstract

In 2016, the total market capitalisation for Malaysia stood at RM1.70 trillion. Besides providing capital for companies, the equity market reflects the financial health of the country. As an emerging market, the equity market of Malaysia is one of the fastest growing in Asia with more than 900 listed public companies. For the investor, an obvious strategy would be to seek out those shares with growth rates likely to exceed the overall market growth. Fundamental analysis allows for an in-depth approach to study the underlying economic forces in order to forecast future prices and developments in the equity market. Fundamental analysis can comprise various aspects covering the analysis of the economy as a whole, of the industry, or that of the individual company. With fundamental analysis, a combination of financial data in the form of financial ratios can be used to assess the current value of stocks in order to determine whether the share prices are over or undervalued, and to allow for the prediction of the future prices of the stocks based on the information in the financial statements. The aim of this paper is to study the importance of financial ratios to predict stock price trends in the Malaysian equity market with emphasis on the importance of long-term investments.

Keywords: Financial ratios, Fundamental Analysis, Share price, Stock Market

INTRODUCTION

The Stock Market

The Malaysian stock market has grown quickly over the last few years, playing an important role in the country's economic growth. With the stock market, funds can be mobilised and directed towards various economic activities, providing investors with liquidity and encouraging the setting up of big enterprises. According to statistics from Bursa Malaysia Berhad, the total market capitalization for Malaysia stood at RM1.70 trillion in 2016. Besides providing capital for companies, the equity market also reflects the financial health of the country. As an emerging market, the equity market of Malaysia is one of the fastest growing in Asia with more than 900 listed public companies. For the investor, an obvious strategy would be to seek out those shares with growth rates likely to exceed the overall market growth. A strategy may include fundamental analysis which allows for an in-depth approach to study underlying economic forces in order to forecast future prices and developments in the equity market. Fundamental analysis can comprise various aspects covering the analysis of the economy as a whole, of the industry, or that of the individual company. With fundamental analysis, a combination of financial data in the form of financial ratios can be used to assess the current value of stocks in order to determine whether the share prices are over or undervalued, and to allow for future stock prices to be predicted based on the information in the financial statements. The aim of this paper is to study the importance of financial ratios in predicting stock price trends in the Malaysian equity market with emphasis on the importance of long-term investments.

Objective of Financial Reporting

A financial report's primary objective is to provide information so that users of financial information can make decisions. According to International Accounting Standard Board (IASB), the objective of financial reporting is "to provide information about the financial position, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions." Norby and Stone (1972) expressed the view that the role of financial statements is to show the financial information such as equity, assets and liabilities, and operational results, and not the market value of the company. Being a product of the marketplace, value of the company is a subjective concept. The market value of a company is

based partly on the accounting information and is also a function of interest rates, supply of funds for investments, industry position, capability of management, and a number of other factors. As such the market value would be outside the objective of financial statements. Nevertheless it is the duty of the investment analyst to make assessments for comparisons of companies in order to establish various relevant values and make sound recommendations. For financial statements to be effective, they should be clear and comprehensive. As financial statements are used by non-accountants, abstract concepts would not be useful although they may contribute to accounting theories. Financial statements should also be practical. For example, income accruals in contrast to cash realization may not be of value in assessing the financial health of the business enterprise and its dividend paying ability. Finally, the earnings figure should be accurate as far as possible in order to meet the needs of the investor.

Role of Financial Information in Investment Valuation

When assessing financial information to ascertain the value of a company, it is useful to adopt a comparative approach. The value will not be static but will vary relative to values of other companies. As a result, capital is efficiently allocated among businesses. Though investors access other information such as economic reports, government statistics, trade publications and securities market information, the accounting statements are ultimately the primary source of information. In an efficient market, the economic reality would be reflected in the market with financial statements factoring in the economic reality. This methodology of investment analysis focuses on long term investment cycle rather than the short cycle (Norby & Stone, 1972).

Financial Statements and Prediction

In using financial statements for predicting the performance of a company, some investors may view the objective of financial accounting as that to be used for prediction. In this respect financial statements are treated similarly to other information used for decision making. For example, an employer would assess the future performance of an employee from a personnel report, while a technician would assess the likelihood of future downtime from a report on computer downtime. A requirement of financial statements is that the historical data contained therein should be accurate, so that the margin of error can be reduced to allow for better informed decision making. Patterns from the past and the current status become the starting set the initial stage for forecasting the future. (Norby & Stone, 1972). To the investor, the return on an investment includes dividend payments and change in the share price. The rate of return, thus, provides a good estimate of earnings on a share. The investor's decision to buy, sell, or hold a share would considerably depend on expected future rate of return from that share. If the investor is able to predict the future rate of return for each stock under his investment, then this would make his investment decisions easier.

Some individuals, however, may be unwilling to accept the usefulness of financial ratios to predict the shares in terms of future rate of return. This is because of the implications of the efficient market model. Briefly there are three forms of market efficiency: (1) the weak form where all available historical market price are reflected in the market prices; (2) the semi-strong form where all publicly available information, for example data from published financial statements, are fully reflected in the market prices; (3) the strong form where the investor is unable to earn excess returns from insider information (Fama, 1970). According to Kok and Goh (1995) the weak form of efficient market hypothesis seems to be applicable to the Malaysian stock market.

The Analysis Approach

Investment analysis involves identifying change and the rate of change. It usually starts with reviewing the history of the company, its operations and financial position, as well as its products and markets. The financial results are compared against the information about the industry, and the economy to ascertain the dynamic relationship between the company and its environment. Once the relevant information is collected and processed, conclusions may be drawn on the company's capabilities. This allows the investor to make estimates about the earning strength of the company for future periods. The future periods may cover one, three or even five years. Approaching from the general to the specifics, the investor studies the prospect of the economy and the industry. These are then related back to the company through the financial statements. Impact from new markets, investments, technology, changes in regulations

and many other factors are analysed, and the effects of these events are measured through the company's financial statements. Forecasts on the company's earnings, dividends and other financial requirements are then prepared. While the margin of error in the forecasts can be substantial in a dynamic economy, investors can still make use of these forecasts to base their decisions on (Norby & Stone, 1972).

Ultimately the investor seeks to invest his funds in the most efficient manner among the alternative investments. The desired investments would give the highest possible returns, being dividends and appreciation in the share price, while at the same time accounting for risks. In this way the investment analysis takes on a comparative approach, between companies within the same industry or in other industries, or over different periods. The evaluations are then related to the prevailing stock prices and comparisons are made taking into account the risks and rewards. Finally, investments are recommended and a selection is made. This completes the investment analysis cycle (Norby & Stone, 1972).

Concept of Financial Ratios and Analysis

A financial ratio, also known as accounting ratio, measures the relationship between two values selected from a company's financial statements. These ratios are used for comparison purposes. There are many ratios which try to evaluate the overall company's operating and financial performance in terms of its profitability, liquidity and efficiency. Comparisons can also be made over time to determine whether a company's performance is improving or declining. There are many financial ratios which can be used and they can be grouped into different categories. Depending on the user, some ratios will be more important than others. Investors, as users of financial information, require data from the financial statements to evaluate and forecast the profitability, growth, cash flow and dividends of companies in order to determine the future returns for their portfolios. As investors are constantly looking for investment opportunities, share price would be a main consideration (Arkan, 2016). An advantage of using financial ratios is that it allows for comparison of performances between companies of different sizes. This allows the investors to assess the attractiveness of an investment. Numerous accounting and finance textbooks have chapters on analysis of financial statements with analysis techniques featuring financial ratios. This shows that financial analysis using ratios are common, especially among external users of financial statements in their decision-making (O'connor, 1973).

LITERATURE REVIEW

The literature on share price predictability has evolved significantly over the past 20 years. One of the earlier studies was conducted by Ball et al. (1968) when an empirical attempt was made to assess the correlation between accounting information and stock price, and found that accounting information is useful as it can be related to stock price. Beaver (1966) provided empirical evidence on the usefulness of financial statements in predicting the failure of a company at least five years before the failure. He pointed out that financial ratios does not imply that the ratios are the only predictors of failure but rather as predictors of important events, of which failure of the firm is one of them. He also asserted that although ratio analysis can be useful, the ratios should be used with discretion as not all ratios predict equally well, pointing out that cash discriminatory power from the total debt ratio has excellent predictive power over a five year period.

Dechow (1994) investigated circumstances under which accruals were predicted to improve a firm's performance, as expressed in the stock returns. She showed that accruals gave a measure of performance that was more related to expected cash flows than to realized cash flows. Chen and Zhang (2007) showed that accounting variables explain stock returns, relating equity value to accounting measures of the firms' operations. Empirical results showed that stock returns were a function of earnings yield, equity investment, growth opportunities and profitability. Prediction of the stock returns is to a certain extent subject to behavioural influences, such as investor's misunderstanding of information or emotional preference. Studies have shown that investors have expressed strong behavioural biases, such as overconfidence and prejudices, in their investment decision makings (Chen & Zhang, 2007; Feng & Seasholes, 2005; Shumway & Wu, 2005).

The Consumer Sector

This paper looks at the companies in the consumer sector of Bursa Malaysia to analyse the prediction power of these variables on the stock returns. The consumer sector is a covers companies where the products and services are purchased by individuals instead of by manufacturers. It includes companies supplying food and drinks, clothing, electronic goods, packaged goods and motor vehicles. There are 124 companies on the consumer sector of the main market of Bursa Malaysia. The consumer sector is expected to contribute RM156 billion to the country's Gross Domestic Product (GDP) and to create 454,000 job opportunities by 2020. On the whole, the wholesale and retail sector of Malaysia has contributed 13 per cent to the country's GDP. ("Wholesale and retail to contribute RM156bn to GDP by 2020," 2013)

Malaysia has been able to capitalize on its advantageous geographical location to remodel its economy in the 1970s where it was reliant on the agricultural and mining sectors, into a comparatively competitive economy where the manufacturing sector and services sectors made up 74% of GDP. The GDP growth was 4.2% in 2016 and is estimated to be 4.8% for 2017. Before this, the growth rate in 2015 was at approximately 5%, 6% in 2014, and 4.7% in 2013 (*Malaysia - Market Overview*, 2017). Some volatility facing the Malaysian economy includes declining oil and gas prices, and downward pressure in the Malaysian ringgit over the past few years. The Malaysian ringgit has seen a steady decline with the average rate at RM3.30 per US Dollar in 2013 to RM4.12 per US Dollar in 2016. In May 2017, the ringgit was at about RM4.30 per US Dollar. Slowing economic growth coupled with the weakening ringgit has decreased consumer spending (*Malaysia - Market Overview*, 2017).

Despite the turbulence in the Malaysian economy, it is hopeful to note that the per capita income in Malaysia was US\$9,546 (ranking 66 from 189 economies in the world) and the Purchasing Power Parity (PPP) was US\$27,234,080 (ranking at 48) as stated by the International Monetary Fund World Economic Outlook Projection in October 2016. The purchasing power per capita places Malaysia third among ASEAN countries. Singapore and Brunei ranked first and second respectively (*Malaysia - Market Overview*, 2017). Malaysia's level of economic development allows it to increase demand for services as well as products. Though generally affected by prices, Malaysians have enjoyed decades of stable economic growth. The stable growth has allowed Malaysians to be familiar with branded products, and quality education and healthcare, and thus demand for these products and services is present.

Stock Market Predictors

Much research has been done to examine stock returns using accounting ratios such as the earnings price ratio, return of assets, book market ratio, dividend price ratio, debt to equity ratio, price to book value, interest rates, and inflation. Numerous literature have also been carried out to investigate predictive measures which include variables such as price multiples, corporate actions, and risk measures. Among the researchers who used dividend yields as predictors are Ang and Bekaert, (2007); Fama and French (1988); and Hodrick, (1992). Campbell and Shiller (1988) and Lamont (1998) used the earnings price ratio, while Kothari and Shanken (1997) and Pontiff and Schall (1998) used the book-to-market ratio. Non accounting ratios used as predictors include short-term interest rate by Fama and Schwert (1977), Ang and Bekaert (2007) and Campbell (1987); inflation was used by Campbell and Vuolteenaho (2004) and Fama and Schwert (1977) and Nelson (1976); corporate issuing activity was used by Baker and Wurgler (2000) and Boudoukh et al. (2007); and consumption wealth ratio was used by Lettau and Ludvigson (2001).

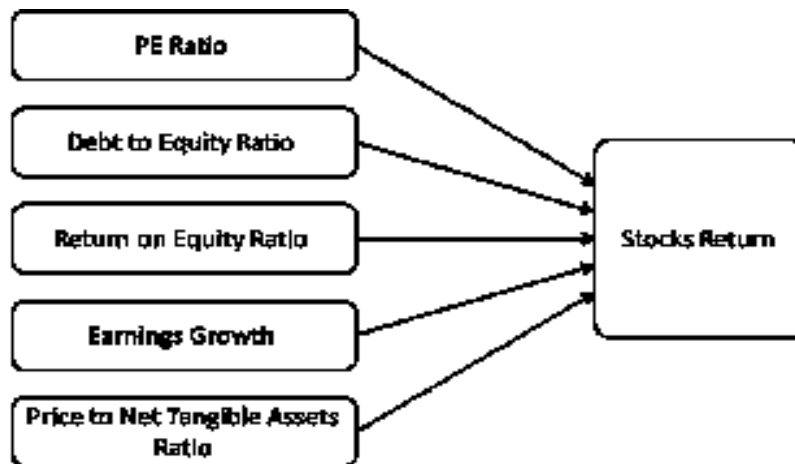
Campbell and Shiller (2001) observed that companies with lower amount of market capitalisation and firms with greater price earnings ratio tend to obtain higher returns. Shen (2000) found that stock prices tend to grow slowly a decade after a period when price earnings ratios have been high. Other studies have shown that price earnings ratio is positively correlated to earnings growth rate expectations (Huang, Tsai, & Chen, 2007). Fama and French (1992) observed that periods of higher returns followed periods of higher book-to-market ratios. Siegel (1998) observed that over a longer duration of time earnings results were consistent with realized returns. Alam and Brown (2006) showed that returns on equity had good predictive power on the future stock returns, with high return on equity positively correlating to a high stock price. In contrast, if the return is achieved mainly from borrowings, investors would not view this favourably. Bradshaw et al. (2006) categorised a firm's outside sources of funds into two

determinants, issuing shares or through borrowings. The two variables' correlation with future stock returns were negative. Likewise, past studies also supported this pattern with share prices dropping when debt was issued to solve a firm's cash flow problems (Akhigbe, Easterwood, & Pettit, 1997). Firms having high share prices will have a debt to equity ratio that is low and a market to book value equity ratio that is high (Bae, 2009). Jegadeesh and Titman (1993) summarised that firms with better past returns continue to earn higher returns for a period of 3 to 12 months. In determining a net worth of a company, it is important to consider the net tangible assets. Generally investors are discouraged to invest in shares when share price is higher than its net tangible assets. A useful ratio is the price to net tangible assets, or price to book value ratios. An undervalued firm could be indicated by a low price book value ratio. Elsewhere, it was found that the book to price ratios and average returns to be positively related (Fama & French, 1992). Overall, findings from these studies are consistent with one another and show that the price book value ratios and returns are negatively related.

Cooper et al. (2008) found the relation between future stock returns and a firm's assets to be inversed, citing misinterpretation by the investor on the firm's assets growth. As a firm goes through early stages of growth, the relation between returns and assets growth is positive. However this pattern would not continue into the future as return on assets reduces as the size of assets increases. (Abarbanell & Bushee, 1998) demonstrated that changes in gross margins indicates that a firm's improving trading terms, leading to more efficient operating performance and higher stock returns. To date no specific method has been able to predict stock returns with accuracy despite numerous studies. Due to the complexity in modeling human behaviour, stock market prices may not reflect the fundamental values of the company. While stock market behaviour can be both driven by emotions as well as rational thoughts, it is the speculative activity that market values veers away from fundamentals (Barker, 2001). For this paper, five variables have been identified as predictors of stock returns and they are price earnings ratio, return on equity ratio, earnings growth, price to net tangible assets and the debt to equity ratio. It is not the intention of this study to provide a definite model on the prediction power of these variables.

CONCEPTUAL FRAMEWORK

Figure 1: Proposed Conceptual Framework



This paper examines the predictability power of five financial ratios to predict the stocks return from the construction sector. These five ratios identified are the Price Earnings ratio, the Debt to Equity ratio, the Return on Equity, Earnings Growth, and the Price to Net Tangible Assets ratio.

It is hypothesized that

- a) Financial ratios are useful to predict stock market returns
- b) Firms which are mature outperform new and less established firms in future returns

RESEARCH METHODOLOGY

The ratios that have been identified to be used in the steady are the Price Earnings ratio, the Debt to Equity ratio, the Return on Equity, Earnings Growth, and the Price to Net Tangible Assets ratio. The aim of this study is to investigate whether the identified ratios can predict the share price. The efficient market hypothesis in the weak form seems to be applicable to the Malaysian stock market according to Kok and Goh (1995). Nevertheless the company's financial performance would still required to be examined before making an investment decision instead of buying based on the herd mentality. The aim of the study is to examine whether any of the ratios is able to predict the stock price. As the typical investor would be concerned with making a gain from their investments in the stock market, it is therefore important to identify whether ratios can help investors to predict the stock market return. As such it is hypothesised that:

- a) Financial ratios are useful to predict stock market returns
- b) Firms which are mature outperform new and less established firms in future returns

The following model will serve as a starting point to be used to predict stock market returns:

$$r_t = \alpha + \beta x_t + \varepsilon_t$$

where r_t is the stock return at time t
 x_t is the ratio at time t
 α is the intercept
 β is the coefficient
 ε_t is the residual

Construction of the stock return predictors

Information on stock prices, trading volume and information from financial statements will be obtained from Bursa Malaysia. Sample covers data from financial statements from 2007 to 2016, a period covering ten years. In their popular textbook, *Security Analysis*, Graham and Dodd (1934) recommended that a period of “not less than five years, preferably seven or ten years” be used for study of such ratios. For a stock to be selected, there must be sufficient information on the stock such as the income, return on equity, price, earnings per share, and the net tangible assets.

The following are the names, description, and details for each of the five stock return predictors.

- a) Price earning ratio (PE ratio)

PE ratio is one of the most widely used accounting ratio for selecting a stock. It is computed by dividing the market price by its earning per share (EPS) as follows:

$$\frac{\text{Net income}_t}{MV_{t-1}}$$

where MV_t is market capitalization at the end of the year

- b) Return on equity ratio (ROE ratio)

Return on equity (ROE) measures the amount of net income returned as a percentage of shareholders equity. It measures a company's profitability by showing how much is generated with money that the shareholders have invested. It is calculated as:

$$\frac{\text{After tax sales earnings}_t}{\text{Total shareholders' equity}_t}$$

- c) Debt equity ratio (DE ratio)

Debt equity ratio measures a company's financial leverage, that is, it shows how much debt is used to finance its assets relative to the shareholders' equity. The ratio is calculated by dividing a company's total liabilities by its shareholders equity as follows:

$$\frac{LTL_t + STL_t}{\text{Shareholders' equity}} \times 100\%$$

where LTL_t and STL_t represent the long term and short term liabilities, respectively at year ending t .

d) Earnings growth (\square EG)

Earnings growth measures the growth in a company's net income over a specific period, usually one year.

$$\frac{\text{Earnings per share}_t - \text{Earnings per share}_{t-1}}{\text{Earnings per share}_{t-1}} \times 100\%$$

e) Price to net tangible assets (P/NTA ratio)

Price to net tangible assets ratio measures the share price relative to the net tangible assets (NTA). The ratio is calculated as follows:

$$\frac{\text{Market price}_t}{NTA_t} \quad \text{where } NTA_t \text{ is } \frac{(\text{Shareholders' fund} - \text{Goodwill})_t}{\text{No of ordinary shares}_t}$$

To test the predictability of the variables the firms within the consumer sector will be divided into two groups, the mature group and the new group. The mature group will consist of companies which have been incorporated 10 or more years ago. New group will consist of companies which have been incorporated less than 10 years ago. The empirical test will compare the future return of these two groups of companies. It is anticipated that mature firm will outperform the new grew in terms of the stock return as these firms would have more operational experiences. The methodology for this study will involve the following tests.

The first step will test the significance of the five stock return predictors in in the ability to predict share price of companies in the consumer sector.

The second test will compare the future performance of the two groups of companies. The objective of the test is to examine whether the aggregate of the returned predictors can successfully predict earnings performance as compared to stock return for the current year. For instance, it is expected to show that the ROE_t of the matured group is greater than the ROE_t of the new group.

Finally the third test will be conducted to examine the mean return. Once again it is expected that the mean return of the mature group will be greater than the mean return of the new group. The t test will be used check whether two sets of data differ significantly.

SUMMARY AND CONCLUSION

The aim of this study is not to present a definite model for determining stock returns, but instead to point out that predictability exists between financial ratios and stock returns. This paper hopes to benefit investors by increasing awareness that financial ratios as predictors of stock return may give some degree of accuracy. Furthermore, this paper hopes to provide a guide for future research in other sectors or in using other financial ratios as the stock return predictors. The scope for this study will be limited to the consumer sector. For the stock predictor variables, five accounting ratios of have been chosen. Though these predictors may

not be the most appropriate, nevertheless, it is hoped these chosen predictor variables would provide a starting point for future researches.

REFERENCES

- Abarbanell, J. S., & Bushee, B. J. (1998). Abnormal Returns to a Fundamental Analysis Strategy. *The Accounting Review*. American Accounting Association.
- Akhigbe, A., Easterwood, J. C., & Pettit, R. R. (1997). Wealth Effects of Corporate Debt Issues: The Impact of Issuer Motivations. *Financial Management*, 26(1), 32–47.
- Alam, P., & Brown, C. A. (2006). Disaggregated earnings and the prediction of ROE and stock prices: a case of the banking industry. *Review of Accounting and Finance*, 5(4), 443–463.
- Ang, A., & Bekaert, G. (2007). Stock Return Predictability : Is it There? *The Review of Financial Studies*, 20(3), 651–707.
- Arkan, T. (2016). The Importance of Financial Ratios in Predicting Stock Price Trends : A Case Study in Emerging Markets. *Jurnal of Finance University Szezeein*, 10(1), 13–26.
- Bae, S. C. (2009). On the interactions of financing and investment decisions. *Managerial Finance*, 35(8), 691–699.
- Baker, M., & Wurgler, J. (2000). The Equity Share in New Issues and Aggregate Stock Returns. *The Journal of Finance*, 55(5), 2219–2257.
- Ball, R., & Brown, P. (1968). An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, 6(2), 159–178.
- Barker, R. (2001). *Determining value: valuation models and financial statements*. New York: Pearson Education.
- Beaver, W. H. (1966). of Failure Financial Ratios as Predictors. *Journal of Accounting Research*, 4, 71–111.
- Boudoukh, J., Michaely, R., Richardson, M., & Roberts, M. R. (2007). On the Importance of Measuring Payout Yield: Implications for Empirical Asset Pricing. *The Journal of Finance*, 62(2), 877–915.
- Bradshaw, M. T., Richardson, S. A., & Sloan, R. G. (2006). The relation between corporate financing activities, analysts' forecasts and stock returns. *Journal of Accounting and Economics*, 42(1–2), 53–85.
- Campbell, J., & Vuolteenaho, T. (2004). Inflation Illusion and Stock Prices. *American Economic Review*, 94(2), 19–23.
- Campbell, J. Y. (1987). Stock returns and the term structure. *Journal of Financial Economics*, 18(2), 373–399.
- Campbell, J. Y., & Shiller, R. J. (1988). Stock Prices, Earnings, and Expected Dividends. *The Journal of Finance*, 43(3), 661–676.
- Campbell, J. Y., & Shiller, R. J. (2001). *Valuation Ratios and the Long-Run Stock Market Outlook: An Update*. Princeton University Press.
- Chen, P., & Zhang, G. (2007). How do accounting variables explain stock price movements? Theory and evidence. *Journal of Accounting and Economics*, 43(2–3), 219–244.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Cooper, M. J., Gulen, H., & Schill, M. J. (2008). Asset Growth and the Cross-Section of Stock Returns. *The Journal of Finance*, 63(4), 1609–1651.
- Dechow, P. M. (1994). Accounting & Economics The role of accounting accruals. *Journal of Accounting and Economics*, 18, 3–42.
- Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance*, 25(2), 383–417.
- Fama, E. F., & French, K. R. (1988). Dividend yields and expected stock returns. *Journal of Financial Economics*, 22(1), 3–25.
- Fama, E. F., & French, K. R. (1992). The Cross-Section of Expected Stock Returns. *The Journal of Finance*, 47(2), 427–465.
- Fama, E. F., & Schwert, G. W. (1977). Asset returns and inflation. *Journal of Financial Economics*, 5(2), 115–146.
- Feng, L., & Seasholes, M. S. (2005). Do Investor Sophistication and Trading Experience Eliminate Behavioral Biases in Financial Markets? *Review of Finance*, 9(3), 305–351.
- Graham, B., & Dodd, D. (1934). *Security Analysis Principles and Technique*.
- Hodrick, R. J. (1992). Dividend Yields and Expected Stock Returns : Alternative Procedures for Inference and Measurement. *The Review of Financial Studies*, 5(3), 357–386.
- Huang, Y., Tsai, C.-H., & Chen, C. R. (2007). Expected P / E , Residual P / E , and Stock Return Reversal : Time-Varying Fundamentals or Investor Overreaction ? *International Journal of Business and Economics*, 6(1), 11–28.
- Jegadeesh, N., & Titman, S. (1993). Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency. *The Journal of Finance*, 48(1), 65–91.
- Kok, K. L., & Goh, K. L. (1995). *Malaysian securities market*. Pelanduk Publications.
- Kothari, S. P., & Shanken, J. (1997). Book-to-market, dividend yield, and expected market returns: A time-series analysis. *Journal of Financial Economics*, 44(2), 169–203.
- Lamont, O. (1998). Earnings and Expected Returns. *The Journal of Finance*, 53(5), 1563–1587.
- Lettau, M., & Ludvigson, S. (2001). Consumption, Aggregate Wealth, and Expected Stock Returns. *The Journal of Finance*, 56(3), 815–849.
- Malaysia - Market Overview. (2017). Retrieved from https://www.export.gov/article?series=a0pt0000000PAuNAAW&type=Country_Commercial__kav
- Nelson, C. R. (1976). Inflation and rates of return on common stocks. *The Journal of Finance*, 31(2), 471–483.
- Norby, W. C., & Stone, F. G. (1972). Objectives of Financial Accounting and Reporting from the Viewpoint of the Financial Analyst. *Financial Analysts Journal*, 28(4), 39.
- O'connor, M. C. (1973). On the Usefulness of Financial Ratios to Investors in Common Stock. *Accounting Review*, 48(2), 339–352.
- Pontiff, J., & Schall, L. D. (1998). Book-to-market ratios as predictors of market returns. *Journal of Financial Economics*, 49(2), 141–160.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Shen, P. (2000). The P/E Ratio and Stock Market Performance. *Economic Review*, 85(4), 24–36.
- Shumway, T., & Wu, G. (2005). Does Disposition Drive Momentum? *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.686901>
- Siegel, J. J. (1998). *Stocks for the long run: the definitive guide to financial market returns & long-term investment strategies* (5th ed.). McGraw-Hill.
- Wholesale and retail to contribute RM156bn to GDP by 2020. (2013). Retrieved August 27, 2017, from <http://www.mysinchew.com/node/81771>

Impact of Macroeconomic and Bank-Specific Factors on Liquidity of Domestic Commercial Banks in Malaysia

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Abstract

This study is to examine the impact of macroeconomic factors and bank-specific factors on Malaysia domestic commercial bank's liquidity. Secondary sources are used to conduct the hypotheses testing on 8 domestic commercial banks in Malaysia from the year 2006 until 2016. The regression model, Pooled Ordinary Least Square and Panel Causality Test will be used in the study. The review of literature in establishing the framework for this study and clearly identifies the gap in past literature. This will help in formulating the research hypotheses for this study. Analysis of factors like non-performing loan ("bad management"), bank's capital ("moral hazard"), bank size ("too big to fail"), government deficit financing and foreign exchange rate that affect bank liquidity position in Malaysia will be the main contribution in this study.

Keywords: Macroeconomic, Bank Specific, Liquidity, Malaysian Domestic Commercial Banks, Basel III.

INTRODUCTION

Commercial banks play an important role in the economic development in a country. They are the financial intermediaries that provide an array of services to the consumers. These services can be as diverse as time deposit services, loan services, processing transactions services and credit creation services (Dodoo, 2007). Apart from these services, one of the main roles of commercial banks is to act as a financial intermediary that facilitates lending to deficit users (households, firms, government and foreigners) by channeling fund from surplus economic units (households, firms, government and foreigners). By doing this, banks are collecting short term deposit from depositors and granting loans to borrowers and making investments for long term. This will create a liquidity problem for the bank particularly in funds matching. When a bank does not have enough liquidity to fulfill its obligation, the bank is said to face liquidity risk. According to Bank for International Settlements (BIS, 2010 b), liquidity can be defined as the bank's ability to acquire funds required to meet its obligations when due without incurring any substantial losses. It is in fact all types of businesses including banks that face liquidity risk. The banks liquidity risk is evident from its operations which it provides long term loans to borrowers and make long term investments with the purpose of earning higher yield from such activities. This will create mismatch maturities of deposits and loans/investment by accepting short-term deposits for long-term loan and long term investment. As a result, banks not only need to hold an optimal level of capital which is required by Bank Negara Malaysia-BNM) but also sufficient level of liquidity to maintain efficiency and effectiveness of bank operations. Over the past two decades, the two most noticeable financial crises were the Asian financial crisis in year 1997 and Subprime crisis in year 2008. These two crises have had significant effects on the banking industry. Table 1.1 below shows that prior to the Asian financial crisis of 1997, Malaysia had 22 domestic commercial banks operating as financial intermediaries. In the aftermath of the crisis, the number of domestic commercial banks in Malaysia started to drop.

On 29 July 1999, Bank Negara Malaysia imposed the restructuring plan of merger and acquisitions for its fifty four (54) domestic deposit taking financial institutions to be consolidated into six (6) institutions (Ahmad, Arrif, and Skully, 2007). Consequently, today Malaysia is left with eight (8) domestic commercial banks.

Table 1.1: Number of Domestic Banks in Malaysia

Year	1980	1990	1997	1999	2001	2003	2005	2010
No. of domestic Banks	22	22	22	21	10	10	10	8

Source: Bank Negara Malaysia Report, 2011

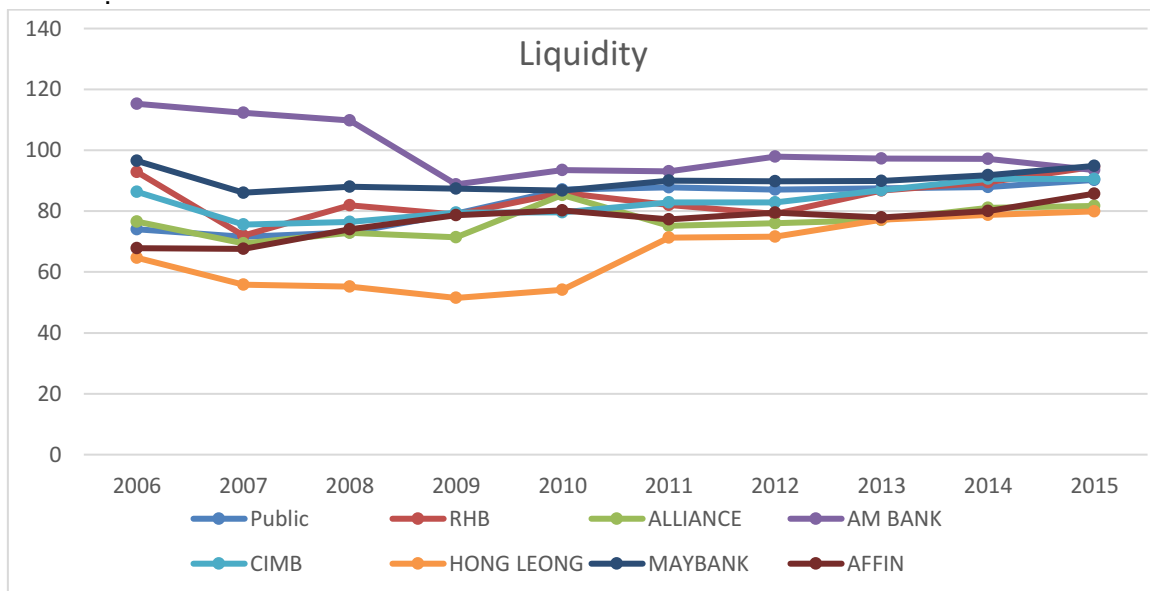
After the global financial crisis passed, the International Monetary Fund (IMF) organization introduced Basel III which is an upgraded version of Basel II. In Basel III, LCR is introduced to promote the short-term resilience of the liquidity risk by ensuring that banks have sufficient HQLA to survive a significant stress scenario. The LCR and HQLA have taken into account that bank consist of cash and assets that can be converted into cash with little or no loss of the value market. The HQLA is able to let a bank survive within a-30 day period for the bank to restructure management and take corrective action of any necessary action to secure the bank. Furthermore, it extend the central bank additional time to take appropriate measure to help the banks who in trouble. The main activity of bank is using the funds (deposits) effectively by way of lending (financing). In general the loan-deposit ratio measures the bank's liquidity as well as profitability of the bank. The ratio is calculated by dividing the total amount of loans, by total amount of deposits (Rengasamy, 2014). The resulting figure is expressed as a percentage.

The Loan- Deposit Ratio is defined by the following formula.

$$\text{Loan- Deposit Ratio} = \frac{\text{Total Loans}}{\text{Total Deposits}} \times 100$$

A high LDR indicates two things, firstly the bank is issuing more of its deposits in the form of interest bearing loans; secondly the bank is generating more income. Hence problem is the failure in repayment of loan, in such a case the banks are liable to repay the deposit money to their customers, so the ratio is too high which puts the bank at high risk. Alternately, a very low ratio means the bank is at low risk, at the same time it is not using assets to generate income

Figure 1.1 Loan-Deposit Ratio (Source: Banks' Annual Report) 2016



Based on the above graph which shows the LDR from 2006 – 2015 for the eight local commercial banks, the average LDR was high at above 80%. The banks liquidity risk is evident from its operations by providing long term loans and making long term investments. This will create mismatch maturities of deposits and loans/investment by accepting short-term deposits for long-term loan and long term investment. As a result, banks need to hold not only an optimal level of capital which is required by Central Bank (BNM) but also liquidity to maintain efficiency and effectiveness of banking operation. Summarizing Park's (2009) study, the East Asian

banking sector has been affected by the 2008 European debt crisis. This happened because most of the banking sectors have reserve currencies dominated in US Dollar and Euro and investments in US and European countries. When the current crisis occurred, many foreign investors and lenders sold off the assets and refused to renew the loans. Consequently, East Asian financial institutions suffered from shortage of liquidity. Hence, many East Asian banks, including Malaysia were unable to rollover the external financing which resulted in insolvency.

In order to resolve this problem, East Asia's banks have to liquidate their banks assets to compensate for the liquidity loss. Unfortunately, the banks could not immediately liquidate their long maturities assets which are normally in the form of loans to consumers such as housing loan, personal loan, term loan, bridging loan, credit card, trade product financing, etc (refer to figure 1.1 - Loan/Deposit ratio). Therefore, this maturity mismatch of assets and liabilities caused the banks to suffer from liquidity crisis and the whole financial institution to become insolvent (Badar, M, 2013; Gardisc, G, 2014; Cucinelli, D, 2015; Alexandri, M.B, 2015; DeYoung, R, 2015). The proportion of deposits taking and lending are significantly and closely linked. Both activities reflect the liquidity transformation function of banks and share a similar overhead (Kashyap, Rajan, and Stein 2002). Therefore, Loan-to-Deposit ratio is crucial to be determined instead of applying those common liquidity indicators abstracted from Basel III framework such as Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), Loan-to-Deposit ratio has been established to further complement the imperfection of the Basel III framework. As a measure of liquidity, loan-deposit ratio has been applied to assess financial institutions' ability to withstand deposit withdrawals.

LITERATURE REVIEW

Review of the following literatures will be able to establish the framework and identify the gap in past literature.

Bank Liquidity : Diamond and Dybvig (1983) were the first to provide evidence about the importance of the role of the bank in the creation of liquidity. Furthermore, liquidity is strongly linked to banking institutions and improper management in liquidity may lead to bankruptcy (Moussa, 2015). Besides that, there are several studies of measure bank liquidity with different methods. Poorman and Blake (2005) stated that it was not enough to measure liquidity just by using liquidity ratios and that it was not the solution. In order to reduce liquidity risk, bank must develop new method of liquidity measurement.

Capital Adequacy: Capital adequacy ratio has positive impact on liquidity and significantly affects bank liquidity. Similar results were found from studies by Vodova (2011 a) saying that bank liquidity increases with higher capital adequacy of banks. This study is in line with recommendations of Basel III, Sharma and Singh (2016), where capital adequacy ratio is positively influence bank liquidity. This result indicates that higher capital adequacy ratio leads to greater liquidity.

Bank Size : In Iqbal (2012) results, the size of banks is proved to have positive influence on the bank's liquidity risk due to less liquid asset holdings. Base on the research done by Vodova (2011b), the size of a bank is negatively related with the liquid asset holdings of the banks in Slovakia. The reason is because the larger banks rely more on the liabilities to solve the liquid asset holdings problem. Similar result was found by Hackethal et al (2010) in banks in supported the result and explained that larger banks will have less liquid asset holdings due to more deposits they hold.

Profitability : Almazari (2014) investigated and found that there is a positive correlation between profitability measured by ROA of Saudi and Jordanian banks with some liquidity indicators. ROA is one among the profitability indicator, however there are few more profitability indicators which are Gross profit ratio (GPR); Net profit ratio (NPR) and return on equity (ROE) (Alshatti, 2015). According to Jeevarajasingam (2014) research, he stated that there is weak relationship between liquidity and profitability (measured by return on equity) even the ROA increasing yearly in bank of Sri Lanka. Al-Khouri (2012) research results also showed a negative significant relationship between bank profitability as measured by return on assets and

banks' liquidity due to high loan losses or high cost intermediation.

Non-Performing Loan (NPL) : Klein (2013) observes a positive relationship between NPL and lending in his study. The NPL is getting higher when the bank lending increases. However, Vithessonthi (2016) argue that NPL and lending are negatively relation due to stringent lending standards. Base on the research on China by Chen, Chou, Chang and Fang (2015) NPL were found to be control by the government to improve safety and competitiveness of the financial system since 1990 and to improve the bank liquidity.

Leverage : Ogboi and Unuafe (2013) revealed that there is an effect between leverage and credit risk and non-performing loans ratio on bank's performance while other researcher such as Kithinji (2010) indicated that there is no relationship between bank performance and non-performing loans. Hosna, Manzura and Juanjuan (2009) revealed that the leverage ratio brings negative impact to the banks' profitability. As a result, non-performing loans will increase. Thus, a bank's financing using debt is not highly recommended because when there is an increase in financial leverage, companies' debt services and so their liabilities will increase as well, which may bring negative impact towards companies' performance.

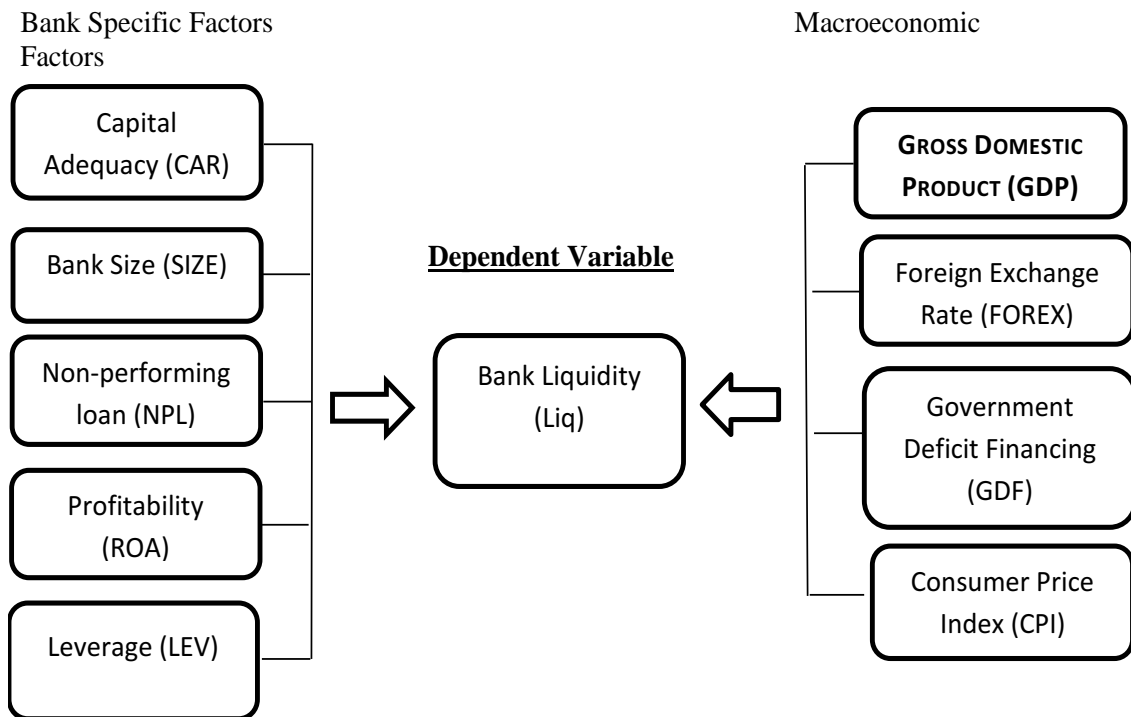
GDP Growth : Gavin and Hausmann (1998) proved that bank failures are due to a degree caused by macroeconomic shock. This fact is also supported by Shen, Chen, Kao, and Yeh, (2009). GDP variable would be taken into account to evaluate the extent of its influence in bank's liquidity. GDP has been found by previous researchers as one among the macroeconomics factors which have effects on bank's liquidity. This fact has been supported by (Shen, et al, 2009). Most of the studies assumed that there exist a negative link between GDP (Gross Domestic Product) and bank's liquidity. Based on the previous research conducted by Aspachs, Nier and Tiesset (2005), they found banks generally were biased towards liquidity preference during the economic boom or economic expansion, whereas bank appear to prioritize liquidity or even build up the liquidity buffer during economic downturn or economic recession.

Foreign Exchange Rate : Brunnermeier and Pedersen (2009) build a model in which interactions between funding and market liquidity lead to illiquidity spirals. The authors show that the model can be explained empirical regularities with respect to the dynamics of market liquidity, for example, its common movements across markets and securities and its relationship with market volatility. Acharya and Viswanathan (2011) also relate bank funding, liquidity and asset prices. In their model, when financial firms use short-term debt to finance asset purchases, negative asset shocks force such firms to de-leverage, causing the funding liquidity and market to dry up. Banti, Phylaktis and Sarno (2012) show that there is a link between liquidity across currencies and that liquidity risk is priced in the cross section of currency returns.

Consumer Price Index (CPI) : The empirical studies by most of the previous researchers on the relationship between the bank's liquid asset holdings and CPI are negative (Bunda and `Desquilbet, 2008, Vodova, 2011a and Vodova, 2011b). Vodova (2011a) found that `inflation rate was negatively correlated with the bank's liquid asset holdings in Czech Republic but no relationship in Slovakia. Vodova (2011a) pointed out that inflation will deteriorate the overall economy condition thus causing the bank's liquid asset holdings to deteriorate as well. This is due to the decrease in nominal value of the bank's loan from the period it was lent till the period it was collected back.

Government Deficit Financing : The reason for the government running a deficit is that it spends more than the revenue collected. When an economy contracts the deficit, it needs financing through either foreign or domestic financing. Martin and Fardmanesh (1990) found empirical evidence that budget deficit negatively affects growth after controlling for taxes and expenditures.

Figure 1.2: Proposed Theoretical Model/Conceptual Framework



Theoretical Framework

Liquidity ratio/stock method is commonly being used because this method is in accordance with BNM definition of bank liquidity in liquidity framework, as loan to deposit ratio. Although there are many ways to measure bank’s liquidity many researchers prefer standardized methods likely loan-deposit ratio and debt ratio. According to Rengasamy (2014), BNM uses loan-deposit ratio instead of debt ratio in order to calculate bank’s liquidity.

Based on BNM’s definition, capital adequacy is:
 Capital Adequacy ratio = Total Capital / Total Risk Weighted Asset x 100

The purpose of maintaining sufficient bank capital is to mitigate liquidity shock. It will be used to absorb losses on a continuous process. Bank’s capital measures the bank’s capital over bank’s total assets (Vodova, 2011a; Vodova, 2011b). Capital adequacy is used to measure the bank capital which is used to protect the depositors and facilitate the stability and efficiency of financial systems. Besides that, it is used to buffer the liquidity shocks during a financial crisis (Iqbal, 2012). The ratio is important to measure the strength of the bank’s capital which needs to be taken into account. Low capitalization of banks result in a growth in problem financing. Bank size refers to banks net total asset. Bank size increases after a certain level and liquidity begins to decrease. The proxy for bank size is the natural logarithm of total assets. Cornett, McNutt, Strahan, and Tehranian (2011) defined bank size as the total asset of the bank which supported by Vodova (2011a). Besides, the size of large banks has increased substantially over the last two decades. Moreover, larger banks tend to have lower capital ratios, and lesser stability in funding which lead to the exposure of potential risk increase. Therefore, bank size is one of the significant variables which will affect bank liquidity. Bank size has positive relation with liquidity based on most studies. Large banks tend to engage more in risky and multiple activities to grow in size, increasing their leverage under “too big to fail presumption”.

Return on Asset measure how efficient banks are fully utilizing their asset to generate profit. ROA is one of the important indicators of profitability because it connect total asset with bank profit. The higher profitability of the bank enables the bank to have sufficient cash flow to manage liquidity to meet obligation. The bank must maintain a trade-off between liquidity and profitability. Bank profit can be defined as the ability to generate revenue in excess to cost. The bank is unable to prioritize liquidity entirely for better resilience to avoid liquidity shocks. Low

liquidity of banks result in a high profitability. NPLs are loans for which a borrower fails to pay their contractual obligations on either interest or principal or both payments exceeding 90 days. Banks play an important role in "Risk Transformation" (taking short-term riskless deposit to granting long-term risky loans) to survive. The proxy for NPL is the percentage of NPLs to total loans. It is measured in terms of percentage (%). The lower the %, the higher is the quality of the loans or vice versa. Low liquidity of banks result in a high NPL.

It can be computed by dividing Tier 1 capital by a bank's average total consolidated assets and certain off-balance sheet exposures such as letter of credit, bankers' guarantee and forward exchange contract. Tier 1 capital consists of total common equity capital, non-cumulative preferred stock and minority interest in unconsolidated subsidiaries. Bank leverage is an important financing tool but will form their capital structure risk (Abubakar, 2015). The higher the bank's leverage, the higher is the liquidity risk. GDP act to measure a country's financial health. It measures the level of economic activity of a country. The proxy for GDP is Economic Growth: Real GDP / Nominal GDP. The exchange rate can be classified as the exchange rate regulated by country monetary authorities or to the rate determined in the legally licensed exchange market (OECD, 2012). The exchange rate is computed as an annual average rate based on monthly average. This indicator is measured in terms of local currency units per US dollar (OECD, 2012).

The CPI represents prices paid by consumers (or households). Prices for a basket of goods are compiled for a certain base period. Price data for the same basket of goods is then collected on a monthly basis. This data is used to compare the prices for a particular month with the prices from a different time period. In order to measure the correlation between the CPI and banks' liquidity level, CPI has been taken into account as the macroeconomic factor. A majority of the researchers considered the CPI as the determinant that might positively affect the banks' liquid asset holding since the nominal value of the banks loans will be affected. However, Trenca et al. (2015) and Vodova (2011) suggested a different view. Based on their opinion, an increase in CPI will drag down the purchasing power of consumers, and consequently lead to an increase in the volume of lending and therefore lower liquidity of bank. Thus, any changes in CPI will influence the bank's liquid asset holdings. For the purpose of this research, CPI is used as a proxy variable to represent the changes in prices in Malaysia. Government deficit financing occurs if a government spends more money than it receives as revenue, the difference being made up by borrowing or minting new funds. Budget deficits may occur from several reasons. The term usually refers to a conscious attempt to stimulate the economy by lowering tax rates or increasing government expenditures. Deficit financing, however, may also result from government inefficiency, reflecting widespread tax evasion or wasteful spending rather than the operation of a planned countercyclical policy.

Development of Hypothesis

The main hypothesis of this study is to investigate the impact of macroeconomics and bank specific factors on the liquidity of the domestic commercial banks in Malaysia.

Gross Domestic Product Growth

H₀: There is no relationship between the gross domestic product growth rates and the liquid asset holdings of the bank.

H₁: There is a relationship between the gross domestic product growth rates and the liquid asset holdings of the bank.

Consumer Price Index (CPI)

H₀: There is no relationship between the CPI and the liquid asset holdings of the bank.

H₁: There is a relationship between the inflation rate and the liquid asset holdings of the bank.

Foreign exchange rate

H₀: There is no relationship between the bank's foreign exchange rate and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's foreign exchange rate and the liquid asset holdings of the bank.

Government deficit financing

H₀: There is no relationship between government deficit financing and the liquid asset holdings of the bank.

H₁: There is a relationship between balance of payment and the liquid asset holdings of the bank.

Bank capital

H₀: There is no relationship between the bank's capital and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's capital and the liquid asset holdings of the bank.

Non-performing loan

H₀: There is no relationship between the bank's non-performing loan and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's non-performing loan and the liquid asset holdings of the bank.

Bank profitability

H₀: There is no relationship between the bank's profitability and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's profitability and the liquid asset holdings of the bank.

Bank size

H₀: There is no relationship between the bank's size and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's size and the liquid asset holdings of the bank.

Bank leverage

H₀: There is no relationship between the bank's leverage and the liquid asset holdings of the bank.

H₁: There is a relationship between the bank's leverage and the liquid asset holdings of the bank

METHODOLOGY

Research Design

This study focuses on all local commercial banks' liquidity which is affected by the macroeconomic factors and bank specific factors. Our empirical analyses will carry out using the secondary data extracted from the Government Statistic Report and BNM Annual Report, World Bank and Bloomberg. We identified the data based on the commercial bank in Malaysia from 2006 to 2016. We have selected 8 different local commercial banks from Malaysia.

Econometric Model

The model used in this analysis is adopted by the formulation postulated by economic theory and literature for the time persistence in the bank liquidity. Following common practices in panel cointegration studies, we consider a bivariate long-run relationship of the form:

$$LIQ_{it}^h = \alpha + \beta_{1t}^h(GDP) + \beta_{2t}^h(FOREX) + \beta_{3t}^h(GDF) + \beta_{4t}^h(CPI) + X_{it} + \varepsilon_{it}$$

where,

LIQ is liquidity,

GDP is the real gross domestic product growth.

FOREX is the foreign exchange rate

GDF is government deficit financing

CPI is consumer price index

Xit is bank-specific variables for testing hypothesis.

As our main interest is on the long-run effect, it is not important to focus on the variable lags through which macroeconomic and bank-specific variables will impact bank liquidity.

We test the “*moral hazard*” hypothesis by formulating Eq. (2) as follows:

$$LIQ_{it}^h = \alpha + \beta_{1t}^h(GDP) + \beta_{2t}^h(FOREX) + \beta_{3t}^h(GDF) + \beta_{4t}^h(CPI) + CAR_{it} + \varepsilon_{it}$$

where

CARit stands for capital adequacy ratio.

Furthermore, we test “*too big to fail*” hypothesis Eq3 as follows:

$$LIQ_{it}^h = \alpha + \beta_{1t}^h(GDP) + \beta_{2t}^h(FOREX) + \beta_{3t}^h(GDF) + \beta_{4t}^h(CPI) + SIZE_{it} + \varepsilon_{it}$$

where *SIZEit* stands for bank size.

Lastly, we add into our equation in “*bad management*” hypothesis, Eq4 as follows:

$$LIQ_{it}^h = \alpha + \beta_{1t}^h(GDP) + \beta_{2t}^h(FOREX) + \beta_{3t}^h(GDF) + \beta_{4t}^h(CPI) + NPL_{it} + ROA_{it} + LEV_{it} + \varepsilon_{it}$$

where *NPL* is non-performing loan

ROA is profitability

LEV is leverage

The regressions model consist of two co-integrated variables that has a stationary error term, ε_{it} which indicates that no relevant integrated variables are omitted; any omitted non-stationary variable that is part of the co-integrating relationship would enter the error term, thus producing non-stationary residuals and thus leading to a failure to detect co-integration (Hazer et al, 2012). Moreover, equations assume that liquidity variables are endogenous in the sense that, in the long-run, changes in macroeconomic and banks-specific variables result in changes in level of bank liquidity.

Data Collection Methods

We use yearly data from secondary sources to do our hypotheses testing. It covers for 11 years from year 2006 till 2016 with sample of 8 local commercial banks (Affin Bank, Alliance Bank, AmBank, CIMB Bank, Hong Leong Bank, Maybank, Public Bank and RHB Bank). This data were collected from Government Statistic Report and BNM Annual Report, World Bank and Bloomberg

Secondary data

There are different research problem are able to be discover from the secondary data collection analysis (Salkind, 2007). Secondary data helps to develop existing primary data which do not include information or results planning from individual or group. Researcher can get guidance from the information available from secondary data. Secondary data is different with the primary data. Primary data will include the interviews section and questionnaire. According to Johnston (2014), we can use secondary data through many ways as it is elastic and flexible. All the statistical data can be found from internet or published articles. Through the progression of review, empirical and systematic scheme with procedural and evaluative steps will be showed. The dependent variable is liquidity ratio. We were interested on how macroeconomic factors and banks specific affect the bank liquidity. Regarding bank specific factors, we concern on the credit risk and liquidity risk thus we took the capital adequacy ratio and non-performing loan which is the reciprocal of liquidity ratio. When the non- performing loan

is high, the bank may face high credit risk. When liquidity risk increases, the bank has to reduce the supply of loan by increasing the interest rate of loan. Therefore, both the risk is expected to have positive relation with liquidity.

Target Population

The target population of the present study is the banking sector in Malaysia. According to BNM, Malaysia consists of 27 commercial banks (domestic and foreign banks) and 8 domestic banks were selected for this research. The reason behind choosing only these 8 domestic banks was due to their availability of data for the specific duration of 2006 to 2016. The 8 domestic commercial banks chosen to examine liquidity factors in Malaysia are presented as below:

Local commercial bank:

1. Affin Bank Berhad
2. Ambank Berhad
3. Alliance Bank (Malaysia) Bhd
4. Hong Leong Bank Bhd
5. RHB Bank Berhad
6. Maybank Berhad
7. Public Bank Berhad
8. CIMB Bank Berhad

Data analysis

In this research, we use panel data to determine the interrelation between bank liquidity which indicates Loan to Deposit Ratio (LDR) and several macroeconomics and bank specific factors variables for 11 years across 8 local Malaysia commercial banks. Panel data able to provide more explanatory information for researcher to analyse. Besides, it contributes with lesser collinearities issue between the factors (Arellano, 2003). To complete the research, Pooled Ordinary Least Square (OLS) Model, Fixed Effect Model (FEM), and Random Effect Model (REM) of panel regression models use to determine the individual-specific effects and time effects. Pooled OLS Model examine that if individual effect does not occur, effective and constant parameters estimates will provided by the ordinary least square (OLS) model. It is the simplest way because it is easy to be interpreted. Fixed Effect Model (FEM) is predictable by Least Square Dummy Variable (LSDV) regression. Other than that, Fixed Effect Model (FEM) must within effect estimation methods. Hence, Fixed Effect Model (FEM) detected whether the intercept differ across groups or time period. Random Effect Model (REM) adopt individual effect are not correlated with some extent repressors' and evaluate error variance specific group. Random Effect Model (REM) can also distinguish as Error Component Model (Kunst, 2009). Hausman test will be carried out to identify either Fixed Effect Model (FEM) or Random Effect Model (REM) is more appropriate.

Panel Unit Root Test

Before continue with other test, unit root test will be use to observe the stationary of data. To determine the functions of time, we use trending data. Trending data will regulate either first differenced or regressed. According to Levin, Lin & Chu (2002), individual-specific intercepts and time trends are permits in panel unit root test. It tends to be suitable in measuring industry-level and cross-country data. The test for unit root test is as follows:

H_0 : Variable not stationary and contain a unit root.

H_1 : Variable stationary and do not contain unit root.

The decision for this testing is reject H_0 if the p-value is less than the 5% of the significant level. Otherwise, do not reject H_0 . In the case of reject, it implied that the model has stationary problem.

Breusch and Pagan Test

Breusch and Pagan test was used to determine whether pooled OLS or Random Effects Model (REM) are more appropriate. In our research, we use Breusch and Pagan test to determine either pooled OLS or Random Effect Model (REM) are significant for us to determine the impact of macroeconomics and bank specific factors that affect bank liquidity in local commercial banks. The hypothesis testing is showed below:

H₀: There is a common intercept in all local commercial banks in Malaysia.
H₁: There is no common intercept in all local commercial banks in Malaysia.

Test statistics is shown below and distributed as χ^2 (Chi-square) statistics with 1 degree of freedom under the null hypothesis.

$$\lambda = \frac{NT}{2(T-1)} \left(\frac{S_1}{S_2} - 1 \right)^2$$

The decision for this testing is that the null hypothesis, H₀ will be rejected if the test statistics is greater than the critical value or the P-value is lower than 5% of the significant level. Otherwise, do not reject H₀. H₀ implied that the Pooled OLS is the best model while H₁ indicated that Random Effect Model (REM) is the best model. Therefore, if H₀ is rejected, Fixed Effect Model (FEM) is to be used in the empirical analysis.

Hausman Test

In order to test whether random effects estimator or fixed effect estimator is more appropriate in empirical analysis, Hausman test will be carried out. We will conduct the Hausman test the check the most appropriate model, either Random Effect Model (REM) or Fixed Effect Model (FEM). Hausman test on hypothesis testing is showed below:

H₀: Random Effect Model (REM) is preferred
H₁: Fixed Effect Model (FEM) is preferred

The test statistics for Hausman test is shown below:

$$H = (\hat{\beta}^{FEM} - \hat{\beta}^{REM}) \left[Var(\hat{\beta}^{FEM}) - Var(\hat{\beta}^{REM}) \right]^{-1} (\hat{\beta}^{FEM} - \hat{\beta}^{REM})$$

The decision for this testing is that the null hypothesis, H₀ will be rejected as the test statistic is larger than the critical value or the P-value is lower than the 5% of the significant level. Otherwise, do not reject H₀. Therefore if H₀ is rejected it indicates that Random Effect Model (REM) is not suitable or appropriate and Fixed Effect Model (FEM) is to be used.

Poolability Test

This Poolability testing is used to define the relevance of the model to be used either Pooled OLS or Fixed Effect Model (FEM). The hypothesis testing is showed below:

H₀: There is a common intercept in all local commercial banks in Malaysia.
H₁: There is no common intercept in all local commercial banks in Malaysia.

The test statistic is restricted by F-test for hypothesis testing. The formula is showed below:

$$F = \frac{(R_{FEM}^2 - R_{pooled}^2) / (K_{FEM} - K_{pooled})}{(1 - R_{FEM}^2) / (NT - K_{FEM})}$$

The decision for this testing is that the null hypothesis, H₀ will be rejected if the F-test is larger than the critical value or the P-value is lower than 5% of the significant level. Otherwise, do not reject H₀. H₀ implied that the Pooled OLS is the best model while H₁ indicated that Fixed Effect Model (FEM) is the best model. Therefore, if H₀ is rejected, Fixed Effect Model (FEM) is to be used in the empirical analysis.

Panel Causality Test

Granger Causality Granger causality is a technique for determining whether one time series is useful in forecasting another. Ordinarily, regressions reflect "mere" correlations. Granger (1969) defined causality as follows: A variable Y is causal for another variable X if knowledge of the past history of Y is useful for predicting the future state of X over and above knowledge of the past history of X itself. So if the prediction of X is improved by including Y as a predictor, then Y is said to be Granger causal for X. Granger Causality takes into account prediction rather than the name it suggests, which is causation. This is because it creates the impression that while the past can cause or predict the future. The future cannot cause or predict the past. From what Granger deduced, 'X' causes 'Y' if the past values of 'X' can be used to predict 'Y' better than the past values of 'Y' itself.

Granger-causality test can be applied in three different types of situations: 1. In a simple Granger-causality test there are two variables and their lags. 2. In a multivariate Granger-causality test more than two variables are included, because it is supposed that more than one variable can influence the results. Relationship between two variables can be unidirectional, bidirectional (or feedback) and neither bilateral nor unilateral (i.e. independence means no Granger-causality in any direction). Granger causality testing applies only to statistically stationary time series. If the time series are non-stationary, then the time series model should be applied to temporally differenced data rather than the original data. Once we determined that the two variables are co-integrated, we perform a panel-based VECM to conduct Granger causality test, which could test both short run and long run causality. We do this using the two step procedures by (Engle and Granger 1987) In the first step, we estimated the long run model specified in below equation to obtain the estimated residuals ε_{it} :

$$Y_{i,t} = \alpha_i + \delta_t + \gamma X_{i,t} + \varepsilon_{i,t}$$

where α_i and δ_t are fixed cross-section and trend effects respectively, we include them only when redundant fixed effects show they are necessary.

CONCLUSION

This study is to investigate the determinants of the liquidity among commercial banks in Malaysia. The bank specific and macroeconomic factors determinants of commercial bank's liquidity will be focused on and the empirical evidence may differ from existing literature as the factors used may not be the same and other factors may also affect the final result. Furthermore, analysis of factors like bank's capital ("moral hazard"), bank size ("too big to fail"), foreign exchange rate ("moral hazard") and government deficit financing affect bank liquidity position in Malaysia will be the main contribution of this study.

REFERENCES

- Abubakar, A. (2015). Relationship between financial leverage and financial performance of deposit money banks in Nigeria. *International Journal of Economics, Commerce and Management*, 3(10), 759-778.
- Acharya, V. and Viswanathan, S. (2011). Leverage, Moral Hazard, and Liquidity. *The Journal of Finance*, 66:99-138.
- Ahmad, R. , Arrif, M. and Skully, M. (2007). Factors determining mergers of banks in Malaysia's banking sector reform. *Multinational Finance Journal*, 11(1/2), 1-31
- Alexandri, M. B., and Santoso, T. I. (2015). Non-performing loan: Impact of internal and external factor (Evidence in Indonesia). *International Journal of Humanities and Social Science Invention*, 4(1), 87-91.
- Al-Khouri, R. (2012). Bank Characteristics and Liquidity Transformation: The Case of GCC Banks. *International Journal of Economics and Finance*.
- Almazari, and Ahmad, A. (2014). Impact of internal factors on bank profitability: Comparative study between Saudi Arabia and Jordan. *Journal of Applied finance and banking*, 4(1), 125.
- Alshatti, A. S. (2015). The Effect of the Liquidity Management on Profitability in the Jordanian Commercial Banks. *International Journal of Business and Management*.
- Aspachs, O., Nier, E., and Tiesset, M. (2005). Liquidity, Banking Regulation and the Macroeconomy: Evidence on Bank Liquidity Holdings from a Panel of UK-Resident Bank. *Working paper, Bank of England*.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Badar, M., and Javid, A. Y. (2013). Impact of macroeconomic forces on nonperforming loans: an empirical study of commercial banks in Pakistan. *WSEAS Transactions on Business and Economics*, 10(1), 40-48. ISSN: 2224-28999
- Bank for International Settlements. (2010 a). Impact of the global crisis on Malaysia's financial system. : Muhammad bin Ibrahim
- Bank for International Settlements. (2010 b). Basel III: International framework for liquidity risk measurement, standards and monitoring. Switzerland
- Banti, C., Phylaktis, K. & Sarno, L. (2012). Global liquidity risk in the foreign exchange market. *Journal of International Money and Finance*, 31:267-291.
- Brunnermeier, M. and Pedersen, L. (2009). Market Liquidity and Funding Liquidity. *Review of Financial Studies*, 22:2201-2238.
- Bunda, I., and Desquilbet, J.B. (2008). The Bank Liquidity Smile Across Exchange Rate Regimes. *International Economic Journal*, 22(3), 361-386.
- Chen, T., Chou, H., Chang, Y., and Fang, H. (2015). The effect of excess lending on bank liquidity : Evidence from China. *International Review of Economics & Finance*, 36, 54-68.
- Cornett, M. M., McNutt, J. J., Strahan, P. E. and Tehranian, H. (2011). Liquidity risk management and credit supply in the financial crisis. *Journal of Financial Economics*, 101(2), 297-312
- Cucinelli, D. (2015). The impact of non-performing loans on bank lending behavior: Evidence from the Italian banking sector. *Eurasian Journal of Business and Economics*, 8(16), 59-71.
- DeYoung, R. and Jang, K. Y. (2015). Do Banks Actively Manage their Liquidity? *Journal of Banking & Finance*.
- Diamond, D. W. and Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 01-419.
- Dodoo, J. (2007). Practical Approach Towards Commercial Banking and Finance. *Unpublished degree's thesis, Atlantic International University, Hawaii, United States*.
- Gadise, G. (2014). Determinants of nonperforming loans: Empirical study in case of commercial banks in Ethiopia.: *Jimma University Business and Economics College Department of Accounting and Finance*.
- Gavin, M. and Hausmann, R. (1998). The roots of banking crises: The macroeconomic context.
- Hackethal, A., Rauch, C., Steffen, S., and Tyrell, M. (2010). Determinants of Bank Liquidity Creation. *Working Paper, Series of Goethe University Frankfurt*.
- Hosna, A., Manzura, B., and Juanjuan, S. (2009). Credit risk management and profitability in commercial banks in Sweden. *Master Degree Project 2009: 36*.
- Iqbal, A. (2012). Liquidity Risk Management: A Comparative Study between Conventional and Islamic Banks of Pakistan. *Global Journal of Management and Business Research*, 12(5), 54-64.
- Jeevarajasingam, N. (2014). A study on Liquidity and Profitability of Private Banks in Sri Lanka. *Research Journal of Finance and Accounting*. 5(21): 165-173.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Johnson, M. P. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries (QQML)*, 3, 619-626.
- Kashyap, A. K., Rajan, R. and Stein, J. C. (2002). Banks as liquidity providers: An explanation for the coexistence of lending and deposit-taking. *The Journal of Finance*, II (1), 33-73.
- Kithinji, A. M. (2010). Credit risk management and profitability of commercial banks in Kenya. *School of Business, University of Nairobi, Nairobi*.
- Klein, N. (2013). Non-Performing Loans in CESEE: Determinants and Impact on Macroeconomic Performance. *IMF Working Papers*, 13(72), 1
- Martin, R., & Fardmanesh, M. (1990). Fiscal variables and growth: A cross-sectional analysis. *Public Choice*, 64, 239-251
- Moussa, M. A .B. (2015). The Determinants of Bank Liquidity: Case of Tunisia. 249-255.
- Ogboi, C., and Unuafef, O. K. (2013). Impact of credit risk management and capital adequacy on the financial performance of commercial banks in Nigeria. *Journal of Emerging Issues in Economics, Finance and Banking*, 2(3), 703-717.
- Park, Y. C. (2009). Reform of the Global Regulatory System: Perspectives of East Asia's Emerging Economies. *Paper presented at the conference on ABCDE World Bank Conference, Seoul, Korea*.
- Poorman, F. Jr., and Blake, J. (2005). Measuring and Modeling Liquidity Risk: *New Ideas and Metrics*
- Rengasamy, D. (2014). Impact of Loan Deposit Ratio (LDR) on Profitability: Panel Evidence from Commercial Banks in Malaysia
- Sharma, A. K., and Singh, A. (2016). An empirical analysis of macroeconomic and bank-specific factors affecting liquidity of Indian banks. *Future Business Journal*, 2(1), 40-53.
- Shen, C.-H., Chen, Y. K., Kao, L. F. and Yeh, C. Y. (2009). Bank liquidity risk and performance.
- Trenca, I., Petria, N., and Corovei, E. A. (2015). Impact of macroeconomic variables upon the banking system liquidity. *Procedia Economics and Finance*, 32, 1170 – 1177.
- Vithessonthi, C. (2016). Deflation, bank credit growth, and non-performing loans: Evidence from Japan. *International Review of Financial Analysis*, 45, 295-305.
- Vodova, P. (2011a). Liquidity of Czech Commercial Banks and its Determinants. *International Journal of Mathematical Models and Methods In Applied Sciences*, 5(6), 1060-1067.
- Vodova, P. (2011b). Determinants of Commercial Banks' Liquidity in the Slovakia. *Journal Acta Unicersitatis Agriculturae et Silviculturae Mendeleianae Brunensis*, 7(60), 740-747

Exploratory Study on The Effectiveness of Audit Procedures Fraud Detection in Inventory and Warehousing Cycle: Evidence from Malaysia

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Abstract

Fraud involving white collar crime is a million dollar case which is rapidly increasing every year and it is difficult to be prevented easily even though organisations have taken numerous actions to overcome this illegal act. Over the past few years, several organisations have spent huge amount of money in order to improve their internal control system and governance in mitigating fraud. It includes public practice firms who have incurred significant amount defending their cases filed by third parties who claim that they have lost their investment, reputation and trust of shareholders due to auditor's failure in identifying fraud and material misstatement. The cost of fraud will absolutely affect the profitability of victimized parties as well as the stability of the nation economy. Thus, this crisis leads to increase in many fraud cases especially when it comes to the financial reporting fraud. However, further attention should be highlighted towards the business inventory and warehousing cycle since it carries a significant and material amount that can be pervasive to the overall financial statement preparation. It is vital to ensure that the external and internal auditors have adopted the appropriate procedures in detecting fraud in the inventory and warehousing cycle since it involves the business financial and operational activities. Therefore, the aim of this study is to explore and investigate the effectiveness of audit procedures in detecting fraud in the inventory and warehousing cycle in Malaysia.

Keywords: Audit procedures, Fraud detection, Inventory and Warehousing cycle.

INTRODUCTION

Due to the increase of accounting fraud and corruption worldwide, there is a demand of stronger governance from the management especially on the effective accounting system. The effectiveness of such system will be assessed appropriately and sufficiently via audit procedures conducted by the professional accountants. According to the Association of Certified Fraud Examiners (ACFE) survey 2016, asset misappropriation is by far the most common of the three primary categories of occupational fraud, consistently occurring in more than 83% of all cases that have been reported. Furthermore, based on the overlap fraud schemes the most common combination of frauds were asset misappropriation and corruption, which were co-perpetrated in 23.6% of cases with a median loss of \$125,000 for asset misappropriation and \$200,000 for corruption (ACFE, 2016). The areas of frauds that concern most of the auditors pertaining to financial statement audit is on misappropriation of assets specifically on inventory and warehousing cycle. Alleyne, Persaud, Greenidge and Sealy (2010) stated that emphasis on inventory and warehouse cycle is importance since it gives a significant impact to the financial statement which mainly involve enormous records of most organisations' tangible and intangible assets. In addition, companies tend to have several locations of inventories and warehouses which lead to complexity of physical stock take and control.

Due to the number of employees with access to inventory management and wide range of inventory valuation policies and procedures, makes the inventory exposed to fraud activities (Alleyne *et al.*, 2010). Due to this situation, it is mandatory that professional accountants (auditors specifically) become progressively cautious in their audit fieldwork especially when it

comes to the inventory management. From the auditor's perspective, it is essential to safeguard stakeholders' interests on fraud risk and also to minimise the risk of litigation in order to maintain the credibility and integrity of the audit profession in the eyes of the public (Alleyne *et al.*, 2010). According to the KPMG Malaysia Survey Report 2013, theft of outgoing funds (67%), theft of physical assets (58%) and theft of incoming funds (34%) are the most common types of fraud that being responded by the chief executives of public listed companies in Malaysia. Furthermore, based on the Global Economic Crime Survey 2016 (PwC Malaysia), asset misappropriation is the highest economic crime experienced by many corporations which is the respondents are mainly from utilities, financial services, government and manufacturing sectors. In addition, the Fall 1997 issue of the Auditor's Report, the American Accounting Association (AAA) encouraged research directed toward assisting auditors in preventing and detecting fraud since there is a tremendous growth in fraud cases indicates that a strong need exists for better approaches to prevent and detect potential fraud (Bierstaker, Brody and Pacini, 2006). It is an indicator that this type of fraud is not being properly dealt with or detected either by the management or the auditors during the normal course of an audit the company's financial statements.

The importance of applying the suitable audit procedures when conducting an audit needs to be prioritised to ensure sufficient and appropriateness of audit evidence can be collected especially when it comes to detecting any prevalence of fraud. Therefore, this paper tends to explore further on the effectiveness of audit procedures in detecting fraud within inventory and warehousing cycle in Malaysia. In addition, this study shall examine on the relationship of auditors' experience and gender as well as the size of audit firm towards fraud detection audit procedures. Finally, based on authors' knowledge and past studies, we are not aware of any research conducted so far on fraud activities involving inventory and warehousing cycle from Malaysia perspective. Thus, this paper contributes to the scarcity of research on this area for future reference and studies.

LITERATURE REVIEW

Fraud

Fraud can be defined as an illegal act perpetrated by an individual or a group of people with the intention to obtain personal interest or benefit. In auditing the financial statements, fraud arises when there is a misstatement which involved both knowledge of its falseness and intention to mislead users in making decision are met (Alleyne *et al.*, 2010). Intentional dishonesty of wrongdoings (Vanasco, 1998), cheating and stealing (Alleyne and Howard, 2005) for personal interest are the main purposes of fraud. Fraud is the intentional distortion of financial statements or other records by persons internal or external to the authority, carried out to conceal the misappropriation of assets or otherwise for gain (Salehi and Mansoury, 2009). The two types of fraud that commonly associated with auditing environment are defalcation toward company's assets and management fraud (Arens *et al.*, 2008). A good example for misappropriation of asset is where a worker intentionally takes goods or inventories from the warehouse without proper authorization and recording entries (Alleyne *et al.*, 2010). Meanwhile, management fraud is basically involved fraudulent financial reporting or manipulation of accounting principles such as an overstatement of ending inventory to indicate more stock in hand and intentionally overstating assets and revenues (Alleyne *et al.*, 2010). Hence, most of the time auditors use the assistance of analytical procedures in detecting fraud (Albrecht, Albrecht and Zimbelman, 2009), ratios analysis in identifying any significant change and trends as well as the fluctuations and relationships that are varying with other relevant information and accounting principles that could deviate from predicted values (Dalnial, Kamaluddin, Sanusi, and Khairuddin, 2014).

Perceived effectiveness of fraud detecting audit procedures

Well known to the auditors, in detecting management fraud within an organization is a challenging and tough responsibility that need to apply most suitable audit procedures (Porter & Cameron, 1987; Coderre, 1999) due to lack of knowledge and experience in understanding the features of management fraud, it leads the auditors fail to detect such indicators of fraud and management purposely deceive auditors in various ways (Fanning & Cogger, 1998). Any limitation of audit due to the unethical managers to deceive, standard auditing procedures

conducted by auditors shall not be able to prove on sufficient and appropriateness of audit evidence. This creates a limitation towards auditors in term of audit procedures selection in detecting fraud (Kirkos, Spathis and Manolopolous, 2007). Hylas and Ashton (1982) found that analytical review procedures and discussions with audit clients projected a huge percentage of errors (281 errors) requiring financial statement adjustments on 152 audits. Furthermore, Wright and Ashton (1989) found that about half of the errors (186 engagements involving 368 proposed audit adjustments) were detected by using the client inquiry, expectations based on prior years, and analytical review procedures. Past studies have examined on the probability of detecting fraud based on the audit procedures used during an audit engagement, planning and fieldwork (Moyes, 1996; Moyes and Levine, 1997). Furthermore, Moyes (1996) found that audit procedures in detecting fraud using a direct method of evidence collections are more effective as compared to those indirect methods of evidence collection in examining the valuation and assessment of inventories. According to Owusu-Ansah *et al.*, (2002), they examined on the perceived effectiveness of 56 fraud detection audit procedures specifically used in the inventories and warehousing cycle in New Zealand. The results indicate that more than fifty percent of the audit procedures used are “moderately effective”, less than fifty percent of the standards procedures were perceived as “more effective” and a total of 15 procedures were “less effective” (Alleyne *et al.*, 2010). In general, these studies show that there are different perceptions on the level of effectiveness of audit procedures since direct collection of evidence is more effective than indirect collection towards inventories and warehouse cycle (Alleyne *et al.*, 2010). Therefore, the first research question (RQ) for this study is:

RQ1. Which types of audit procedures are being most effective in the inventories and warehousing cycle fraud detection?

Size of audit firms and auditors experience towards fraud detection audit procedures

According to Salehi and Mansoury (2009), fraud detection is one of the components of audit quality and therefore it's related to the performance of an audit firm in conducting financial statement audit. This performance is measured by the size of the audit firms which Dye (1993) suggested that richer audit firms with more resources tend to motivate themselves to be diligent and meticulous in their assessments of client companies, as their greater wealth are being more susceptible to lawsuits, and therefore they have more to lose pertaining to the case of audit failure (Clarkson and Simunic 1994; Feltham, Hughes, and Simunic 1991). Meanwhile, small size firms were believed to have less fortune and resources; therefore, any encouraging judgment in a lawsuit cases due to fraudulent activities may possibly be a thin line of victory. Furthermore, DeAngelo (1981) opposed that large audit firms had more to lose if they were failed to honestly and fairly report a client's condition; therefore, their reports are likely to be more reliable as compared to small size audit firms. In relation to the inventories and warehousing cycle, both Owusu-Ansah *et al.* (2002) and Moyes and Hasan (1996) found that size of the audit firm is positively influenced and associated with a higher likelihood of detecting fraud in the inventory and warehousing cycle. Overall these authors are trying to explain that larger audit firms tend to have more resources on the accumulated expertise which make these firms more experienced and knowledgeable in detecting fraud. It can be further supported by Salehi *et al.* (2009) whereby large audit firms have sophisticated technologies, well financial supports, and more experienced staff to conduct huge audit activities for larger corporations compared to small size audit firms. Hence, auditors that being employed in a large size audit firm have better awareness, encouraged to have knowledge sharing and to ensure better quality review on the selection of audit procedures that are considered most effective to be conducted in detecting fraud especially in the inventories and warehousing cycle. Therefore, the next two RQs we are planning to explore are:

RQ2. What are the dissimilarities in perceptions between small and large audit firms towards the effectiveness of audit procedures in detecting fraud in the inventories and warehousing cycle?

RQ3. Do the audit experience and perceived effectiveness of audit procedures in detecting fraud has any significant relationship in the inventories and warehousing cycle?

Perceived effectiveness and gender

An empirical study conducted by Ho and Hollister (2013) on people perceptions that portray gender and detects gender deception in online text-based communication has found that female speaker's receivers were perceived successful in their attributions as compared to male speaker's receivers. It was noted that females are more easily detectable however, since there was no significant difference in the deceptive state group, deceptive priming may make it more difficult for the receiver to correctly identify gender. In addition, Paustan-Underdahl, Walker and Woehr (2014) indicate that men and women do not differ in perceived leadership effectiveness and women are rated as significantly more effective than men. In contrast, a study conducted by De Hoogh, Den Hartog and Nevicka (2014) found that female narcissistic leaders were seen as less effective compared to male narcissistic leaders. It is also found that when male subordinates served as raters they rated female narcissistic leaders lower while their effectiveness ratings of male leaders were not affected by narcissism that leads to female subordinates showed no gender prejudice in their effectiveness evaluations of narcissistic leaders. Meanwhile, literature by Gilligan (1977) and Sweeney (1995) suggested that females are more morally inclined and more profound than males. It lead to a question whereby, is the presence of female auditors shall have better results in detecting fraud and also selecting the appropriate audit procedures? The most important question needs to be highlighted is that, can this be applied to what Moyes (2007) suggested, namely, is there any significant relationship between the genders that likelihood to oversee or have different perspective in identifying fraud, application of fraud procedures or indication of red flags in auditing environment? (Alleyne *et al.*, 2010) As such, discovery on the relationship between gender and the selection of audit procedures audit detection on inventories and warehousing cycle is remain scarce. Thus the next RQ would be:

RQ4. Is there any significant relationship between gender (male and female) towards the effectiveness of audit procedures in the inventories and warehousing cycle?

RESEARCH METHODOLOGY

Sampling Design

This study shall gathered information based on primary data from the auditors in Malaysia. Specifically the target population is among Chartered Accountants approved by the Malaysian Institute of Accountants (MIA) and has several years of experience in auditing. This is to ensure that the respondents have an in-depth understanding and experience in conducting audit pertaining to fraud detection and investigation. According to the Accountants Act 1967, an applicant shall, before admission as a chartered accountant, satisfy the Council that-he has authority under section 8(2) and (6) of the Companies Act 1965 [Act 125] to act as a company auditor without limitation or conditions. This is in line with the MIA-By Law *Professional Competence and Due Care* where the certified accountants are to maintain professional knowledge and skill at the level required to ensure that a client or employer receives competent professional services based on current developments in practice, legislation and techniques and act diligently and in accordance with applicable technical and professional standards (MIA, 2010).

Research Procedure

This study shall employed a self-administered questionnaire which was similarly adopted from a research done by Owusu-Ansah *et al.*, (2002) and (Alleyne *et al.*, 2010) in Barbados. Currently there are more than 30,000 Certified Accountants registered with MIA and it is estimated that 1,200 questionnaires (approximately 4%) shall be distributed to the Chartered Accountants in several states mainly from Penang, Perak, Kelantan, Pahang, Selangor and Johor. The auditors are being selected within those practitioners among the international firms in Malaysia, medium and small size firms and sole practitioners. This is to ensure that we are able to collect a variety of auditors' experience and knowledge on the fraud detection audit procedures in Malaysia.

The questionnaire is divided into two parts which Part 1 shall provide information on demographic profiles of the respondents, namely firm size, qualification, years of experience, job position, gender and age (Alleyne *et al.*, 2010). Meanwhile, for Part 2 shall provide on

respondents' feedback on the level of effectiveness of 56 standard fraud-detecting audit procedures that applicable to the inventories and warehousing cycle used by Owusu-Ansah *et al.*, (2002). Basically all questions in Part 2 are using a five-point Likert scale, ranging from 1 (extremely ineffective) to 5 (extremely effective).

This study shall focused on the four research questions that has been discussed in the literature review in order to analyzed the level of perceived effectiveness of audit procedures and categorise it into three levels of feedback which is "more effective", "moderately effective" and "less effective" and the overall mean response will be used to determine the level of effectiveness of each audit procedures in detecting fraud in the inventories and warehousing cycle (Alleyne *et al.*, 2010). Later, the collected data shall be further analysed using one sample *t*-tests and the independent sample *t*-tests to determine the statistical significance of the audit procedures (Alleyne *et al.*, 2010). This will be similar with Owusu-Ansah *et al.*, (2002) and (Alleyne *et al.*, 2010) that "an audit procedures was classified as "more effective" if its mean response exceeded the overall mean response by a significant difference, "moderately effective" if its mean response exceeded the overall mean but was not statically significant and "less effective" if its below overall mean and was insignificant.

CONCLUSION AND DISCUSSION

This study is adopted mainly from Owusu-Ansah *et al.*, (2002) and (Alleyne *et al.*, 2010) to explore further understanding of the effectiveness of audit procedures fraud detection in the inventories and warehousing cycle in Malaysia. It shall provide additional literature, result of study and contribution of knowledge on fraud detection and auditing that can be useful for future reference. In addition, this study shall give further insight and awareness to the auditors in Malaysia on the appropriate use of audit procedures in detecting fraud in the misappropriation of asset areas such as inventories and warehousing cycle. In practical, this is to ensure that the shareholders' interests are properly safeguarded and the reputation of professional accountants and auditors from the public expectations can be further improved and maintained in achieving their audit objectives and opinion.

REFERENCES

- Alleyne, P., Persaud, N., Alleyne, P., Greenidge, D., and Sealy, P. (2010), "Perceived effectiveness of fraud detection audit procedures in a stock and warehousing cycle Additional evidence from Barbados", *Managerial Auditing Journal*, Vol. 25 No. 6, pp. 553-568.
- Alleyne, P. and Howard, M. (2005), "An exploratory study of auditors' responsibility for fraud detection in Barbados", *Managerial Auditing Journal*, Vol. 20 No. 3, pp. 284-303.
- Alleyne, P.A., Devonish, D. and Alleyne, P.G. (2006), "Perceptions of auditor independence in Barbados", *Managerial Auditing Journal*, Vol. 21 No. 6, pp. 621-35.
- Ahmad, R. S., N. (2015). Fringe benefits and organisational commitment: the case of Langkawi hotels. *Tourism Review*, 70(1), 13-23.
- Association of Certified Fraud Examiner (2016), Report to the nations on occupational fraud and abuse, 2016 Global fraud study. Retrieved from <http://www.acfe.com/rtn2016.aspx>
- Bierstaker, J.L., Brody, R.D., Pacini, C., (2006), "Accountants' perceptions regarding fraud detection and prevention methods", *Managerial Auditing Journal*, 21(5), 520-535.
- Chung, J. and Monroe, G.S. (2001), "A research note on the effects of gender and task complexity on an audit judgment", *Behavioural Research in Accounting*, Vol. 13, pp. 111-25.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- De Hoogh, A.H.B., Den Hartog, D.N. and Nevicka, B., (2014), "Gender differences in the perceived effectiveness of Narcissistic Leaders", *Journal of Applied Psychology*, Vol. 64 No.3, pp. 473-498.
- Ernst & Young, 2014. Overcoming compliance fatigue reinforcing the commitment to ethical growth: 13th Global Fraud Survey. Retrieved from [http://www.ey.com/Publication/vwLUAssets/EY-13th-Global-Fraud-Survey/\\$FILE/EY-13th-Global-Fraud-Survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-13th-Global-Fraud-Survey/$FILE/EY-13th-Global-Fraud-Survey.pdf)
- Gilligan, C. (1977), "In a different voice: women's conception of the self and morality", *Harvard Educational Review*, Vol. 49, pp. 431-46.
- Moyes, G.D. (1996), "Audit techniques and inventory fraud detection in accounting information systems", *Review of Accounting Information Systems*, Vol. 1 No. 1, pp. 63-76.
- Moyes, G.D. (2007), "The differences in perceived level of fraud-detecting effectiveness of SAS No. 99 red flags between external and internal auditors", *Journal of Business & Economics Research*, Vol. 5 No. 6, pp. 9-25.
- Moyes, G.D. and Baker, R. (1995), "How effective are audit techniques in detecting fraud?" *Internal Auditing*, Vol. 10 No. 4, pp. 32-40.
- Moyes, G.D. and Hasan, I. (1996), "An empirical analysis of fraud detection likelihood", *Managerial Auditing Journal*, Vol. 11 No. 3, pp. 41-6.
- Moyes, G.D. and Lavine, M.K. (1997), "Which audit techniques work in detecting fraud?" *Corporate Controller*, Vol. 106, pp. 43-7.
- Owusu-Ansah, S., Moyes, G.D., Oyelere, B.P. and Hay, D. (2002), "An empirical analysis of the likelihood of detecting fraud in New Zealand", *Managerial Auditing Journal*, Vol. 17 No. 4, pp. 192-204.
- Paustan-Uderdahl, S.C., Walker, L.S. and Woehr, D.J. (2014), "Gender and Perceptions of Leadership Effectiveness: A Meta-Analysis of Contextual Moderators", *Journal of Applied Psychology*, Vol. 99 No. 6, pp. 1129-1145.
- PwC, 2016. Global Economic Crime Survey report 2016 (Malaysia Report). Retrieved from <https://www.pwc.com/my/en/publications/gecs-2016-my-report.html>.
- Salehi, M., Mansoury, A. and Pirayesh, R. (2009), "Firm size, audit regulation and fraud detection: empirical evidence from Iran", *ABAC Journal*, Vol. 29 No. 1, pp. 53-65.
- Saunders, M., Lewis, P. and Thornhill, A. (2003), *Research Methods for Business Students*, Prentice-Hall, London.
- Sweeney, J. (1995), "The moral expertise of auditors: an exploratory analysis", *Research on Accounting Ethics*, Vol. 1, pp. 213-34.

Will Currency Control Attract Portfolio Diversification Opportunities from International Investor?

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Abstract

This study is to examine on the dynamic co-movement of the selected international stock indices which home currencies are pegged to US Dollar versus to the stock indices with a liberal exchange rate policy adoption. The length of observation is on a daily basis from 1st Aug2010 to 31st July2017. By investigating the time-varying and multi-horizon nature of these co-movements, it will assist the international investor to identify a maximum portfolio diversification opportunities in a different currency's policy regime. The strengthening of USD is perceived as a very receptive factor to both global portfolio investments and as well as to international investors. Thus, by comparing indices which home currencies are pegged to US dollar versus indices with a liberal exchange rate policy adoption would further tell us about the relationship between USD return and local stock market return. In this study, we used a proxy of Saudi Arabia Tadawul All Share Index (SASEIDX) as they pegged Riyal against USD and a proxy of FTSE Bursa Malaysia KLCI to represent a liberal exchange rate system. The study employs MGARCH-DCC and wavelet approach in order to find a relationship among the different time scaling frequencies. In a short holding period for less than a year, a negative correlation found between US Dollar return and selected stock indices. Meanwhile, in a long holding period, US Dollar return holds a positive relationship. Finally, no evidence found to support a view that currency pegging against USD would really give a better portfolio diversification's benefit as compared to a liberal exchange rate system adoption's currencies.

Keywords: Currency Control, Portfolio Diversification, MGARCH-DCC, MODWT, Continuous Wavelet Transform CWT, Volatility

INTRODUCTION

Real exchange rate plays a pivotal role in investment decision and international trade as the fluctuation of currency could affect foreign direct investment inflows and exports. As a result of a continuous depreciation of ringgit against US Dollar (USD), the country's inflation rate stood up, the purchasing power becomes weaken and also it causes a lower rating of local issuance due to an increase risk of default in a dollar-denominated debt. Lastly, the outflow of international capital fund further worsens the situation. Since Malaysia is an export-dependent country with export contributing 71% of Malaysia GDP (Malaysia Country Risk Report, 2017), much of its revenue comes from export activities. Thus, a continuous fluctuation in exchange rate will affect the international trade and foreign direct investment negatively (Tsen, 2013). As international investors, they are very keen on a country's exchange rate as the volatile moment affects their investment portfolios. So, they prefer investment in a nation with stable exchange rate to decrease investment risk and avoid foreign exchange losses (Shaffer, 2016). Therefore, this paper is undertaken to investigate the relationship between currency risk and stock market return with the hope that the findings able to bring some insights on the international portfolio diversification benefits and give a direction for future monetary policy decisions.

The methodological approach used in this study is to investigate the simultaneous influence of two models, namely MGARCH-DCC and wavelet in detecting a bi-directional causality effects at different time scales. The MGARCH-DCC allows the researcher to see the shifts in conditional correlations and volatilities more clearly. Meanwhile, the wavelet aims to study the chronological specifications for the financial and economic variables, especially on the decomposition. This is to identify the sub-time series and the localization of the

interdependence. The results obtained concludes that there is a negative relationship between the Islamic stock price indices and USD return. In a short term holding period, there is a negative correlation between stock price indices and benefit to the international portfolio diversification. Meanwhile, found no strong diversification benefit in positive correlation of long term holding period.

LITERATURE REVIEW

The theory reflecting to the international diversification of investment portfolios has been introduced by Grubel (1968) by extending the concept of modern portfolio analysis, which pioneered by Markowitz (1952) and Tobin (1958). He suggests that there would be a potential on an international welfare gain, distinguishable from both trade and productivity gain by international portfolio growth. In other words, investors can substantially benefit from international diversification when they can manage the currency risk. Meanwhile, there are two competing hypotheses on the USD exchange rates that relatively affect the international, or more specifically emerging market stock prices and conversely. The first approach asserts that causal relationship runs from USD to emerging stock prices while a net export or net import of commodity products. The adherents of this approach argue that appreciation of USD affected the commodity pricing, especially an oil price, and they found a negative relationship. For oil exporter countries in Middle East like Saudi Arabia, Iraq, Iran then Latin American like Chile, Brazil, Venezuela and Asia like Indonesia, Malaysia will suffer due to a strong USD since they are commodity exporters. As a result of a continuous appreciation of USD the oil price was dropped and due to this led to a sharp reduction in country's revenues and in turn affected the economy as a whole. However, a net commodity importer countries may benefit from the USD strengthening as the cost of commodities price dropped and it leads to an increasing competitiveness of a local firm, which in turn influences a firm's earnings and net worth and thus the stock prices increased. (Dornbush and Fisher, 1980)

The second approach says that higher U.S. interest rates led to an increases value of USD which will actually harm the emerging markets. This assumption is justified that most of the emerging markets are heavily relied on the foreign portfolio fund inflows. From year 2009 to 2013, emerging markets received about US\$4.5 trillion of gross capital inflows, representing roughly half of all the global capital flows in the period mentioned (Viñals, 2016). If the investment return increases in U.S., then the international capital flows away from emerging markets could accelerate and make deficit funding more difficult (Guttman, 2016). Therefore, the outflow of capital will directly affects the local firms' stock price performance (Eichengreen, 1999). In recent decades, most of the countries have adopted a floating exchange rate system as it gives a flexibility and autonomous in monetary policy. The classical theory states that the change of exchange rate is influenced by international trade. However, in empirical studies, a mixed findings on the relationship between stock price indices and exchange rate were found. Some studies have found evidence that supporting the different connections between stock and foreign exchange markets. Obstfeld, *et al.* (1995) discusses the hardship of maintaining fixed exchange rates in a world of expanding to a global capital markets. They found that the industrialized-country monetary authorities easily have the resources to defend exchange parities against a speculative attack. However, the costs of defending an exchange-rate found very high. The result revealed that real effective exchange rates had a significant positive impact on stock returns in long run.

Regarding the ASIA currency's crisis, Pan *et al.* (1995) study on the dynamic linkages between exchange rates and stock prices for seven East Asian countries, including Hong Kong, Japan, Korea, Malaysia, Singapore, Taiwan, and Thailand, for the period of January 1988 to October 1998. The results show a significant causal relation from exchange rates to stock prices for Hong Kong, Japan, Malaysia, and Thailand before the 1997 Asian financial crisis. For instance, Doong *et al.* (2005) study on the dynamic relationship between stock return and exchange rates among above mentioned Asian countries between year 1989 to 2003 and have found that the stock return is negatively correlated with the contemporaneous change in the exchange rates for all countries except Thailand. Bhojraj, *et al.* (2006) examines the momentum and reversals in international stock market indices. They found that the first year after the portfolio formation date and reversals during the subsequent 2 years have a strong reversals in

U.S. dollar-denominated stock index returns. They used a cross-sectional regression on international stock indices and concludes the portfolio findings are strongly related to initial momentum and accompanied by subsequent reversals.

Kim (2003) employed the multivariate co-integration and error-correction model in analyzing the relationship between stock and foreign exchange markets in the U.S. from 1974 to 1998. The results showed that the stock prices and exchange rates, regardless in the long or short run are found to be negatively correlated. Moreover, Zhao (2010) analyses the dynamic relationship between the real effective exchange rate and the Chinese stock price, using a VAR with a multivariate GARCH model. The results show that there is no stable long run equilibrium relationship between the two financial markets. In a more recent paper, Sui *et al.* (2016) examines the dynamic relationships among the local stock returns relates to foreign exchange rates, interest differentials, and U.S. S&P 500 returns of BRICS, in the regime of managed floating exchange rate and restricts foreign capital flows. There are significant spillover effects from foreign exchange rates to stock returns in the short-run.

Harrathi *et al.*(2016) employed a combination of a vector autoregressive (VAR) and a VAR-BEKK-MGARCH models with a constant conditional correlation (CCC) and dynamic conditional correlations (DCC) for a daily equity returns of Turkey, Indonesia, Egypt, Mexico, China and Brazil. They found a strong volatility spillovers among the Islamic and the non-Islamic country' market returns and they are affected by the occurrence of recent financial crises. Their finding is important for the policy makers and portfolio managers in terms of the asset allocation's decisions, designing portfolio hedging strategies and for the stability of the financial systems. Based on the literature reviews, it is generally concluded that non-existent of unanimous relationship between stock price and exchange rate. Although previous studies have properly documented the relationship between stock prices and exchange rates, the empirical results showed conflicting evidences. The findings from the previous studies are vary and they are depending on the country's economic status and methodology used in the analysis. Thus, unanticipated to international investor on portfolio diversification benefit and policy formulation by the policy makers.

DATA AND METHODOLOGY

Data

The study uses a daily data of the USD indices (DXY), FTSE Bursa Malaysia KLCI (FKL) and Saudi Arabia Tadawul All Share Index (SAS) in order to make a comparable study of exchange rate policy implication towards stock indices performance. The exchange rate indices of DXY represented the value of the U.S. dollar relative to majority of its most significant trading partners namely Euro, Japanese yen, Canadian dollar, British pound, Swedish krona and Swiss franc. This index started in 1973 with a base of 100 and therefore a value of 110 means the USD experienced a 10% increase in value meanwhile 90 means 10% decline in the value over the time period. FKL represent a country stock indices, Malaysia, which has adopted to a liberal foreign exchange policy. The other equity indices used in this study is Saudi Arabia (SAS), which represent a country that pegged their home currency (Riyal) to USD. The length of observation is on a daily basis from 1st Aug 2010 to 31st July2017. To be noted, the sample period includes some major events such as spectacular increase in oil prices throughout the 2007 and 2008, the subsequent global financial and economic collapse in late 2008 and early 2009, the gradual recovery of global markets in 2010, falling oil prices in beginning 2015 and lastly a depreciation of emerging market currencies in recent times. All stock indices are sourced from Bloomberg.

As to the methodology, the daily returns of individual indices for both Islamic indices are calculated from the stock price (P) indices represented DFKL & DSAS while the changes in exchange rate is calculated from the exchange rate (DXYP) values. The variables are transformed to log difference to work with return series.

$$r_t = \log \left(\frac{P_t}{P_{t-1}} \right)$$

The study employs daily returns instead of levels for at least two main reasons. Firstly, the study concerned only with daily price dynamics over time. Secondly, non-stationary which is one of the major stylized facts in stock market behavior cannot pose problem when using wavelets and therefore filtering data is not necessary. This study sample the daily return series at different scale crystals as follows: d1 (2-4 days), d2 (4-8 days), d3 (8-16 days), d4 (16-32 days), d5 (32-64 days), d6 (64-128 days), d7 (128-256 days) and d8 (256-512 days).

Methodology

The study implements the multivariate GARCH DCC developed by Engle (2002) and wavelet tools namely wavelet coherency to capture the correlation between two time series (CWT and MODWT).

Multivariate GARCH – Dynamic Conditional Correlation (MGARCH-DCC)

The MGARCH-DCC approach allows the researcher to observe and analyse the precise timings of shift in conditional correlations and volatilities. The main merit of DCC in relation to other time varying methods such as Kalman filters and Flexible Least Squares is that it accounts for changes in both the mean and variances of the time series. In other words, DCC allows for changes both in the first moment (mean) and the second moment (variance). Estimation of MGARCH-DCC involves two step processes to simplify the estimation of time varying correlations. In first stage, univariate volatility parameters are estimated by using GARCH model. In stage two, the standardized residuals from first stage are used as inputs for estimating a time varying correlation matrix. (Rahim, Adam & Masih, 2016), (Yusuf, Ginanjar & Masih, 2017),

$$H_t = D_t R_t D_t$$

H_t : Conditional covariance matrix
D_t : Diagonal matrix of conditional time varying standardized residuals
R_t : Time varying correlation matrix

Meanwhile, the estimates of the correlations coefficient given below is based on the volatized returns that are nearly Gaussian. (Pesaran & Pesaran, 2007)

$$\hat{r}_{it} = \frac{r_{it}}{\sigma_{it}^{standard}} = \frac{r_{it}}{\sigma_{it}(p)}$$

Wavelet Coherence and wavelet correlation

The wavelet approach is to detect stock market interactions in different time horizons (daily, monthly, and weekly). This study follow the studies of Grinsted et al. (2004) and Aguiar-Conraria and Soares (2011) which apply wavelet coherency in the form of continuous wavelet transform (CWT) on the return series in order to capture co-movement in time-frequency space. The wavelet coherence is defined as the squared absolute value of the smoothed cross wavelet spectra normalized by the product of the smoothed individual wavelet power spectra of each selected time series according to Torrence and Webster (1999). The squared wavelet coefficient is given as.

$$R_n^2(s) = \frac{|S(s^{-1}W_n^{XY}(s))|^2}{S(s^{-1}|W_n^X(s)|^2) * S(s^{-1}|W_n^Y(s)|^2)}$$

Where

- S is smoothing operator, in *time* and *frequency*
- *W^X*, *W^Y* are the wavelets for each time series
- *W^{XY}* is the cross wavelet
- Similar to a correlation coefficient varying in time/frequency
- Get 95% confidence level using chi-squared
- *s⁻¹* is used to convert to energy density (*s* = scale, *n* = time index)

For wavelet correlation coefficient, $\rho_{XY}(\lambda_j)$ to identify the relationship between two time series ,defined by

$$\tilde{\rho}_{XY}(\lambda_j) = \frac{\tilde{\gamma}_{XY}(\lambda_j)}{\tilde{\sigma}_X(\lambda_j)\tilde{\sigma}_Y(\lambda_j)}$$

where,

- $\tilde{\sigma}_X(\lambda_j)$ and $\tilde{\sigma}_Y(\lambda_j)$ are the unbiased estimators of the wavelet variances
- $\tilde{\gamma}_{XY}(\lambda_j)$ is the unbiased estimators of the wavelet covariance.

The study follows Genc, ay et al. (2002) for a simple wavelet-based approach in order to test for a significant difference.

EMPIRICAL RESULTS

Table 1 shows the list of variables used in identifying the relationship between USD indices and stock indices for both Malaysia and Saudi Arabia. The variables consist of USD indices which represent the U.S. dollar relative to majority of its most significant trading partners, stock indices of FTSE Bursa Malaysia KLCI and Saudi Arabia Tadawul All Share Index (SASEIDX). These variables base have been transformed into a log of first difference form to work with return series.

Table 1. List of variables under study

Code	Description	Log 1st difference form
USD Indices (DXY)	U.S. dollar relative to majority of its most significant trading partners	DXY
Malaysia Stock indices (FKL)	FTSE Bursa Malaysia KLCI	FKL
Saudi Arabia Stock indices (SAS)	Tadawul All Share Index (SASEIDX)	SAS

Table 2 reports the descriptive statistics for the stock indices return of both countries and USD indices changes time series. From this summary statistic, several traits can be identified.

Table 2. Descriptive statistics

	DDXY	DFKL	DSAS
Mean	0.00002369	0.00006700	-0.00002985
Standard Deviation	0.00172801	0.00179498	0.00346224
Sample Variance	0.00000299	0.00000322	0.00001199
Kurtosis	3.45814507	4.68216458	23.34103242
Skewness	0.09544684	-0.18143542	-0.54796787
Minimum	-0.01042635	-0.00966463	-0.03277518
Maximum	0.00882054	0.01043903	0.03712121
No Obs	2,174	2,174	2,174

Firstly, Malaysia stock indices (FKL) has the highest mean return. In additional, Saudi Arabia stock indices (SAS) is more volatile compared to Malaysia and USD asset return. The skewness normality test indicates that the return distributions of both stock indices are negative, it means the investors likely to experience a negative outcomes from DFKL and DSAS. In addition, high excess kurtosis values more than 3 explains that the stock return and currency indices changes the distributions are highly leptokurtic relative to normal distribution, indicates that both indices and USD experience fatter tails and lesser risk of extreme outcomes.

Unconditional Volatility, Unconditional Correlation and Dynamic Conditional Correlation

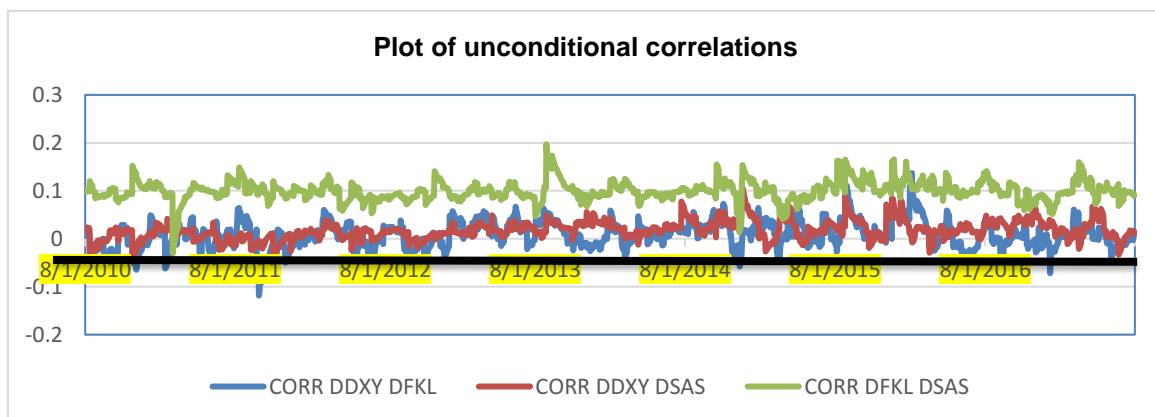
Table 3 below summarized the results of maximum likelihood estimates of lambda 1 (λ_1) and lambda 2 (λ_2), volatilities and correlation estimates based on Gaussian normal distribution. The summation of lambda1 and lambda2 (0.0001578 + 0.9946041 = 0.9947619) less than unity indicated that the shock to the volatilities of the three indices are not permanent. There is a positive correlation between the three variables, DDXY, DFKL and DSAS which indicated that when there is strong return incentive of USD base assets, consequently lead a positive return of stock market return for both countries. No significant difference in correlation coefficient between Malaysia and Saudi Arabia in attracting portfolio diversifies benefit from international capital fund inflow.

Table 3. Estimates of Dynamic conditional correlation for the DDXY, DFKL and DSAS

Gaussian Normal Distribution			
	Parameter	Estimate	P-Value
Volatilities	ARCH_DDXY	0.00000299	0.000
	ARCH_DFKL	0.00000322	0.000
	ARCH_DSAS	0.00001200	0.000
Correlation	corr(DDXY,DFKL)	0.0786146	0.015
	corr(DDXY,DSAS)	0.0853447	0.001
	corr(DFKL,DSAS)	0.1538572	0.000
Lambda 1(λ_1)		0.0001578	0.521
Lambda 2(λ_2)		0.9946041	0.000
Max. Log Likelihood		30681.75	

Figure 1 shows the conditional correlations between DDXY and DFKL, DDXY and DSAS and DFKL and DSAS. It shows that there is a high correlation between DFKL and DSAS, which means that both will have a co-movement along the study period to the market while there is generally no significant different correlation between DDXY with both stock indices return. The result seems both indices correlated close to zero with USD return. As result, no strong evidence to prove Saudi Arabia that pegged Riyal against USD enjoyed more portfolio diversify benefit relatively compare to Malaysia that adapted liberal exchange rate system.

Figure 1: Conditional Correlations



Wavelet Coherence Result

In wavelet approach, the decomposition of time series consists on the decomposition of signal into set of coefficients. Figure below shows the estimated cross wavelet coherence between the three variables which are DDXY DFKL and DSAS. The cross wavelet coherence has the power to investigate the varying characteristics of the relationship between the two variables in the time frequency domain. In these plots, the horizontal axis refers to time intervals whereas the vertical axis represents the frequency component, which is converted to time units (daily). In the cross wavelet coherence pictures, color code for power ranges from blue (low coherency) to red (high coherency). The values for the 5% significance level represented by the curved line are obtained from the Monte Carlo simulations. All pictures show the cross-coherency between two variables.

Figure (2-a): DDXY versus DFKL

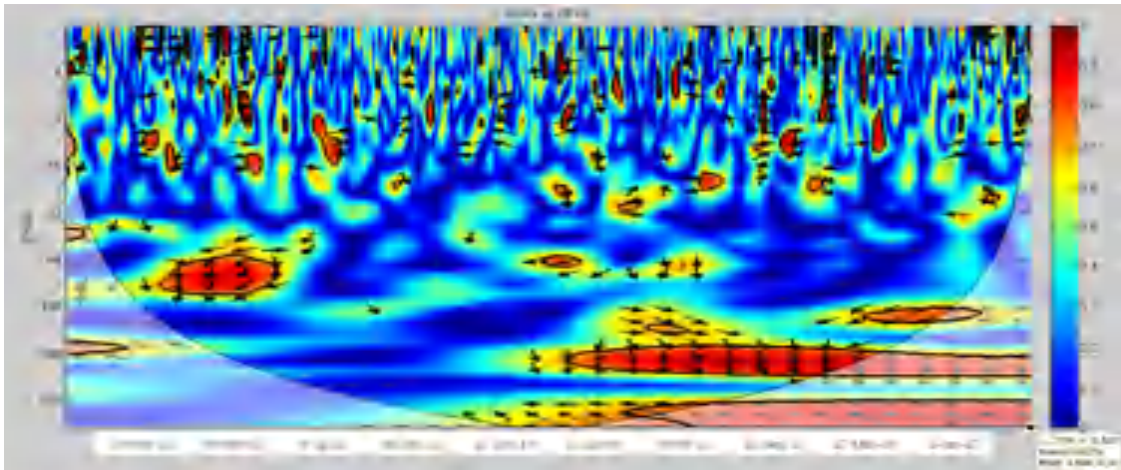


Figure (2-a) shows the wavelet coherence between USD return (DDXY) and Malaysia stock indices return (DFKL) at different time scales. The study found that for a very short holding periods consisting of 4-64 days, there is a low coherence between DXY and FKL along the observation period. For the short investment horizon consisting of 64-128 days holding periods, there is high coherence between DXY and FKL between the year 2014 and 2017 and moderate coherence in 2013. However, moving towards medium investment horizons consisting of 128-256 days, there are moderate coherence between DXR changes and FKL in general. This finding concludes that an increased in USD is accompanied by international investor by earn a short-term diversify benefit, however, for long-term investment holding, the international portfolio engaged less diversify benefit.

Figure (2-b): DXY versus SAU

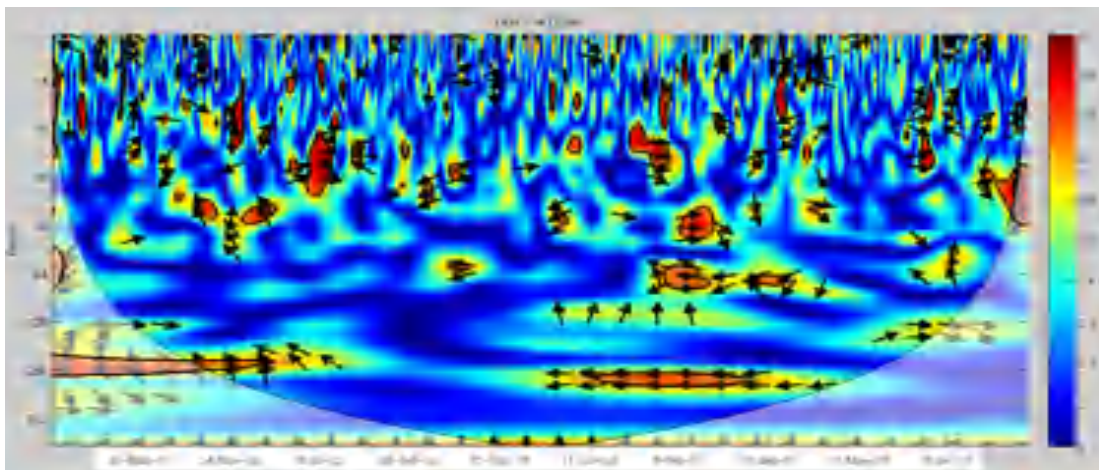


Figure (2-b) shows the wavelet coherence between exchange rate (DDXY) changes and Saudi Arabia indices (DSAS) return at different time scales. The study found that at short investment horizon of 4-64 days, there is a moderate coherence between DDXY changes and DSAS return along the observation period. Meanwhile, at the medium investment horizon which consists of 64-256 days holding periods, the coherence between DDXY changes and DSAS return start to have a low coherence at certain period. For investment horizons more than 256 days, there are moderate coherence between DDXY changes and DSAS return. For long-term investment holding period that consisting more than 512 days, low coherence happened especially between 2011- 2015.

Figure (2-c): DFKL versus DSAS

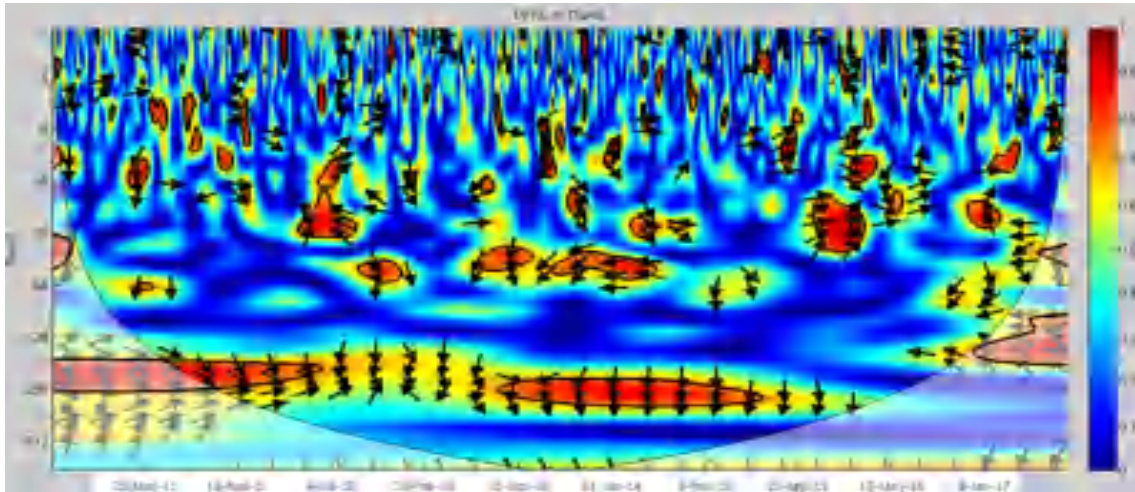


Figure (2-c) shows the wavelet coherence between the stock indices return of Malaysia (DFKL) and Saudi Arabia (DSAS). The coherency plots between the two equity markets, as compared to USD Indices, clearly shows that in short and longer investment holding period, they are high coherence in general. This tends to indicate that the degree of integration for both equity markets are more or less similar in short and long term.

Table 4. Wavelet Correlation

MODWT SCALLING	DDXY VS DFKL	DDXY VS DSAS	DFKL VS DSAS
2-4 days	0.05523701	0.04181760	0.12396914
4-8 days	-0.01089405	0.05124126	0.15982534
8-16 days	-0.04372267	0.10723602	0.19082856
16-32 days	-0.00692096	0.07080390	0.16472552
32-64 days	-0.00816990	0.06126818	0.12992290
64-128 days	-0.11838548	-0.15138740	-0.02852266
128-256 days	0.12257722	-0.05860068	0.09298556
256-512 days	-0.65131295	-0.50468153	0.30089488

Table 4 shows the wavelet correlations between all three variables. There are negative correlations between DXY and both stock indices return 256 days and above. However, both stock indices found vary correlation coefficient if the holding period is less than a year. These results are consistent with the one obtained in MGARCH-DCC analysis which the long term holding period generally negative correlated with USD. Notwithstanding, the Wavelet correlation matrices demonstrate that of holding scaling below 128 days, Malaysia stock indices is negatively correlated with USD indices, and positive for Saudi Arabia. It shows that as the USD appreciates, both stock indices will decrease according to time scales for long run. Besides that, there are high correlations between FKL and SAS return where the findings are in line with the one obtained in MGARCH-DCC analysis earlier. The correlations are increasing according to

time horizon except medium range of 64-128 days found negative. This result explain that by longer scales, both indices move in tandem.

CONCLUSION

The study examines empirically the causal links between the stock market volatility and USD exchange rate by using a daily data from 2010 to 2017 of Malaysia and Saudi Arabia. The knowledge on the relationship between the two markets would be helpful to compare the difference on the foreign currency policy features of both country in attracting international investor to identify portfolio diversification benefit. This study is concluded into three key findings on the basis of empirical evidence. Firstly, there is a negative correlation between emerging stock market and USD exchange rate in general, this finding is equal to the empirical findings of Doong *et al.* (2005) in case of six Asian countries. Secondly, there are no difference in foreign currency policy either liberal or pegged to USD has impact on the stock market, empirical result proven that both market with different foreign currencies resemblance the stock market return features.

Such empirical research may have several practical implications for international portfolio managers. It can be helpful in explaining the flow of information between stock and foreign exchange markets. International Portfolio managers may be able to understand better the dynamic linkage between foreign exchange markets and equity markets. Specifically, they are able to adopt appropriate diversification strategies to better guard against the investment-holding period in emerging countries. As evidence, in long run, the higher value of USD trigger capital outflows and leads to stock of emerging market decline. The currencies control may not significantly attracting the international fund inflow to local capital market as an evidence of comparable study above.

Finally, it is recommended for the future empirical research to extend the focus on other stock market indices and exchange rate. The further study is encouraged to analyze other factors including macroeconomic variables and fundamental factors. It may be useful to extend the analytical framework used in this study to other emerging and developing countries by using different approach of study.

REFERENCES

- Adjasi, C., & Harvey, S. K. (2008) Effect of Exchange Rate Volatility on the Ghana Stock Exchange. *African Journal of Accounting, Finance and Banking Research* , 3 (3).p. 28-47.
- Aguiar-Conraria, L. & Soares, M.J.(2011) Oil and the macroeconomy: using wavelets to analyze old issues. *Empir. Econ.* 40 (3).p. 645–655.
- Bhojraj, Sanjeev, & Swaminathan, Bhaskaran. (2006). Macromomentum: Returns Predictability in International Equity Indices*. *The Journal of Business*, 79(1), 429-451.
- Doong, Shuh-Chyi, Yang, Sheng-Yung & Wang, Alan T., (2005) "The Dynamic Relationship and Pricing of Stocks and Exchange Rates: Empirical Evidence from Asian Emerging Markets", *Journal of American Academy of Business*, Cambridge 7, (1). p. 118-123.
- Engle, R. 2002. Dynamic conditional correlation: A simple class of multivariate generalized autoregressive conditional heteroskedasticity models. *Journal of Business & Economic Statistics* 20: 339-350.
- Eichengreen, Barry, & Hausmann, Ricardo. (1999). Exchange rates and financial fragility: *National bureau of economic research*.
- Genc, ay, R., Selcuk, F. & Whitcher, B.(2002) An Introduction to Wavelets and Other Filtering Methods in Finance and Economics. Academic Press, California.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Grinsted, A., Moore, J.C. & Jevrejeva, S.(2004) Application of the cross wavelet transform and wavelet coherence to geophysical time series. *Nonlinear Processes Geophys.* 11 (5/6).p. 561–566.
- Grubel, Herbert G. (1968). Internationally diversified portfolios: welfare gains and capital flows. *The American Economic Review*, 58(5), 1299-1314.
- Harrathi, Nizar, Aloui, Chaker, Houfi, Mohamed Ali, & Majdoub, Jihed. (2016). Emerging Equity Markets Connectedness, Portfolio Hedging Strategies and Effectiveness. *International Journal of Financial Research*, 7(2), p189.
- Jaffar, Yusuf, Dewandaru, Ginanjar, & Masih, Mansur. (2017). Exploring Portfolio Diversification Opportunities Through Venture Capital Financing: Evidence from MGARCH-DCC, Markov Switching, and Wavelet Approaches. *Emerging Markets Finance and Trade*,
- Joseph, N.L. (2002) Modelling the impacts of interest rate and exchange rate changes on UK stock returns. *Derivatives use, Trading Regul.* 7 (4).p. 306–323.
- Kim, K. (2003) Dollar exchange rate and stock price: evidence from multivariate cointegration and error correction model. *Rev. Financ. Econ.* 12.p. 301–313.
- Madura, J. (2008). *International Financial Management* (9th ed.). Ohio: Cengage Learning.
- Markowitz, Harry. (1952). Portfolio selection. *The journal of finance*, 7(1), 77-91.
- Mohd, Y. M. H., Fidlizan, M., Mohd, F. A. & Azila, A. R. (2012) The Relationship between Oil Price, Exchange Rate and Islamic Stock Market in Malaysia. *Research Journal of Finance and Accounting*. 3(5). p.83-92
- Obstfeld, Maurice, & Rogoff, Kenneth. (1995). The mirage of fixed exchange rates: *National bureau of economic research*.
- Pan, Ming-Shiun, Fok, Robert Chi-Wing, & Liu, Y Angela. (2007). Dynamic linkages between exchange rates and stock prices: Evidence from East Asian markets. *International Review of Economics & Finance*, 16(4), 503-520.
- Pesaran, B., Pesaran, M.H., 2007. Modelling volatilities and conditional correlations in futures markets with a multivariate t distribution. *Cesifo Working Paper No. 2056 Category 10: Empirical and theoretical Methods July*.
- Phylaktis, K. & Ravazzolo, F.(2005) Stock prices and exchange rate dynamics. *Journal of International Money and Finance* 24. p.1031–1053.
- Rahim, Adam Mohamed, & Masih, Mansur. (2016). Portfolio diversification benefits of Islamic investors with their major trading partners: Evidence from Malaysia based on MGARCH-DCC and wavelet approaches. *Economic Modelling*, 54, 425-438.
- Ramsey, J.B. & Lampart, C.(1998) The decomposition of economic relationships by time scale using wavelets: expenditure and income. *Stud. Nonlinear Dyn. Econom.* 3 (4).p. 23 42.
- Sui, Lu, & Sun, Lijuan. (2016). Spillover effects between exchange rates and stock prices: Evidence from BRICS around the recent global financial crisis. *Research in International Business and Finance*, 36, 459-471.
- Sohail, N. & Hussain, Z. (2009) “Long-Run and Short-Run Relationship between Macroeconomic Variables and Stock Prices in Pakistan: The Case of Lahore Stock Exchange”, *Pakistan Economic and Social Review*, 47(2).p.183-198.
- Tobin, James. (1958). Liquidity preference as behavior towards risk. *The review of economic studies*, 25(2), 65-86.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Torrence, C., Webster, P.J., 1999. Inter-decadal changes in the ENSO-monsoon system. *J. Clim.* 12, 2679–2690
- Tsai, I.C. (2012) The relationship between stock price indices and exchange rate in Asian markets: A quantile regression approach. *Int. Fin. Markets, Inst. and Money* 22. p. 609-621
- Viñals, José. (2016). Introduction to the Monetary Policy Section. *Progress and Confusion: The State of Macroeconomic Policy*, 121.
- Walid, C., Chaker, A., Omar, M. & Fry, J. (2011) Stock market volatility and exchange rates in emerging countries: A Markov-state switching approach. *Emerging Markets Review* 12,p.272-292
- Yang, S.Y. & Doong, S.C.(2004) Price and volatility spillovers between stock prices and exchange rates: empirical evidence from the G-7countries. *International Journal of Business and Economics* 3.p.139–153.
- Zhao, H. (2010) Dynamic relationship between exchange rate and stock price: evidence from China. *Research in International Business and Finance* 24.p. 103–112.

The Role of Women Directors on Corporate Boards in Firm Performance: A Review and Research Agenda

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Abstract

Malaysia's Labour Force Participation Rate is at 67.8 % in June 2017 with the female labor participation rate at 54.3%. The target of Malaysia is to have women's representation of 30% in senior decision-making positions and on boards by 2016 as to accelerate the development of high-potential women leaders in the labour market and in decision-making positions across all industry sectors and business functions. Malaysia has achieved 10.7% across all public listed companies and 14% for the Top 100 companies by market capitalisation according to Bursa Malaysia. The purpose of this paper is to look at various facets of corporate governance, notably the effectiveness of boards of directors and the composition of boards. In this context, the current study gauges the effects of women directors regarding firm performance issues and the benefits of female representation on boards. The research purpose is to examine the effect of board gender diversity and independence on firm performance in Malaysia's listed companies in consumer products and properties sectors covering a 5-year period from 2011 to 2015. This study also examines number of female and directors affecting the firm performance in terms of Return on Asset (ROA) and Return on Equity (ROE) specifically in two sectors which is consumer products and properties. Quantitative data was collected from the Bloomberg website and annual reports of the public listed companies in Bursa Malaysia. The findings may provide some implications for future research regarding the effectiveness of board of directors towards firm performance. Nevertheless, the finding may not reflect the true picture since the percentage of female directors quite constant in Malaysia. It is recommended to promote gender equality in terms of recruiting women into the corporate board and increase the participation of women in the labor force.

Keywords: Board of Directors, Female Directors, Public Listed Companies, Return on Asset (ROA) and Return on Equity (ROE).

INTRODUCTION

This introductory renders an overview of the research. The aim of the study is to examine the effect of board gender diversity on firm performance in Malaysia's listed companies in consumer products and properties sectors. This study also examines the number of female directors affecting the firm performance in terms of Return on Asset (ROA) and Return on Equity (ROE) in order to give a clear picture of involving female leaders will eventually improve the organization performance and morale. In today's corporate world, gender diversity has fast becoming an emerging issue. According to Matt Sheehan in The World Post, Jack Ma stated that women executives are Alibaba's Special Sauce; over 40% of all its employees are women, even the Chief Executive Officer (CEO), Chief Financial Officer (CFO) and Chief Procurement Officer (CPO) are women. Women make up nearly 34 % of the company's high-level managers and one-third of its founders thus this made the leadership team in Alibaba balance, it is all about gender equality.

In the Global Gender Gap Report 2016, Iceland is ranked at the first followed by Finland and Norway. Women occupied on average only 19% of corporate board seats and 14% of senior executive positions in the top 600 largest companies in Europe (Christiansen, Lin, Pereira, Topalova & Turk, 2016). According to the women and equalities minister, Nicky Morgan, only 25% of the Financial Times Stock Exchange (FTSE) 100 directors are female, which indicates that the high rank still male dominated (Davies, 2016). Percentage of women as

audit and remuneration committee is greater as compared to board chairs and remuneration committee (Orsagh, 2016).

Asian women are still underrepresented in corporate boards mainly due to family pressures or commitments outside of work and workplace culture that are not actively foster gender diversity and equality (Chin, 2016). According to Deloitte Southeast Asia Centre for Corporate Governance Leader, the percentage of women occupying board seats in Asia (7.8%) is improving but the pace of change is still slow compared to global statistics (14.5% in North America, 22.6% in Europe) (Chia, 2017). The target of Malaysia is to have women's representation of 30% in senior decision-making positions and on boards by 2016 as to accelerate the development of high-potential women leaders in the labor market and in decision-making positions across all industry sectors and business functions (Fernandez, 2016). However, Malaysia has only achieved 10.7% across all public listed companies (PLCs) and 14% for the Top 100 companies by market capitalisation according to Bursa Malaysia (Fernandez, 2016).

Problem Statement

Percentage of women in the board of directors is usually lesser than men as men are known to be the decision maker from the olden times until today. Women remain under-represented in top leadership positions in American corporations (Acker, 2006), causing the glass ceiling exists that creates invisible barriers to women's ascension to senior management and board position (Cotter, Hermsen, Ovadia & Vanneman, 2001). Under the 11th Malaysia Plan, the government has emphasized the need to raise the labor force participation rate of women to 59% by 2020 from 53.6% in 2014. Thus, more incentives such as childcare support need to be provided so that this can encourage women to enter the labor market (Kok, 2015).

Gender diversity in the boardroom defines as the presence of women as the board of directors which is a vital aspect of board diversity (Dutta & Bose, 2006). A woman or a foreign director may bring not only different points of view, valuable skill and knowledge to share, but also share different values, norms and understanding (Ruigrok, Peck & Tacheva, 2007), which may increase the quality of strategic decision making (Zahra & Filatotchev, 2004). Sometimes, a more gender diverse board will be harmful for the performance of the firms may be due to over monitoring. Unconscious gender bias has become a barrier for women leader to arise in politics and corporations. Unconscious bias in the way people see and evaluate women and creates invisible barriers for women to enter and progress in the leadership pipeline especially in corporate board.

Firm performance can be measured in terms of ROA and ROE. Most studies commented that board gender diversity might have positive or insignificant relationship towards firm performance. A gender diverse board may improve a firm's competitive advantage; if it improves the image of the firm, firm's performance will be improved as well (Smith et al., 2006). ROA is the ratio of net income to the book value of the firms' assets, and is commonly used in studies of board composition and firm performance (e.g., Easterwood et al. 2012). Customer-oriented business such as trading and servicing industry are more inclined to appoint female directors to their board mainly due to female are more details and performing well in servicing industry (Luckerath-Rovers, 2013). A more gender diverse board may also improve a firm's competitive advantage if it improves the image of the firm and if this has a positive effect on customers' behaviour and thus on a firm's performance (Smith et al., 2006).

Malaysia job market remains soft for 2017 as reported in the Malaymail online. The unemployment rate in November, 2016 was 3.4%. This figure translates to 0.2 percentage points higher in a year-on-year comparison (Ruban, Job market remains soft in 2017 but small uptick continues in five sectors, 2017). The hiring activity in Malaysia will gradually in an upward trend, with nearly one in two companies (47%) planning to raise the headcount in 2017, mostly for key and replacement roles. Growth is especially positive for technology companies in the areas of financial technology, app development, and e-commerce. The digital era today has raise a lot of online platform for entrepreneurs, hence creating more job opportunities in the IT sector. the Internet of Things and Big Data are expected to be among this year's fastest-growing sectors as the government has announced plans to et up digital hubs for the start-up community in the country. More of such companies are relocating to Malaysia for its strategic location and

low operating costs. Companies in more traditional industries, such as the oil and gas, manufacturing, property & construction, and banking industries will remain cautious about hiring. Many organisations looking to migrate core functions such as finance and accounting, procurement and supply chain, human resources and other knowledge-based services to Malaysia, thus, the number of shared services and outsourced centres will continue to be on the rise, adding to 350 shared service centres currently in operation within Malaysia (Malaysia Salary and Employment Outlook 2017, 2017).

Women greatly outnumbered men in major public universities, but they often “disappear” after graduation. This is mainly due to family pressures, lack of work life balance and lack of support facilities for women from employer. Using Dr. Ong’s UNESCO Gender Parity Index (GPI) of 0.97-1.03 as parity, while there is an over-representation of women in the clerical support workers sector (GPI 2.53), and in the professional sector (GPI 1.28), as well as parity in the service and sales sector (GPI 0.99), overall, women are still grossly underrepresented in the job market with a GPI of 0.62 based on the Labour Force Survey 2015 by Department of Statistics. The GPI for managerial position is 0.29 suggesting a situation of “extreme disparity” against female workers (Malaysian girls are 'missing' from the job market, 2016).

There are no studies examining the board gender diversity on firm performance especially comparing the consumer products and properties sectors. The board with more female perhaps able to improve the firm performance, corporate governance and even has more innovative and creative products.

This leads to the research questions, which are:

- What is the extent of association between board gender diversity and firm performance?
- What is the extent of association between board independence and firm performance?
- How is the board independence moderating the association between board gender diversity and firm performance?

Hence, the research objectives are:

1. To determine the effect of gender diversity on firm performance measured by ROA and ROE.
2. To determine the effect of board independence on firm performance measured by ROA and ROE.
3. To identify the moderating effect of board independence on the relationship between gender diversity and firm performance measured by ROA and ROE.

LITERATURE REVIEW

This research examines two components of board composition: status as an independent outsider and female gender. While both types of directors are supposed to bring unique contributions to the boards so that the board can be effective, their exact mechanisms are distinct. Female and independent directors may influence board strategic involvement then impacting firm performances in terms of ROA and ROE. There is not one universal theoretical framework; several theories were drawn to develop hypotheses.

Board Gender Diversity

Greater gender diversity may contribute to better board effectiveness and performance: agency theory, resource dependency, and gender role theory (Terjesen et al. 2009). Agency theory suggests that female often bring fresh and new perspectives on complex issues, and this is able to assist in correcting informational biases in strategy formulation and problem solving. Agency problems usually occur when managers do not have shareholders' best interest in mind when making corporate decisions. Fama and Jensen (1983) argue that efficient board guidance and monitoring are essential in mitigating these conflicts of interests. According to Gul et al. (2008) and Adams and Ferreira (2009), a more gender-diverse boards demand more audit efforts and managerial accountability. More women have greater levels of public disclosure (Gul, Srinidhi & Ng. 2011) which indicates accountability and transparency; also better oversight of management reporting that enhances earnings quality (Srinidhi, Gul & Tsai, 2011). A

significant positive relationships of board gender diversity and performance of firms in the United States using Tobin's Q as the key measure (Carter et al, 2003). In the study of Campbell and Minguez-Vera (2008), it is examined that board gender diversity had a positive effect in performances of companies from Spain, using a similar analysis. Julizaerma and Sori (2012) displays a positive relationship between women in the boardroom and firm performance in Malaysian companies. There are arguments that greater gender diversity may reduce firm performance. There is no relationship found between the presence of women on the boards of Swedish firms and performance is measured by profitability, employment or orders growth (Du Rietz & Henrekson, 2000). A study of Danish firms by Smith et al. (2006) unable to prove a significant link between female board representation and accounting measures of firm performance; a result which is consistent with the finding of Rose (2007) that no significant link exists between female representation on Danish boards and firm performance as measured by Tobin's Q

Resource dependence theory illustrates that businesses depend on the resources in their external environments to survive (Pfeffer and Salancik, 1978). In this philosophy, the board of directors is perceived as a platform to manage external dependency, to reduce uncertainty, and to reduce transaction cost associated with environmental interdependency by linking the organization with its external environment. The theory is also used to analyze board functions and actions (Gabrielsson and Huse, 2004). Women on corporate board may bring different benefits to the firm such as advice and counsel, legitimacy, communication, commitment, and resources because they bring prestige, legitimacy, skills, competences and knowledge which are different from those of male directors (Hillman, Shropshire and Cannella, 2007). Women is believed to promote a better understanding of the marketplace it serves by matching the diversity of a firm's directors to the diversity of its employees and customers (Campbell & Minguez-Vera, 2007). Moreover, customer-oriented businesses are more inclined to appoint female directors to their board; as such this enhances relations with customer stakeholders (Brammer et al. 2007). Gender diversity helps in sustaining good relationships with female clients and gaining female insight into consumer buying patterns (Sussmuth-Dyckerho et. al, 2012).

According to Eagly (1987), gender role theory indicates that an individual's gender determines his/her behavior and its effectiveness with respect to influence. Gender role theory describes how men and women have certain behavior with respect to communication, including influence tactics. For instance, women are expected to play more feminine roles such as sympathy and gentility (Eagly 1987). In contrast, men are expected to be more assertive and aggressive. Women also tend to be more flexible which leads to a greater ability to manage unclear situations (Rosener 1995). Gender roles are relevant for the board as directors must use communication tactics that are effective in terms of impact. Furthermore, gender roles are particularly vital in male-dominated realms (Alderfer and Smith 1982) such as the board of directors where esteem is critical to effectiveness (Forbes and Milliken 1999).

Firm performance

Firm performance can be measured in terms of ROA and ROE. ROA is the ratio of net income to the book value of the firms' assets, and is commonly used in studies of board composition and firm performance (e.g., Easterwood et al. 2012). ROE is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. The results of other (empirical) studies of the relationship between diversity and firm performance are also not consistent. Krishnan and Park (2005) examined the relationship between diversity and return on total assets for 679 companies from the Fortune 1,000 data base. The results showed a positive relationship between diversity in management teams and financial performance. Carter et al. (2003) looked at the relationship between Tobin's Q and the presence of women in the boards of the Fortune 1,000 companies and also found a statistically significant positive relationship. On the other hand, Rose (2007) did not find a relationship between board diversity and Tobin's Q for Danish listed companies.

Board Independence

The term independent directors were used interchange with term non-executive directors and outside directors. However, not all non-executive directors are independent. One

of the vital roles of independent directors is to monitor the company's performance and operation. Effective monitoring mechanism in the firm could curb agency problems. Hence, the company should appoint independent directors who could exercise proper oversight function in monitoring governance, internal control and risk management. Three theoretical perspectives that suggest how independent directors may positively affect firm outcomes: agency theory, resource dependency theory, and upper echelons theory (Ruigrok et al. 2006). In the agency theory, independent directors (from outside the corporation) have fewer potential conflicts of interest and able to provide greater integrity and offer impartial judgment (Fama 1980; Rosenstein and Wyatt 1997). Within this framework, Hermalin and Weisbach (1998) provide a theoretical model for analyzing board composition and effectiveness as a function of board independence. Usually, Chief Executive Officer (CEO) has incentives to influence the selection of a board that enables him/her to maximize his/her personal benefits. On the other hand, directors have incentives to maintain their own independence, preventing them from being complacent about the CEO.

Resource dependency theory considers the role of external resources in affecting firm behaviors (Pfeffer and Salancik 2003). In this theory, independent directors have access to valuable knowledge and relationship resources such as particular expertise, social networks, and legitimacy which can be leveraged in their roles on the board (Hillman et al. 2002). Furthermore, independent directors' unique experiences gained in other companies can be useful for high-level board decision-making (Finkelstein et al. 2009). Upper echelons theory describes how executives' behavior may be explained by personal experiences and values (Hambrick and Mason 1984). Executives' prior experiences are important in board roles (Hambrick 2007) such that independent directors should be more likely to leverage their vast and diverse sets of knowledge and skills and improve the performance of the firm.

RESEARCH METHODOLOGY

To examine the literature on women and independent directors affecting the firm performance, journal articles were selected using google scholar and online database from UTAR. This search produced forty-five records in total. In the next phase, the databases Business Source Premierwe, Ebsco-Host and Science Direct were used to search for all paper publications containing simultaneously the terms "board gender diversity" and "firm performance*" or "independent director" and "firm outcomes*" in the title, abstract, and/or keywords. This approach enabled us to identify a set of articles directly referring to the debate on boards with female' and independent directors' impact firm performance. This procedure resulted in 60 hits in total; 45 papers turned out to be relevant to this investigation.

In order to analyze the articles, analyse made based on (1) type of article; (2) main research topic; (3) use of theories; (4) research setting; (5) source of data; and (6) the definition of board's strategic involvement (Insch, Moore and Murphy, 1997). Articles matching the main research topic were choosen. The 60 articles were differentiated according to their nature – "conceptual" versus "empirical." Papers were coded as "conceptual" when they sought to advance or refine theory and were solely based on deductive reasoning without any empirical metrics. Papers were labeled "empirical" if authors applied inductive logics, described their methods in a separate section, and argued on the strength of data obtained from qualitative research methods (i.e., interviews, participant observation, and anecdotes) and/or quantitative methods (i.e., archival data and surveys). To examine the theoretical development of the field, the theories were mapped to which each paper explicitly referred. Given the widespread application of agency theory, resource dependence theory, gender role theory and upper echelons theory in the literature on boards and firm performance, it was decided to create a variable capturing whether a paper referred to: (1) agency theory, resource dependence theory, gender role theory and upper echelons theory solely; (2) multiple theories, including agency theory, resource dependence theory, gender role theory and upper echelons theory; and (3) other theories than agency theory, resource dependence theory, gender role theory and upper echelons theory or no theory.

DISCUSSION OF THE PROPOSED CONCEPTUAL FRAMEWORK

Past researches focus on incorporating gender context and independence context into firm performance that the contextual information adopted by researchers can be categorised into gender and independence contexts. For instance, Carter et al. (2003), Campbell and Minguez-Vera (2008), Julizaerma and Sori (2012) found that gender plays an imperative role in determining level of firm performance. In contrast, past studies such as Du Rietz and Henrekson (2000), Smith et al. (2006) and Rose (2007) reported insignificant role of gender in predicting firm performance. In the perspective of the effects of independent directors, these independent directors were deemed to be able to provide greater integrity and offer impartial judgment in the agency theory (e.g. Fama, 1980; Rosenstein and Wyatt, 1997), while the resource dependency theory considers the role of external resources in affecting firm behaviors. For instance, independent directors have access to valuable knowledge and relationship resources (Hillman et al., 2002) and unique experiences gained in other companies (Finkelstein et al., 2009). On the other hand, the upper echelons theory describes executives' behavior explained by personal experiences and values, such as Hambrick (2007).

The proposed future research framework comprises independent variable, gender diversity. Board independence is the moderating variable; firm performance is the dependent variable; therefore, the independent variable and moderating variable will be used to examine the relationship with the dependent variable. Verner (2006) stated that woman directors may better understand particular market condition than man, which brings more creativity and quality to board decision making. Larger gender diversity may generate a better public image of the firm and improve firm performance. Therefore, the following hypothesis is constructed: H1: There is a positive relationship between firm performance and gender diversity'

The study on board independence and firm performance showed mixed results; either positive, negative or no relationship with firm performance. Ameer, Ramli and Zakaria (2009) have studied the association between the board composition and firm's performance of the 277 nonfinancial listed Malaysian Companies. They found out that over the period of 2002 to 2007, companies with high representation of outside and foreign directors on the board had a significant correlation with the company's better performance. In contrast, the study in India showed that by having board independence did not guarantee to improve firm performance due to poor monitoring roles of independent directors (Garg, 2007). Hermalin and Weisbach (1991) found out no relation between firm performance and the proportion of outside directors. According to Johari, Saleh, Jaafar & Hassan (2008) there is no association of the board independence and the earning management. The board's independence was not associated with the earning management even though the proportion of independent directors on the board was one-third of the total majority. Abdul Rahman and Mohamed Ali (2006) concluded that Malaysian companies had insignificant relationship between other corporate governance mechanisms such as the independence of the board, and the audit committee with the earnings management.

Fama and Jensen (1983) explained that outside board of directors could strengthen the firm value by lending experienced and monitoring services and are supposed to be guardians of the shareholders' interest via monitoring and control. According to Beasley (1996), independent directors hold better judgment and fair representation of shareholders' interest, suitability as a reliable governing mechanism and their potential ability to concentrate on ensuring the maximization of shareholder value as they do not have conflict of interest. Therefore, greater board independence will ensure high value to the firm and thus, the hypotheses is as follows: H2: There is a positive relationship between firm performance and board independence. More women have greater levels of public disclosure (Gul, Srinidhi & Ng, 2011) which indicates accountability and transparency; also better oversight of management reporting that enhances earnings quality (Srinidhi, Gul & Tsai, 2011). However, when the level of women directors is fixed according to the quota or the management decision, the percentage of independent directors on the board may be important when assessing outsiders' perceived independence. Boards with greater shares of outside directors should be viewed more positively by the public than a board comprised of fewer outsiders. A large board of directors with few women directors may be interpreted as being selected by the executive management network or as a sign that internal agents (executive officers) wield significant power over the selection of outside agents.

The hypotheses is as follows: H3: The positive effect of female directors on firm performance is higher when the board is comprised of a greater proportion of independent directors.

CONCLUSION AND FUTURE WORK

This review has given some insights on the trend of board diversification and firm performance in relation to the agency theory, resource dependency theory, and upper echelons theory. This paper discusses board diversification, especially the effects of female independent directors in firm performance. In conclusion, the reviewed studies showed that board diversification can be effective in contributing to deliver better firm performance. Therefore, it will be valuable to investigate further on what causes these differences when complying to the requirements of board diversification within public listed corporations. Future works are to explore board diversification in public listed corporations in Bursa Malaysia. Empirical studies will be performed to discover evidence of board diversification that contributes to better firm performance.

REFERENCES

- Acker, J. (2006). Inequality regimes: gender, class and race in organizations. *Gender & Society*, 20, 441-64.
- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94, 291–309.
- Campbell, K. & Minguez-Vera, A. (2007). Gender Diversity in the Boardroom and Firm Financial Performance. *Journal of Business Ethics*, (83), pp. 435-451.
- Chia, K. (13 June, 2017). Boys' Clubs Still Dominate in Company Boardrooms Across Asia. Retrieved from <https://www.bloomberg.com/news/articles/2017-06-12/asia-trails-rest-of-world-in-putting-women-on-company-boards>
- Chin, C. (20 November, 2016). Women at the top. Retrieved from <https://www.pressreader.com/malaysia/the-star-malaysia/20161120/281732679076632>
- Cotter, D. H. (2001). The glass ceiling effect. *Social Forces*, 80(2), 655-81.
- Davies, R. (7 July, 2016). Numbers of women in UK boardrooms still low. Retrieved from <https://www.theguardian.com/business/2016/jul/07/women-in-uk-boardrooms-still-low-equalities-nicky-morgan-female-ftse100-davies>
- Fama, E., & Jensen, M. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26, 301–325.
- Fensom, A. (16 March, 2016). Asia's Boards: Where Are The Women? Retrieved from <http://thediplomat.com/2016/03/asias-boards-where-are-the-women/>
- Fernandez, C. (8 April, 2016). Women on boards: Long way to go. Retrieved 2 February, 2017, from Malaysia Reserve: <https://themalaysianreserve.com/new/story/women-boards-long-way-go>
- Hillman, S. &. (2007). Organizational predictors of women on corporate boards. *Academy of Management Journal*, 50(4), 941-952.
- Asian Companies, Few Women Can Be Found in the Boardroom. (17 February, 2016). Retrieved from <https://www.adb.org/news/features/asian-companies-few-women-can-be-found-boardroom>

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Kok, C. (23 May, 2015). Re-engineering Malaysia. Retrieved from <http://www.thestar.com.my/business/business-news/2015/05/23/reengineering-malaysia/>
- Kokalitcheva, K. (21 May, 2015). Female Executives are Alibaba's 'Secret Sauce,' Founder Jack Ma Says. Retrieved from <http://time.com/3891666/female-executives-are-alibabas-secret-sauce-ceo-jack-ma-says/>
- Luckerath-Rovers, M. (May, 2013). Women on boards and firm performance. *Journal of Management & Governance*, 17(2), 491-509.
- Ma, J. (23 January, 2015). Entrepreneurial Masterclass: Alibaba founder Jack Ma. (C. Rose, Interviewer) *Business News*. Retrieved from <http://www.biznews.com/interviews/2015/02/09/the-incredible-story-behind-alibabas-jack-ma-an-inspiration-that-will-span-generations/>
- Malaysia Salary and Employment Outlook 2017. (2017). Retrieved from <http://www.michaelpage.com.my/content/salary-centre/2017-malaysia-salary-employment-outlook/#Technology>
- Malaysian girls are 'missing' from the job market. (9 June, 2016). Retrieved from <http://english.astroawani.com/malaysia-news/malaysian-girls-are-missing-job-market-107640>
- Orsagh, M. (7 October , 2016). The Current Status of Women on Boards in 2016: A Global Roundup. Retrieved from <https://blogs.cfainstitute.org/marketintegrity/2016/10/07/the-current-status-of-women-on-boards-in-2016-a-global-roundup/>
- Ruban, A. (8 December, 2016). Not enough women execs in Malaysia, forum told. Kuala Lumpur, Wilayah Persekutuan, Malaysia. Retrieved from <http://www.themalaymailonline.com/malaysia/article/not-enough-women-exec-in-malaysia-forum-told>
- Ruban, A. (28 February, 2017). Job market remains soft in 2017 but small uptick continues in five sectors. Kuala Lumpur, Wilayah Persekutuan, Malaysia. Retrieved from <http://www.themalaymailonline.com/malaysia/article/job-market-remains-soft-in-2017-but-small-uptick-continues-in-five-sectors#OiiRHporu6sbe9ul.97>
- Ruigrok, W., Peck, S., Tacheva, S., Greve, P., & Hu, Y. (2006). The determinants and effects of board nomination committees. *Journal of Management and Governance*, 10(2), 119–148.
- Ruigrok, W. P. (2007). Nationality and gender diversity on Swiss corporate boards. *Corporate Governance*, 15(4), 546-557.
- Schrieberg, D. (8 February, 2017). U.S. Lags Way Behind Europe In Number Of Women In The Boardroom. Retrieved from <https://www.forbes.com/sites/davidschrieberg1/2017/02/08/women-in-the-boardroom-u-s-lags-way-behind-europe-report-shows/#7b98d3e51f1a>
- Sheehan, M. (20 May, 2015). Jack Ma Says Women Executives Are Alibaba's 'Special Sauce'. Hangzhou, China. Retrieved from http://www.huffingtonpost.com/2015/05/20/jack-ma-alibaba-women_n_7344316.html?1432152385&ncid=tweetlnkushpmg00000067
- Smith, N. V. (2006). Do Women in Top Management Affect Firm Performance? A Panel Study of 2500 Danish Firms. *International Journal of Productivity and Performance Management*, 55, 569-593.
- Srindhi, B., Gul, F. A., & Tsai, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, 28, 1610–1644.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Tan, J. (11 October , 2015). Women's representation in politics here still lacking. Retrieved from <http://www.aware.org.sg/2015/10/womens-representation-in-politics-here-still-lacking/>
- Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and research agenda. *Corporate Governance: An International Review*, 17, 320–337.
- World Economic Forum. (2016). *The Global Gender Gap Report 2016*. Retrieved from http://www3.weforum.org/docs/GGGR16/WEF_Global_Gender_Gap_Report_2016.pdf

Corporate Social Responsibility in The Banking Sector: Delineating the Main Motives Among All

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Abstract

Literature from the discipline of corporate social responsibility (CSR) backing the notion that motives of the banks are the determinants to involve with socially responsible activities. Numerous motives have been studied in banking industry for CSR yet the main motives are still questionable to be aligned with the prominent approaches such as stakeholder theory. Some banks conducting CSR with the aim for profit maximisation was heavily castigated of being self-interest and misrepresenting the real meaning of CSR. Considering such insistencies, this paper explores and discusses the main motives of banks to perform CSR that could lead to broader concepts of being socially responsible. Furthermore, this paper precariously examines the several well-known theories to incorporate with CSR practices in banking sector following the global financial crisis (GFC) as well as in the perspective of emerging, developed and international markets. This paper concludes that banks are subjected to three main motives (economic, relational and altruism) epitomising most of the general motives accordance to the theories applied. Nevertheless, economic motive seems to be exercised by many banks following its impact on financial performance during the recent GFC. Still, it is important for the banks to see clearly the actual motive of engaging CSR to determine, plan and strategies a practical goal for their corporation. In addition, motives of CSR also relevant for managers, policymakers and regulators to delineate and promote the responsibilities of the banks to the people, society and environment.

Keywords: Corporate social responsibility, Bank, Motive

INTRODUCTION

CSR has caught fair attentions from the banks after global economy recessions in the past few decades. Frequency of the words, CSR, is rising with different interchangeable concepts. The terminologies of CSR are varied from corporate ethics, corporate citizenship, corporate responsibility, social enterprise, sustainability, sustainability development, triple-bottom line and many more (Bassen, Holz, & Schalange, 2006) which lead to various understandings and definitions. In other words, interpretation of CSR can bring different values and expectations according to how the stakeholders relate the bank with CSR (Moon, 2007). Some banks perceived the definition of CSR as achieving commercial success in ways that honor ethical values and respect people, communities and the natural environment following business responsibility (BSR) (Selvakumar, Arumugam, & Sathiyalakshmi, 2016). In addition, CSR can be delineated as calls for organisations to manage their worker's welfare and rewards, embrace diversity, adhere to tenets of human rights and minimize harmful operations and effects to the environment and society (Carroll, 1979; Blowfield & Murray, 2008). Generally, CSR is all about bringing overall betterment to economic, social and environment (ISO Working Group, 2002; Durrani, 2016). Nonetheless, in certain case, banks are being criticised for lack of concerns to the society by cause of different perceptives. For example, ²³Governor Mervyn King argued bankers in England are exploiting gullible borrowers for their short-term profits and bonuses and contended that banks should practice higher ethical standards in banking system. In other viewpoint, banks can argue that profits and bonuses are part of being socially responsible to the worker's welfare and rewards. As a result, some banks are confused with the perspective of

²³ Mervyn King: Bankers exploit gullible borrowers to pay for their bonuses, Andrew Clark, The guardian 5 March 2011, guardian.co.uk <http://tinyurl.com/6kf8fh3>

CSR (Margolis & Walsh, 2003), thus reflecting banks' motives to involve with socially responsible activities.

As a matter of fact, banking system is believed as an important part in developing economic after the GFC catastrophe of 2007-2008 (Levine, 2005; Shen & Lee, 2005; Cornett, Ehemjants, & Tehranian, 2016). Banks and financial institutions serve as intermediaries in the monetary system for channelling deposits and lending activities directly or through capital markets (El-Hawary, Grais, & Iqbal, 2007). Therefore, the soundness, stability and safety of financial institutions are critical as their collapse will put the whole economy at risk. A strong anecdotal is the GFC of 2007-2008 when the ²⁴US subprime mortgage market fell into disaster with international banking catastrophe and highlight the collapsed of Lehman Brothers in 2008. Consequently, banks are considered as crucial player to improve the economy as well as to assist recovery from the GFC since some positive signs were appeared that the economy is gradually bettering (Cornett et al., 2016). In defiance of CSR angle, banks were heavily castigated of being self-interest and misrepresenting the real meaning of CSR. Cornett et al. (2016) state that banks are being criticised for their failure to bring valuable impact to the society such as being socially responsible. The arguments follow by loss of trust from the customers due to lack of engagement in CSR from the banking industry specifically large banks (Hurley, Gong, & Wakar, 2014) and consumer perception towards banking conducts is getting despicable²⁵.

Despite numerous studies in recent years on CSR in banking sector, motives to engage in CSR still a heatedly debated issue when comes to abundance return and financial performance for the banks. Some banks viewed CSR as the capability to make long-term profit and improve long-term success while the other banks see that CSR would only distract them from economic roles of businesses which is the profit creation (Selvakumar et al., 2016). Furthermore, different bank size can lead to different views on the importance of CSR. According to Cornett et al. (2016), large banks in the US are less likely to put CSR as their concerns on the grounds that they are too-big-to-fail while small banks are engaging more socially responsible to gain stakeholder supports during difficult times. As such, different views from the banks will form the reasons to support or not to support CSR engagement. Literally, the banks decisions to participate in CSR are reflected from the motives of their organisations (Baron, 2001; Dam, Koetter, & Scholtens, 2009; Benabou & Tirole, 2010). Hence, motives of the banks to engage in CSR should not be discussed in a simplistic and static way but need to reflect the real actuality of complex business environment by delineating the main motives of being socially responsible. This paper also critically identifies several advances within the motive of CSR in banking sector by undertakes a literature review of empirical evidence as well as to highlight the well-known theories that drive the motivations of CSR. The remainder of this paper is organised as follows: motives of CSR, main motives, summary and conclusion.

MOTIVES OF CSR

Benefits and drawbacks of CSR are contentious when come to the need for banks to commit in CSR. There are many questions addressed to the managers such as, what resources should be used for CSR? How shareholders should response to the distribution of resources for social purpose? How public policy could advocate the socially responsible behavior? (Simpson & Kohers, 2002). Accordingly, motives of CSR are the drive of addressing such issue in the banks as Dare (2016) believes that different internal CSR motives could lead to different level of commitment to CSR. The stereotyped motive of CSR begins with profits. Most corporations in the business are to increase its profits through CSR (Friedman, 1970). In fact, CSR is always regarded as the source of generating profits which can be derived from short-term to long-term benefits. The short-term benefits refer to sole purpose of the business that is financial performance incentives (Friedman, 1972; Jensen 2002). Intrinsically, micro-performances can be accounted to motivate CSR adoption including but not limited to capable to recruit and keep the quality employees, charge premium prices for products and improvement in reputation (Wu

²⁴ Williams, Mark (April 12, 2010). *Uncontrolled Risk*. McGraw-Hill Education. ISBN 978-0-07-163829-6.

²⁵ Soana (2011) reveal that interest manipulation, subprime mortgages and noxious banking products (part of CSR) have negatively affected the consumer and employee perception towards bank reputation.

& Shen, 2013). Additionally, banks would induce CSR as a win-win situation whereas they can act as a good corporation that can also help the banks to gain returns. This setting is supported by Benabou and Tirole (2009) as CSR is about taking long-term prospect to generate the maximal profits. It may cost high incentives for doing CSR in short run but the banks could enjoy greater benefits in long run. Such benefits can be reputed as macro-performances that inclusive of cutback in social inequality and environmental enhancement (Wu & Shen, 2013). In the sense of responsibilities, banks could practice CSR as a way to compensate and reward to the society instead of shareholders (Shen, Wu, Chen, & Fang, 2016). This is due to the abundant resources such as loans and deposits are channeled from the society to the banks. Auxiliary, there are banks know their moral obligation to the society without expect for any returns (Ofori, Nyuur, & S-Darko, 2014). After all, it is depending on the private objective of the banks either they see it as a moralistic stand to help people and environment or just an instrument for profit-making. In reality, voluntary CSR can be a burden since exercising CSR will consume resources and increase costs of the corporations (Wang, 2014) and therefore, consideration of the right motive is necessary.

MAIN MOTIVES

There is constant literature studied about CSR motives with the banks and each study has their own motive to support engagement in CSR. The relationship between CSR and banks are confirmed thus far entailed a number of motives that confound the effectiveness of CSR beneficence. A foundation to delineate the motives is characterised into 3 main motives with theoretical supports as follows:

Economic motive

A corporation in general is encouraged to engage in CSR practices because of favourable business outcomes and, eventually, firm value maximization. In fact, there is a view that the ultimate objective of a business is to maximize profit which, eventually will keep the shareholders' capital maintain intact (Friedman 1970; Lantos 2001; Henderson 2005). Therefore, based on this notion, the only social responsibility of a firm is to utilise its resources and engage in any activities that will lead to profit maximization. However, the evidence of interdependence between corporation and society as well as the concept of corporate citizenship (Altman & Vidaver-Cohen 2000; Whitehouse 2003) have somehow rejected the idea that firms should concentrate their resources and efforts solely towards maximizing profit (Crant, Matten, & Spence 2008; Carroll 1991). In view of that, apart from getting the most out of profit, firms also have other equally important obligation towards society by protecting their interests and improving their welfare (Davis & Blomstrom, 1975; Lunden, 1988; Cannon, 1992).

In fulfilling responsibility to society and other stakeholders, firms sometimes incur substantial costs which will significantly impact the firms' bottom line (Hopkins 2006). Hence, firms inevitably will consider the impact of social responsibility practices towards their profit figures. This will give rise to economic motive of CSR which argues that firms will engage CSR practices if they can reap financial returns greater than the incurred costs. This perspective suggests a narrow view of CSR practices that focuses on maximising shareholders' value (Friedman 1970). There are different kinds of explanations on how CSR practices could improve firms' financial performance. Companies engage in different CSR activities in order to gain competitive advantage (Brine, Brown, & Hackett, 2007; Wang, Choi, & Li, 2008; Inoue & Lee 2011; Miras-Rodriguez, Carrasco-Gallego, & Escobar-Perez, 2015), to enhance social reputation and trust (Fombrun & Shanley 1990; Fryxell & Wang 1994; Brammer & Millington 2005), to improve employee productivity (Kuvaas 2008; Zhang 2010; Bussy & Suprawan 2012), to reduce costs of resources and minimise uncertainties (Clark & Hebb 2004; Dincer, Celik, & Hacıoglu, 2014) or even to reduce price sensitivity so that the firms' may potentially charge a premium price for products (Sen & Bhattacharya, 2001). The extant literature examining relationship between CSR activities and financial performance, however, has often excluded the banking industry (Esteban-Sanchez, Cuesta-Gonzalez, & Paredes-Gazquez, 2017). This is because banking sector is regarded as highly regulated sector as it plays a critical role in the development of an economy. Besides, the complexity of banking business structure also brings to the unique characteristics compared to other industries (Morgan 2002). The high levels of uncertainty and opaque nature of business transactions will signify the importance of CSR in the

banking industry (Shen et al. 2016). As banks mainly trade intangible financial products to individuals who may not have robust financial knowledge, gaining trust from customers is essential in order to ensure banks securing financial returns. Engaging in CSR practices is one way to build strong reputation of a bank and eventually will enhance customers' trust.

The importance of bank reputation can be seen in Chemmanur and Fulghieri (1994) that banks' credibility are relied on the reputation acquisition by the banks. The empirical implications from the study revealed that banks with greater reputation, charge higher fees and thus, have higher gross income compared to those with lower reputation level. In addition, Bushman and Wittenberg-Moerman (2012) explore the role of banks' reputation in mitigating information asymmetry between borrowers and lenders and find that high reputation banks are making greater profits and credit quality. With relation to CSR activities, Soana (2011) and Trotta, Iannuzzi, Cavallaro, & Dell'Atti (2011) contend that banks could safeguard their reputation through CSR programs engagement. The positive reputation will improve brand recognition and trust from customers that ultimately results to increase bank income (Shen et al. 2016). In examining determinants of CSR among international sample of financial institutions from 2003 to 2005, Chih, Chih, & Chen (2010) discover that size has a significant positive correlation with CSR and attribute this finding to the view of highly reputable financial institutions (proxied by size) tend to engage in higher CSR practices. In addition, Wu and Shen (2013) investigate the corporate social and financial performance of 162 banks in 22 countries over 2003-2009 and find that CSR had a significant positive effect on financial performance. They explain the findings with existing financial intermediary's reputation theory which suggest that banks will maximize profit by enhancing their reputation through engaging in CSR practices including environmental protection and philanthropic activities.

Another perspective that has been extensively used in the literature to explain economic motive of CSR practices by banks is social impact hypothesis proposed by Cornell and Shapiro (1987) which suggests that aligning the expectations and interests of a company with those of all stakeholders will lead to desirable effects on company performance. This perspective is based on the instrumental view of Stakeholder Theory (Freeman 1984) which argues that effective management of stakeholder relationships could reduce information asymmetry, hence resolves agency conflicts and ultimately results to better financial performance (Ioannou & Serafeim, 2010).

Using Community Reinvestment Act (CRA) ratings as a social performance measure and return on assets (ROA) as well as loan losses as proxies of financial performance, Simpson and Kohers (2002) find a significant positive relationship between corporate social performance (CSP) and corporate financial performance (CFP) among US national banks. They attribute the findings to social impact hypothesis which contends that meeting the needs of bank stakeholders will have a desirable impact on bank financial performance. Similarly, in more recent study, Shen et al. (2016) prove that CSR banks consistently outperform non-CSR banks in terms of ROA and ROE. In determining whether or not banks should commit in CSR practices, they use three different estimation methods in order to get robust CSR effect and test them in sample banks from 18 countries from 2000 to 2009. They find that ROA and ROE are significantly higher in banks with greater CSR practices, regardless of the different methods used and ascribe the findings to social impact hypothesis.

There is a number of studies examining the impact of managing various types of stakeholders (such as employees, customers and community) towards bank financial performance (for example, Simpson & Kohers, 2002; Deniz-Deniz & Saa-Perez, 2003; Soana, 2011; Mention & Bontis, 2013; Eren, Eren, & Hacıoglu, 2013). Deniz-Deniz and Saa-Perez (2003) specifically investigate the impact of corporate responsiveness towards employees as an element of corporate social performance on profitability. By examining Spanish financial institutions, they discover that savings bank which involve in high-commitment human resource practices with relation to employees tend to have higher profit. They argue that such corporate social responsiveness improves collaboration among employees and could distinguish the corporation from other organisations. Likewise, Mention and Bontis (2013) find similar findings that human capital contributes directly and indirectly towards financial performance in Luxembourgian and Belgian banks. They attribute the results to the fact that individual knowledge, skills and expertise characterize as valuable resources which could be part of

competitive advantage tools for the banks that result to improve organisational efficiency and performance.

A large literature uses corporate governance as one of the proxy measures of CSR commitments (Hillman & Keim, 2001; Johnson & Greening, 1999). This is because, establishing good corporate governance practices is a way to get a balance between economic and social goals and also between individual and society objectives (Buchholtz, Brown, & Shabana 2008). With relation to the banking sector, Soana (2011) finds the evidence of positive association between corporate governance and ROA in Italian banks which signifies that banks' good governance brings positive effects on financial results. Soana's (2011) findings have been corroborated by, Dincer et al. (2014) who conclude that good corporate governance practices will reduce uncertainties and also minimize resources costs which lead to lower costs of capital. In more recent study, Esteban-Sanchez et al. (2017) examine the relationship between four corporate social performance (CSP) dimensions (i.e. governance, relations with employees, relations with community and product responsibility) on corporate financial performance (CFP) of 154 financial institutions in 22 countries from 2005 to 2010. They discover that banks with better employer relationships have greater financial performance and attribute this result to the view of maintaining a good relationship with employees might involve greater benefits than costs. Moreover, they also find significant positive link between corporate governance and bank performance which suggests that good corporate governance could reduce agency problems and ultimately improve financial performance.

Another important empirical study in the banking industry that examines the motives of CSR is Chih et al. (2010). By investigating 520 financial firms in 34 countries over the period of 2003-2005, Chih et al. (2010) discover that the size of financial firms, the intensity of competition, the stronger levels of legal enforcements and self-regulation within the financial sector have significant positive impacts on CSR. In addition they also find that financial firms situated in countries that have more cooperative employer-employee relations and a positive macroeconomic situation tend to engage in higher CSR practices. Chih et al. (2010) attribute their findings to the fact that various institutional factors (for example, competitors, government and employers) mediate the relationship between CSR and financial performance (Campbell 2007).

The economic motive of CSR in banking sector could be impacted by the recent global financial crisis in 2008-2009 (GFC) which was mainly resulted from subprime mortgages, boosting asset prices without economic basis, increase in high risk financial products and other socially irresponsible conducts. This failure in considering the impact of bank operating decision on society has been strongly criticized as banks employ substantial resources from society and they are supposed to give back to society more often than other business sectors (Wu & Shen 2013). Based on the basis that, (1) banks are expected to take proactive steps at being more socially responsible after the recent GFC (Cornett et al., 2016) and (2) significant decline in banks performance during GFC which will impact their CSR practices (Brilius, 2010), it is beneficial to review the difference in economic motives of engaging CSR activities during and after GFC period.

In their robustness test, Wu and Shen (2013) investigate the impact of CSR on financial performance in the international banking sample before and during the recent GFC. They discover that CSR index has significant positive relationship with most of the financial performance proxies prior to the financial crisis (2003-2006) but the effect of CSR index on ROA is not significant during the crisis (2007-2009). This shows that banks were less likely to engage CSR practices in order to increase profitability during the financial crisis. Moreover, using international bank sample covering the period 2005-2010, Esteban-Sanchez et al. (2017) examine the extent to which the recent crisis moderates the relationship between CSP and CFP. They find that the crisis negatively moderated the positive effect of corporate governance on financial performance and ascribe the findings to the view that the crisis may have revealed failures in CSR particularly in corporate governance structure. In another study by Cornett et al. (2016), they examine whether commercial banks in the U.S. engage in more CSR practices after the recent GFC and whether there is an association between CSR and financial performance. The results indicate that large banks show a significant increase in CSR strengths (positive CSR) and a significant reduction in CSR concerns (negative CSR) after the crisis.

Furthermore, they also find that CSR scores consistently have significant positive relationship with bank financial performance throughout the sample period which suggest that banks in the U.S. pursue CSR activities in order to get desirable financial returns.

Another strand of literature examining the relationship between CSR and financial performance focuses on a sample of banks in emerging economies (for example, Ofori et al., 2014; Dincer et al., 2014; Mallin, Farag, & Ow-Yong, 2014; Bihari & Pradhan, 2011). The extant literature in CSR has been concentrated on developed market banking sector and less studies have been conducted in emerging market (Arlu & Lasmono, 2010) despite different geographical, economic and political environment present in both type of economies. Emerging markets' structure of rapid growth in economic development and fast expanding purchasing power among consumers lead to significant differences in social structure (Hah & Freeman, 2014). By conducting a survey on 22 Ghanaian banks together with archival financial records, Ofori et al. (2014) examine the impact of CSR and financial performance. They find that financial performance of banks in Ghana does not depend significantly on the CSR activities but relatively on other variables. They further explain the findings that Ghanaian banks are motivated to engage in CSR practices by legitimacy and sustainability reasons compared to profitability motive. Similarly, Dincer et al (2014) find that deposit banks in Turkey have higher volume of consumer loans and deposits as compared to commercial deposits and attribute the findings to the view of coordinating public relations and not solely for profitability enhancement purposes. In examining the relationship between CSR and financial performance in Islamic banks within emerging markets, Mallin et al., (2014) find that there is a significant positive association between CSR and ROA as well as ROE. They also discover that Islamic banks have shown more commitment to the vision and mission, governance structures and also towards financial products dimensions. This suggests that Islamic banks practicing CSR activities in order to secure legitimacy for their existence as compared to merely for profit motives.

Relational motive

In this recent GFC predicament, CSR literature is evolving fast yet many researchers and global organisations have denied the believe that firms should put all resources and efforts on profit maximisation (Caroll, 1991; Crane, Matten, & Spence, 2008). Having said that, the linkage between business and society has been known by the researchers and global organisations as they regard it as a managerial obligation to conserve and develop both of the society and organisation (Cannon, 1992; Davis & Blomstrom, 1975; Lunden, 1988). Correspondingly, businesses should not only emphasise on making profits but also having other equally important of social responsibilities which could prolong to long-term investment and chronically relate to diverse participants in the market.

Relational motive is a term encompasses the inclusive CSR motives of legitimacy, socio-political, survivability and sustainability and greenwashing. Dare (2016) describes relational motive as the basis for managers to engage in CSR in order to build, maintain and restore legitimacy. This motive can be affiliated with stakeholder theory due to the support in CSR is to fulfill different stakeholders needs which strengthens corporate legitimacy and performance of corporation (Donaldson & Preston, 1995; Jones, 1995). The stakeholder theory in CSR signifies a system of corporate behavioural disposition to stakeholders which are consumers, employees and the public (Wood, 1991). In addition, Mishra and Suar (2010) construe the significance of CSR in stakeholder perspective that understanding for dimensionality of CSR value offers a clear direction to evaluate CSR and organise the perception of organisational responsibilities. Organisation should consider building mutual interaction with its stakeholders to avoid any conflicts such as damage of goodwill²⁶.

Auxiliary, another theory termed as equator principle is allied with relative motive due to CSR is not necessary tie with profits only but also include social and environment sustainability. Equator principle is "... seek to ensure that the projects we finance are developed in a manner that is socially responsible and reflect sound environmental management practices" (from the Preamble of the Equator Principles, www.equator-principles.com). In other words, Scholtens and Dam (2007) state that equator principles are made for project finance to ensue sustainable

²⁶ Krueger and Mas (2014) learn that firm increases short-term profits by reducing the stakeholders values could damage the goodwill of their labour and supplier in long-term.

development. However, without objective to make profits, some organisations are struggling with the needs to consider social and environmental impacts in the wake of GFC. Yet, BankTrack (2005) argues that organisation may adopt equator principles for greenwashing their operations in emerging market. Greenwashing is one way to influence stakeholders' perception towards an organisation using standalone CSR reports that they are acting appropriately through social and environmental activities (Guidry & Pattern, 2010; Lyon & Maxwell, 2011).

Legitimacy in the view of CSR implies stakeholders to strengthen the rightful actions of the organisation by giving a set of regulations, beliefs, values and norms (Suchman, 1995). With the support from stakeholders, legitimacy delivers some astonishing benefits include survivability, sustainability, employee satisfaction and lower risk (Bansal & Roth, 2000). Accordingly, banks may pursue the legitimacy through CSR as their main drive for long run prosperity. A literature by Esteban-Sanchez et al. (2017) studies the CSR investment as a burden or as a long-term engagement for 154 financial institutions covering 22 countries in Europe, America, Asia and Oceania, from 2005 to 2010. The study finds evidence that stakeholders comprise of employees, corporate governance and local community indeed help the banks during GFC. The study suggests banks to focus on intangible benefits in long-term by reason of short-term benefits cannot be seen right away. Ofori et al. (2014) also support the concept of legitimacy by explore the motives behind CSR practices in the banks. The study claims that banks are motivated in the name of legitimacy reasons to conduct CSR as part of their strategic commitment. The banks did not see CSR as the primary determinant to financial performance improvement in view of different origin, debt ratio, growth and size of the banks. In addition, Er-ming and Rong (2013) find that commercial banks are influenced by the institutional legitimacy in conducting CSR activities as stakeholders could drive their corporate social performance. Therefore, relational motive is clearly explained that banks also can choose to fulfill different stakeholders for exceptional benefits which cannot be found in short-term attainment.

Beyond legitimacy, Durrani (2016) compares between conventional banks and Islamic banks in CSR and results derive the importance of socio-political factor for conventional banks. This is because conventional banks are deficient in ethical values and corporate governance by notion that they did not have specific guiding principles to behave ethical and morally towards social responsibility (Humber, 2002). Additionally, Islamic banks are operating under Shariah system, a religious bond²⁷ while conventional banks are practicing western context which is more to profit orientation. As a result, socio-political is necessary for the banks in engaging CSR to counterbalance their relationships with the stakeholders. The objectives of gaining socio-political factors through CSR adoption are to draw out supports from stakeholders and enable political access (Brammer & Millington, 2004) which essential for enhancing banks' legitimacy and performance.

Although CSR have adapted over the time with stakeholders, Shen et al. (2016) examine the banks whether or not engage in CSR with profits and non-performing loans as their corporate social performance using three novel estimation methods including Heckman's two-step method. The financial data is collected from FTSE4Good Global Index (2000- 2009) which include 18 countries from Europe, U.S., U.K. and Japan. Surprisingly, the result offers bank managers to pursue CSR for long-term survivability instead of profits. The results also suggest sustainable development to be embedded as CSR motive due to the direct benefits generated from outside sources such as VAT exemption²⁸ and Community Reinvestment Act²⁹. Another finance literature by Selvakumar et al. (2016) explore the motives of CSR in banks either for long-term gains or distract banks from profit-making. Result notably exhibits good CSR practices are crucial for sustainability which can achieve long-term assets for both stakeholders and shareholders. Survivability and sustainability are part of the benefits derived from legitimacy

²⁷ Islamic CSR is based on the principles and divine knowledge of Al Qur'an and Sunnah which organisations should be good in every transaction and have belief of Unity of Allah SWT and pursue working to bring happiness in this life as well as promotes behavior of brotherhood and justice to balance employee rights and better coherence between self-interest and altruism (Durrani, 2016).

²⁸ During financial crisis, banks delight privilege from the government such as VAT exemption following Financial Transactions Tax or Financial Activity Tax (Shen et al., 2016).

²⁹ Some banks in certain countries of Organisation for Economic Cooperation and Development (OECD) provide savings accounts for community investments succeeding Community Reinvestment Act legislated by the US congress in 1977 (Scholtens, 2009).

owing to the stakeholders' supports (Bansal & Roth, 2000) which lead to broader extent of relational motive.

A review of Scholtens and Dam (2007) discover banks that adapted equator principle have low returns on assets even higher CSR is implied. The study reveal that banks could enjoy some non-market values from the stakeholders although forgone profits and implicate real cost for CSR. Prior that, greenwashing may happen as their CSR reports publicise an impression of legitimacy values but it may or may not confirm at actual compliance (Lindblom, 1994; Neu, Warsame, & Pedwell, 1998). When a bank reports lower returns on assets (ROA) but invests heavily in CSR activities, reason behind such behaviour may signify lip service or part of the business strategy. Chih et al. (2010) also find that banks with low ROA tend to engage densely in CSR. In that event, banks may try to influence stakeholders through salient record of social and environmental performance as their legitimation strategy.

GFC has greatly threatened the stability of banking system, resulting CSR being used as a strategic plan for long-term values. Referring to the existing literature, empirical data shows more banks are being studied after the GFC (non-GFC) while less literature discussed before and during GFC. For example, Durrani (2016), Selvakumar et al. (2016) and Ofori et al. (2014) analyse financial data ranging from year 2010 to 2014. The findings of this empirical evidence signal the importance of relational motive in involving CSR for the banks to withstand any possible financial crisis in the future. This is supported by Cornett et al. (2016) that economy is gradually recovering from the GFC, thus banks are now more socially responsible for sustainability trends. Therefore, relational motive is a favorable selection which utilise stakeholders' supports to assist banks in difficult times.

Aside from legitimacy, there is no sign of greenwashing motive being studied during and after financial downturn. The past studies regarding to greenwashing in general, indicate that banks may shield some unknown reasons of being socially responsible which financial performance may not derive the actual motive of CSR. Accordingly, Scholtens (2009) and Cuesta-Gonzales, Munoz-Torres and Fernandez-Izquierdo (2006) study the banks and CSR without employ any financial performance. In spite that, greenwashing may represent a positive remark to protect their self-interest (Mahoney, Thorne, Cecil, & LaGore, 2013), at the same time acquire supports from stakeholders (Guidry & Pattern, 2010; Lyon & Maxwell, 2011) during financial catastrophe.

There is also little literature focus on GFC period such as Esteban-Sanchez et al. (2017) and Shen et al. (2016). Both studies highlight GFC as critical period for banks to remain resilient in battling financial hard times through CSR. However, Esteban-Sanchez et al. (2017) criticise banks for not handle the product responsibility and customer relations in a good manner during GFC, hence affected the satisfaction and trust from the customer. The study also articulates banks to tap into relational business model in order to draw customers' supports as well as trust and loyalty from local community supports during financial crisis. Furthermore, Shen et al. (2016) highlight the aids provided by the government in recession period which banks could enjoy such privileges compared to non-bank and thus, performing CSR during financial crisis is not necessary a burden and should not being accused as distraction from generating substantial profits. In fact, relational motive can raise the stakeholders' supports (customers, community and government) if the banks are willing to serve CSR as ethical investment.

Looking into markets, most empirical data from literature under relational motive is concerning on emerging markets instead of developed countries. This may indicates emerging market is ought to engage in CSR for enhancement of corporate legitimacy and performance. Ofori et al. (2014) believe that banks are increasingly evolved in CSR practices because growing demands of diverse and complicated stakeholders in emerging market. Supplementary, Zheng, Luo, and Maksimov (2015) agree that CSR is demanded in emerging market for the motives of philanthropy and sustainability. The study uses financial data from China as this emerging market is getting more awareness in CSR following a series of product responsibilities scandal.

In another perspective, Kvint (2009) state that emerging economy can be seen from a decentralisation of many economic functions from the national government to regional and local authorities which resulting a rapidly changing legal and economic environment that makes investment more risky. This portraits certain stakeholders involvement such as government, policymaker and regulators require banks to beware and sensible to the social and political relations. Also, Er-ming and Rong, 2013 and Selvakumar et al. (2016) suggest banking regulatory body should play their roles to raise CSR practices among banks for economic welfare as well as encourages banks to precept the long-term benefits from CSR via stakeholders as Khanna, Palepu and Carlsson (2005) claim that emerging market entices considerable attentions primarily political and economic forces.

Notwithstanding the foregoing, international market is getting attention in recent literature which may due to GFC long-term effects. For example, Esteban-Sanchez et al. (2017) and Shen et al. (2016) study international market before, during and after financial crisis in order to investigate the relationship between CSR and banks globally, nevertheless result still pointed out that relational motive is essential for long run legitimacy. Cornett et al. (2016) also argues that large banks in United States are too-big-to-fail and therefore, ignore CSR but the result exhibits these banks are progressively improving for CSR in recent years ensuing financial crisis. Literally, relational motive plays a significant role in CSR practices regardless in developed or emerging market.

Altruism motive

In today's world of business, CSR is expected to yield returns to the organisation despite it is not a legitimate imperative for public corporations (Lantos, 2001). As a matter of fact, corporations are not competent enough to engage themselves in public welfare concerns (Shaw & Barry, 1992; Freeman, 2001) as motives of CSR is less likely governed by altruistic which negatively affecting the financial performance (Baron, 2001). The shareholders recognize CSR practices only if they can see the benefits that are assessable in monetary terms (economic motive) or in intangible benefits (relational motive). Nonetheless, some organisations have a preference on altruism for doing CSR with regard to divert themselves from market control and voluntarily help to meet activist' objectives without pressure (Baron, 2001). On the grounds of altruism, corporations have the freedom to contribute part of their capitals for good cause which extend a view of not being materialistic in this pluralistic society.

Lantos (2001) describes altruistic in CSR as the fulfillment of philanthropic responsibilities including avert from any possible harms and help to ease the public welfare inadequacy disregarding intention for benefits or returns. Altruism motive is similar to philanthropic responsibilities (Lantos, 2001) that emphasise on voluntary contributions to the society including money and time for charity works (Carroll, 1979). In theoretical perspective, altruism motive is found relevant with Judeo-Christian principle just as Hill (2017) define this philosophy concept as all human carries the image of God which shape the evolutionary of human equality. Hill (2017) also asserts human equality is bearing the basis on social and political order through human agency. Moreover, Lantos (2001) finds that Judeo-Christian principle undeviatingly lead to altruism motive which is suitable for private corporations with notion that business is part of God's work. Johnson (1990) also supports the view that businesses and profits are coming from God, hence human should fulfill God's will. Correspondingly, each organisation is compelled to social roles regardless of how much profits or benefits acquired.

The study by Lantos (2001) further acclaims organisations are given custody of human and economic resources which they are required to take care of the society's resources. This statement directly relate to altruism motive with stewardship principle as The Word on Management (1989) explains that God commanded human to work by giving them authority over the earth as well as stewardship to safe keeps the resources. Therefore, CSR is one way for human to protect the resources including avoids harm and preserves natural riches on this earth. Banks are aware of their economic and social responsibilities that are to preserve their constitutionality value. Wu and Shen (2013) state that banks are cognisant for using the public resources and thus, giving back to the society through reporting a particular section for CSR in their annual reports. In a similar study by Shen et al. (2016), regulator and public annotate banks to compensate them through CSR activities for using resources from the society. This is

aligned with Judeo-Christian principle and stewardship principle that encourage banks to practice CSR by virtue of God's conviction and protection of environment. However, Perez and Bosque (2015) contend that altruism motive for CSR engagement directly influences the customer CSR perceptions. The study uses interview-administered surveys and causal model to investigate corporate altruism towards formation of customer CSR perceptions among Spanish banks. Results affirm that customers are not only aware of social effects but also the motivations behind CSR engagement, thus banks' altruism affect customers favouring responses. This signifies altruism motive may lead to uninvited benefits although banks are doing CSR with no intention of getting advantage.

The relationship between altruism motive and CSR is confirmed through support of theories but limited literature with empirical evidence is studied in banking sector. This may due to CSR aspects are difficult to assess as well as altruistic that can only be examined using initial demand (Baron, 2001). One way to investigate CSR is using corporate financial performance (Baron, 2001). Yet, existing literature such as Wu and Shen (2013) and Perez and Bosque (2015) are defied scrutinising altruism motive in CSR with the banks. Wu and Shen (2013) reveal that altruism motive for conducting CSR causes increase of cost to the banks with uncertain effect on their profits during financial crisis. However, Perez and Bosque (2015) develop another outcome that corporate altruism is significant with customers' CSR perceptions, hence backing the banks after financial crisis. Both studies imply that altruism motive is effective for aftermath of GFC since the banks will receive their unsolicited rewards for being genuine in practicing CSR. Ahearne, Bhattacharya and Gruen (2005) also agree that genuine efforts of engaging social causes veritably provoke higher customers' supports thereafter GFC. Additionally, both studies of Wu and Shen (2013) and Perez and Bosque (2015) cover banking data from developed countries that meet the standard of gross domestic product (GDP), gross national product (GNP) and per capita income, and so exhibit the existence of altruism motive in their CSR practices. Perez and Bosque (2015) also highlight a need for altruism motive to embrace greater impact on CSR image since corporate behaviour constantly being observed in developed country. Despite the fact of altruism motive may not benign in banking sector, aspiration of being truly altruistic will still lead to the interpretation of CSR which is to improve the economic, social and environment.

Table 1: Summary of literature for economic motive, relational motive and altruism motive in banking sector

Author	Motive	Theory	GFC (2007-2008)	Sample country (Emerging/ Developed/ International)
Chih, Chih, & Chen (2010)	Economic -Reputation -Institutional Relational -Legitimacy -Greenwashing	Reputation Institutional Stakeholder	No	International
Deniz-Deniz & Saa-Perez (2003)	Economic -Employee relations	Social impact	No	Developed
Dincer, Celik, & Hacıoglu (2014)	Economic -Employee relations	Social impact	No	Emerging
Durrani (2016)	Relational -Socio-political -Legitimacy	Stakeholder	No	Emerging
Er-ming & Rong (2013)	Relational -Legitimacy	Institutional Stakeholder	Yes	Emerging

Author	Motive	Theory	GFC (2007-2008)	Sample country (Emerging/ Developed/ International)
Esteban-Sanchez, Cuesta-Gonzalez, Paredes-Gazquez (2017)	Economic -Governance Relational -Legitimacy	Social impact Stakeholder	Yes	International
Mention & Bontis (2013)	Economic -Employee relations	Social impact	No	Developed
Ofori, Nyuur, & S-Darko (2014)	Relational -Legitimacy	Stakeholder	No	Emerging
Perez & Bosque (2015)	Altruism -Philanthropic responsibilities	Philanthropic responsibilities	No	Developed
Scholtens & Dam (2007)	Relational -Greenwashing	Equator principle	No	International
Selvakumar, Arumugam, & Sathiyalakshmi (2016)	Relational -Sustainability -Legitimacy	Stakeholder	No	Emerging
Shen, Wu, Chen, & Fang (2016)	Economic -Social impact Relational -Survivability -Legitimacy	Social impact Stakeholder	Yes	International
Simpson & Kohers (2002)	Economic -Social impact	Social impact	No	Developed
Soana (2011)	Economic -Governance	Social impact	No	International
Wu & Shen (2013)	Economic -Reputation	Reputation	Yes	International

SUMMARY AND CONCLUSION

The banking system acts as an intermediary between suppliers and users of funds through channeling deposits into lending activities directly or via capital markets and this intermediary role is critical in ensuring stability of an economy. However, the recent GFC has invited considerable criticisms in relation to the behaviour of the banking industry as the evidence of devastated recession was resulted from the socially irresponsible practices conducted by the financial institutions such as subprime mortgages, increasing asset prices without economic basis and other excessive profit-maximisation financial products. Moreover, compared to other industries, banking sector is expected to give back more to society since the financial institutions utilise substantial resources from society for example, during recession period, government will use public money to bail out any distressed banks (Wu and Shen 2013). Despite the importance of CSR practices to the banking industry, less studies have been devoted to examine socially responsible practices in financial institutions (Esteban-Sanchez et al. 2017). The purpose of this paper is to review the literature examining motives of CSR in the banking industry.

In general, the extant literature examining CSR practices in financial sector outlining three main motives; (1) to reap favourable financial performance (economic motive), (2) to develop, sustain or restore legitimacy (relational motive) and (3) to fulfil philanthropic responsibilities and accountabilities (altruism motive). Financial performance of the banks could be enhanced through engaging CSR activities because of the greater reputation gained from those activities. The desirable reputation will improve brand differentiation and trust from customers which eventually results to increase bank income (Shen et al. 2016; Wu & Shen 2013; Soana 2011; Chih et al. 2010). Besides, by conducting CSR, it will improve effective management of stakeholder relationship and lead to better financial performance (Simpson & Kohers, 2002; Deniz-Deniz & Saa-Perez, 2003; Mention & Bontis, 2013; Eren et al., 2013).

Furthermore, instead of gaining short-term economic performance, financial institutions might commit to CSR activities in order to strengthen corporate legitimacy, socio-political incentive and long-term survivability. CSR practices could enhance institutional legitimacy which evidence during the recent GFC that various types of stakeholders indeed helped in the crisis (Esteban-Sanchez et al. 2017). In addition, banks may draw out supports from stakeholders to enable political access which is the socio-political factor of conducting CSR. Good CSR practices are also important for sustainability which can achieve long-term assets growth for both stakeholders and shareholders. On top of gaining short-term and long-term objectives, banks may also engage in CSR as part of their moral motive. Some financial institutions conduct CSR practices in the virtue of God's principle and environment protection. However, as the altruistic motive is hard to be measured, there is limited empirical literature examining the relationship between CSR performance and profit in the banking sector.

This paper also reviews different motives of CSR engagement by financial institutions during the recent GFC. The past literature supports the view of banks were less likely to commit in CSR practices for economic motive during the GFC (Wu & Shen 2013; Esteban-Sanchez et al. 2017). Instead, the banks are found to engage in CSR activities because of relational motive as they attempted to draw customers' supports and trusts, as well as loyalty local from community during the crisis. Some studies argue that banks did CSR activities in the crisis period because they had been provided by government aids which were sourced from public funds and doing socially responsible acts was one way of banks to give back to society. Moreover, this paper also reviews different CSR motives in banks situated in emerging markets. The studies find the evidence that banks in emerging economies are motivated to engage CSR activities by legitimacy and sustainability reasons as compared to enhance financial performance.

This paper provides a comprehensive review of literature examining CSR motives in banking sector. It shows that CSR in financial sector remains a fertile area for research academically especially on motives of the determinants of CSR activities. This paper also contributes to the literature by classifying different motives of CSR during financial crisis period as well as between banks in emerging and non-emerging markets.

REFERENCES

- Ahearne, M., Bhattacharya, C. B., & Gruen, T. (2005). Antecedents and consequences of customer-company identification: expanding the role of relationship marketing. *Journal of Applied Psychology, 90*(3), 574–585.
- Altman, B. W., & Vidaver-Cohen, D. (2000). A framework for understanding corporate citizenship. *Business and Society Review, 105*(1), 1–7.
- Arlı, D. I., & Lasmono, H. K. (2010). Consumers' perception of corporate social responsibility in a developing country. *International Journal of Consumer Studies, 34*(1), 46–51.
- BankTrack (2005). Unproven principles. The Equator Principles at year two. Amsterdam: BankTrack.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bansal, P., & Roth, K. (2000). Why companies go green: a model of ecological responsiveness. *Academy of Management Journal*, 43, 717–736.
- Baron, D. (2001). Private politics, corporate social responsibility and integrated strategy. *Journal of Economics and Management Strategy*, 10, 7–45.
- Bassen, A., Holz, H. M., & Schlange, J. (2006). The influence of corporate responsibility on the cost of capital: an empirical analysis. *Schlange & Co.*, Universitat Hamburg, Deutsche Bank.
- Benabou, R., & Tirole, J. (2009). Individual and Corporate Social Responsibility. *Economica*, 77(305), 1-19. doi: 10.1111/j.1468-0335.2009.00843.x
- Bihari, S. C., & Pradhan, S. (2011). CSR and performance: the story of banks in India. *Journal of Transnational Management*, 16, 20-35.
- Blowfield, M., & Murray, A. (2008). *Corporate responsibility: a critical introduction*. Oxford University Press.
- Brammer, S., & Millington, A. (2004). The development of corporate charitable contributions in the UK: a stakeholder analysis. *Journal of Management Studies*, 41, 1411–1434.
- Brammer, S., & Millington, A. (2005). Corporate reputation and philanthropy: an empirical analysis. *Journal of Business Ethics*, 61 (1), 29-44.
- Brilius, P. (2010). Dynamic model of dependencies between economic crisis and corporate social responsibility contribution to sustainable development. *Sustainable Development*, 15, 422-429.
- Brine, M., Brown, R., & Hackett, G. (2007). Corporate social responsibility and financial performance in the Australian context. *Economic Round-up*, 47-58.
- Buchholtz A. K., Brown J. A., & Shabana K. M. (2008). Corporate governance and corporate social responsibility. In: Crane, A., Matten, D., McWilliams, A., Moon, J. & Siegel D.S. (eds.) *The Oxford Handbook of Corporate Social Responsibility*. New York: Oxford University Press Inc.
- Bushman, R. M., & Wittenberg-Moerman, R. (2012). The role of bank reputation in “certifying” future performance implications of borrowers’ accounting numbers. *Journal of Accounting Research*, 50(4), 883-930.
- Bussy, N. M. D., & Suprawan, L. (2012). Most valuable stakeholders: the impact of employee orientation on corporate financial performance. *Public Relations Review*, 38, 280-287.
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32(3), 946–967.
- Cannon, T. (1992). *Corporate responsibility*. London: Pitman Publishing.
- Carroll, A. B. (1979). A three-dimensional model of corporate performance. *Academy of Management Review*, 4(4), 497-505.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39–48. doi: 10.1016/0007-6813(91)90005-G
- Chemmanur, T., & Fulghieri, P. (1994). Investment bank reputation, information production, and financial intermediation. *Journal of Finance*, 49, 57-79.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Chih, H. L., Chih, H. H., & Chen, T. Y. (2010). On the determinants of corporate social responsibility: international evidence on the financial industry. *Journal of Business Ethics*, 93 (1), 115–135.
- Clark, A. (2011). Mervyn King: bankers exploit gullible borrowers to pay for their bonuses. Retrieved from <https://www.theguardian.com/business/2011/mar/05/mervyn-king-bankers-bonuses>
- Clark, G. L., & Hebb, T. (2004). Corporate engagement: the fifth stage of capitalism, relations industrielles. *Industrial Relations*, 59, 142-169.
- Cornell, B., & Shapiro, A. (1987). Corporate stakeholders and corporate finance. *Financial Management*, 16 (Spring), 5–14.
- Cornett, M. M., Erhemjants, O., & Tehranian, H. (2016). Greed or good deeds: an examination of the relation between corporate social responsibility and the financial performance of U.S. commercial banks around the financial crisis. *Journal of Banking and Finance*, 70, 137-159. doi: 10.1016/j.jbankfin.2016.04.024
- Crane, A., Matten, D., & Spence, L. (2008). *Corporate social responsibility: readings and cases in a global context*. New York: Routledge.
- Cuesta-Gonzalez, M., Munoz-Torres, M., & Fernandez-Izquierdo, M. A. (2006). Analysis of social performance in the Spanish financial industry through public data: a proposal. *Journal of Business Ethics* 69 (3), 289–304.
- Dam, L., Koetter, M., & Scholtens, B. (2009). *Why Do Firms Do Good? Evidence from Managerial Efficiency*. 4th CORE Conference Working Paper Series, 1.
- Dare, J. (2016). Will the Truth Set Us Free? An Exploration of CSR Motive and Commitment. *Business and Society Review*, 121:1, 85-122.
- Davis, K., & Blomstrom, R. L. (1975). *Business and society: environment and responsibility*. New York: McGraw-Hill.
- Deniz-Deniz, M., & Saa-Perez, P. D. (2003). A resource-based view of corporate responsiveness toward employees. *Organization Studies*, 24 (2), 299-319.
- Dincer, H., Celik, I. E., Yilmaz, R., & Hacioglu, U. (2014). *The financial implications of Corporate Social Responsibility in the banking sector*. In: Hacioglu, U., Dincer, H. (Eds.), *Managerial Issues in Finance and Banking*. Berlin: Springer.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: concepts, evidence, and implications. *Academy of Management Review*, 20, 65–91.
- Durrani, B. (2016). Islamic concept and contemporary corporate social responsibility: comparative study between Islamic banks and conventional banks in Pakistan. *Journal of Managerial Sciences*, 10(2), 317-332.
- El-Hawary, D., Grais, W., & Iqbal, Z. (2007). Diversity in the regulation of Islamic Financial Institutions. *The Quarterly Review of Economics and Finance*, 46(5), 778-800.
- Eren, S. S., Eren, M. S., Ayas, N., & Hacioglu, G. (2013). The Effect of service orientation on financial performance: the mediating role of job satisfaction and customer satisfaction. In: *The Proceedings of 9th International Strategic Management Conference*, 99, 665-672.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Er-ming, X., & Rong, Z. (2013, July 17-19). Institutional Legitimacy's Impact on Corporate Social Responsibility of Commercial Banks. Paper presented at 2013 International Conference on Management Science & Engineering (20th), Harbin, P. R. China. doi: 978-1-4799-0474-7/13/\$31.00
- Esteban-Sanchez, P., Cuesta-Gonzalez, M. D. L., & Paredes-Gazquez, J. D. (2017). Corporate social performance and its relation with corporate financial performance: international evidence in the banking industry. *Journal of Cleaner Production*, 162, 1102-1110.
- Fombrun, C. J., & Shanley, M. (1990). What is in a name? Reputation building and corporate strategy. *Academy of Management Journal*, 33 (2), 233–259.
- Freeman, R. E. (1984). *Strategic management: a stakeholder approach*. Boston, MA: Pitman.
- Freeman, R. E. (2001). *Business Ethics: readings and Cases in Corporate Morality*. Boston: McGraw Hill.
- Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York Times Magazine*, 13 September, 32–33; 122–126.
- Friedman, M. (1972). Have fiscal-monetary policies failed? *American Economic Review, Papers and Proceedings*, 62, 11–18.
- Fryxell, G. E., & Wang, J. (1994). The fortune corporate 'reputation' index: reputation for what? *Journal of Management*, 20, 1-14.
- Guidry, R., & Patten D. (2010). Market reactions to the first-time issuance of corporate sustainability reports: evidence that quality matters. *Sustainability Accounting Management and Policy Journal*, 1(1), 33–50.
- Hah, K., & Freeman, S. (2014). Multinational enterprise subsidiaries and their CSR: a conceptual framework of the management of CSR in smaller emerging economies. *Journal of Business Ethics*, 122(1), 125–136.
- Henderson, D. (2005). The role of business in the world of today. *Journal of Corporate Citizenship*, 17, 30-32.
- Hill, P. J. (2017). Judeo-Christian thought, classical liberals, and modern egalitarianism. *The Independent Review*, 22(1), 49-58.
- Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic Management Journal*, 22, 125-139.
- Hopkins, M. (2006). What is corporate social responsibility all about? *Journal of Public Affairs*, 6(3/4), 298-306.
- Humber, J. M. (2002). Beyond stockholders and stakeholders: a plea for corporate moral autonomy. *Journal of Business Ethics*, 36(3), 207-221.
- Hurley, R., Gong, X., & Wakar, A. (2014). Understanding the loss of trust in large banks. *International Journal of Bank Marketing*, 32, 348-366.
- Inoue, Y., & Lee, S. (2011). Effects of different dimensions of corporate social responsibility on corporate financial performance in tourism-related industries. *Tourism Management*, 32(4), 790-804.
- Ioannou, I., & Serafeim, G. (2010). The Impact of corporate social responsibility on investment recommendations. Best Paper Proceedings, Academy of Management 2010 Annual Meeting (Montreal Canada). Social Issues in Management (SIM) Division.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- ISO Working Group (2002). The desirability and feasibility of ISO corporate social responsibility standards. Retrieved from <http://www.iso.org/iso/livelink/getfile?lIINodeId=22124&lIVolId=-2000>
- Jensen, M. (2002). Value maximization, stakeholder theory and the corporate objective function. *Business Ethics Quarterly*, 12, 235–256.
- Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of Management Journal*, 42(5), 564-576.
- Johnson, T. S. (1990). How the notion of a calling manifests itself in the world of business: one viewpoint. *America*, 162(5), 117-120.
- Jones, T. M. (1995). Instrumental stakeholder theory: a synthesis of ethics and economics. *Academy of Management Review*, 20, 404–437.
- Khanna, T., Palepu, K. G., & Carlsson, K. (2005). *Case study: why studying emerging markets*. Harvard Business Review.
- Krueger, A., & Mas, A. (2014). Strikes, scabs and tread separations: labor strife and the production of defective Bridgestone/Firestone tires. *Journal of Political Economy*, 112(2), 253-289.
- Kuvaas, B. (2008). An Exploration of how the employee organization relationship affects the linkage between perception of developmental human resource practices and employee outcomes. *Journal of Management Studies*, 45 (1), 1-25.
- Kvint, V. (2009). *The Global Emerging Market: strategic Management and Economics*, New York Routledge.
- Lantos, G. P. (2001). The boundaries of strategic corporate social responsibility. *Journal of Consumer Marketing*, 18(7), 595-632.
- Levine, R. (2005). *Finance and growth: theory and evidence*. Philippe Aghion, Steven Durlauf (Eds.), Handbook of Economic Growth, 1, 865–934.
- Lindblom, C. K. (1994). The implications of organizational legitimacy for corporate social performance and disclosure. Paper presented at the Critical Perspectives on Accounting Conference, New York.
- Lunden, R. (1988). *Business and religion in the American 1920s*. Santa Barbara: Praeger.
- Lyon, T., & Maxwell, J. (2011). Greenwash Corporate environmental disclosure under threat of audit. *Journal of Economics & Management Strategy*, 20(1), 3–41.
- Mallin C., Faraga H., & Ow-Yong K. (2014). Corporate social responsibility and financial performance in Islamic banks. *Journal of Economic Behavior & Organization*, 103, S21-S38.
- Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: rethinking social initiatives by business. *Administrative Science Quarterly*, 48(2), 268–305. doi: 10.2307/3556659
- Mention, A. L., & Bontis, N. (2013). Intellectual capital and performance within the banking sector of Luxembourg and Belgium. *Journal of Intellectual Capital*, 14(2), 286-309.
- Miras-Rodríguez, M., Carrasco-Gallego, A., & Escobar-Perez, B. (2015). Has the CSR engagement of electrical companies had an effect on their performance? A closer look at the environment. *Business Strategy and the Environment*, 24 (8), 819-835.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Mishra, S., & Suar, D. (2010). Does corporate social responsibility influence firm performance of Indian companies? *Journal of Business Ethics*, 95, 571–601.
- Moon, J. (2007). The contribution of corporate social responsibility to sustainable development, *Sustainable Development*, 15(5), 296–306. doi: 10.1002/sd.346
- Morgan, D. P. (2002). Rating banks: risk and uncertainty in an opaque industry. *American Economic Review*, 92, 874-888.
- Neu, D., Warsame, H., & Pedwell, K. (1998). Managing public impressions: environmental disclosures in Annual Reports. *Accounting Organizations and Society*, 23(3), 265–282.
- Ofori, D. F., Nyuur, R. B., & S-Darko, M. D. (2014). Corporate social responsibility and financial performance: fact or fiction? A look at Ghanaian banks. *Acta Commercii*, 14(1), 1-11. doi: 10.4102/ac.v14i1.180
- Perez, A. & Bosque, I. R. D. (2015). The formation of customer CSR perceptions in the banking sector: the role of coherence, altruism, expertise and trustworthiness. *International Journal of Business and Society*, 16(1), 75-94.
- Scholtens, B. (2009). Corporate social responsibility in the international banking industry. *Journal of Business Ethics*, 86(2), 159–175.
- Scholtens, B., & Dam, L. (2007). Banking on the equator: are banks that adopted the equator principles different from non-adopters? *World Development*, 35(8), 1307–1328.
- Selvakumar, M., Arumugam, B., & Sathiyalakshmi, V. (2016). A study of corporate social responsibility of banks. *Productivity*, 57(2), 187-209.
- Sen, S., & Bhattacharya C.B., (2001). Does Doing Good Always Lead to Doing Better? Consumer Reactions to Corporate Social Responsibility, *Journal of Marketing Research*, 38(2), 225-243.
- Shaw, W. H., & Barry, V. (1992). *Moral Issues in Business*. Belmont, CA: Wadsworth Publishing Company.
- Shen, C. H., & Lee, C. C. (2005). Same financial development yet different economic growth—and why?. *Journal of Money, Credit, and Banking*, 38, 1907–1944.
- Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: empirical evidence from global banking sector. *Economic Modelling*, 55, 207-225.
- Simpson W.G., & Kohers, T. (2002). The link between corporate social and financial performance: evidence from the banking industry. *Journal of Business Ethics*, 35, 97-109.
- Soana, M. G. (2011). The relationship between corporate social performance and corporate financial performance in the banking sector. *Journal of Business Ethics*, 104, 133-148.
- Suchman, M. C. (1995). Managing legitimacy: strategic and institutional approaches. *Academy of Management Review*, 20, 571–610.
- The Word on Management (1989). Regent University, College of Administration and Management, Graduate School of Business, Virginia Beach, VA.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Trotta, A., Iannuzzi, A., Cavallaro, G., & Dell'Atti, S. (2011). Banking reputation and CSR: a stakeholder value approach. In: Gummesson, E., Mele, C., Polese, F. (Eds.), *The Naples Forum on Service 2011 – Service Dominant Logic. Network & System Theory and Service Science: Integrating Three Perspectives for a New Service Agenda*. Giannini Editore, Napoli. ISBN: 978-88-7431-525-3.
- Wang, H., Choi, J., & Li, J. (2008). Too little or too much? Untangling the relationship between corporate philanthropy and firm financial performance. *Organization Science*, 19(1), 143-159.
- Wang, S. (2014). On the relationship between CSR and profit. *Journal of International Business Ethics*, 7(1), 51-57.
- Whitehouse, L. (2003). Corporate social responsibility, corporate citizenship and the global compact: a new approach to regulating corporate social power? *Global Social Policy*, 3(3), 299-318.
- Williams, M. T. (2010). *Uncontrolled Risk*. McGraw-Hill Education.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of Management Review*, 16, 691–718.
- Wu, M.W., & Shen, C.H. (2013). Corporate social responsibility in the banking industry: motives and financial performance. *Journal of Banking & Finance*, 33 (9), 3529-3547.
- Zhang, J. (2010). Employee orientation and performance: an exploration of the mediating role of customer orientation. *Journal of Business Ethics*, 91, 111-121.
- Zheng, Q., Luo, Y., & Maksimov, V. (2015). Achieving legitimacy through corporate social responsibility: the case of emerging economy firms. *Journal of World Business*, 50, 389-403.

Selection Factors of The Acceptance of Musharakah Munataqisah Home Financing in Shah Alam, Selangor

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Abstract

Islamic financing system in Malaysia is developing at a remarkable pace during the last three decades. Upon its establishment in 1983, Islamic banks have offered various types of financing products mainly to fulfill the financial needs of society and stand at par with conventional banks in order to remain competitive. In Malaysia, Islamic home financing is widely recognize as *Bai' Bithaman Ajil* (BBA) which was introduced for the first time by Bank Islam Malaysia Berhad (BIMB). The BBA concept has been actively deployed as a dominant role in the Malaysian financing market. However, the BBA concept has been criticized among the International Islamic scholars in regards to its permissibility as it was deemed to be a carbon copy of the conventional concept. Notwithstanding its criticism, a new house financing concept was introduced namely *Musharakah Munataqisah* (MM) which is considered to be more *Shariah* compliant compared to the BBA concept. Since its introduction in 2006, market share of the MM concept is progressively improved due to overwhelming responses from customers. Therefore, this research aim to investigate the main factors that influence customers' acceptance towards MM home financing in Shah Alam, Selangor. In this study, attitude, subjective norms, religious obligation, pricing and level of awareness are the predictors of the factors that will influence customer acceptance towards MM home financing.

Keywords: Islamic Home Financing, Musharakah Munataqisah and Bai' Bithaman Ajil

INTRODUCTION

Over the last few decades, the emergence of Malaysia's Islamic finance industry has been one of the most rapidly growing industries. The pioneer of Islamic banking and finance in Malaysia can be traced back in the 1983 with the formation of Bank Islam Malaysia Berhad (BIMB). It offers shariah compliance products and services which strictly prohibit in performing any transaction based on *riba* or involve in other unethical activities, which is contradicting to the conventional method. Notwithstanding to it, Islamic banks perform similar fundamental functions with conventional banks. Since its inception in 1983, the Islamic financial system in Malaysia had robustly expanded a variety of innovative shariah compliant products and services mainly to provide a viable solution to Muslims who require a financial need that are interest-free financing. In fact, it has broadened its appeal to non-Muslims due to the competitive between conventional banks. To date, almost every major financial institution in Malaysia has offered various types of Islamic banking products and services since it has become a popular alternative for Malaysian customers as a definitive source of consumer financing.

Islamic financing particularly home financing has become a viable solution to allow both Muslims and non-Muslims to purchase assets without being involved with interest. With regard to home financing in Malaysia, there are two types of products offered by Islamic banks, namely Bai' Bithaman Ajil (BBA) and Musharakah Munataqisah (MM) concept. Initially, the BBA concept was the first Islamic home financing product introduced in Malaysia by Bank Islam Malaysia Berhad (BIMB). In fact, the BBA concept has been widely recognized as the prime mode of Islamic financing in Malaysia and acts as a dominant role in the Malaysia financing market. Since its first introduction, BBA has evolved rapidly and continuously expanding mainly due to the growing demand by customers. According to a report by Bank Negara Malaysia (BNM) on Malaysia Economic Report 2008/2009, the total of Islamic home financing issued by Islamic banking over the past 10 years period from 2001 to 2009 has showed an upward trend of

242.65% starting from RM 6.8 billion in 2001 increased to RM 23.3 billion in 2009, which captured 17.8% of total Islamic financing.

This shows that the BBA concept has played a major role in the growth of Islamic banking in Malaysia. Yet, despite the tremendously growth of the BBA concept for the past three decades, the BBA concept has been criticized by International Islamic scholars as it was deemed to be similar to the conventional concept due to its practice on pricing, used a market interest rate as benchmark and non shariah compliance (Rosly, 2005). BBA is simply mimicking of conventional loans. To overcome the mounting criticism of BBA, a new home financing concept was introduced namely Musharakah Munataqisah (MM) concept. The MM concept was particularly well accepted and implemented in the Middle East, United Kingdom, Canada, United State, Pakistan and Australia. However, the MM concept never had more than a slight foothold in the Malaysian Islamic financing market due to the overwhelming of the BBA concept. The establishment and introduction of the MM concept in 2006 has caused the market growth of BBA deliberately dropped from 40.7% in 2006 to 31.9% in 2009. Therefore, this triggers a question as to what are the factors that influence customers to deal with MM home financing since the market share is gradually shaping up in the Islamic financing market.

Based on past research, there are numbers of empirical studies that are relevant in the area of Islamic home financing. For instance, Jalil et al. (2010) examine on the criterion of choice for home financing among the Malayan Banking Berhad customers. Amin et al. (2014) studied on bank customers in East Malaysia. Another study conducted by Bassir et al. (2014) examine on consumers' perception on Islamic home financing. Meanwhile, Taib et al. (2008) focused directly in examining the intention of postgraduate students from public universities in Klang Valley upon diminishing partnership home financing. Therefore, this study applies the theory of reasoned action (TRA) and several important factors to be examined such as attitudes, subjective norms, religious obligation, pricing and level of awareness towards the selection of customers' acceptances on MM home financing. Hence, this study wants to fill the gap by distributing a questionnaire to those who have an experience in using MM home financing.

Besides attitudes, subjective norms, religious obligation, pricing and level of awareness, location may also affect the customers' acceptance. Hence, this study focused Shah Alam, Selangor in order to discover the level of acceptances of Muslims who live in urban areas to undertake MM home financing facilities. Shah Alam is chosen because it has a unique identity of Muslim city and huge potentials in investments of home financing. The Star (2015) reported that property in Shah Alam is highly demanded due to its location, which has drawn a sharp price appreciation in the value of the property. Even though the price is gradually out of reach, the demand will still remain strong in the long term. Therefore, this combination is an important insight on optimizing the understanding towards the selection of customers' acceptance on MM home financing in Shah Alam, Selangor.

LITERATURE REVIEW

Attitude

Attitude is the individual's behavior towards bad or good actions (Fishbein and Ajzen, 1975). It can affect individuals' feeling such as positive or negative in performing a particular behavior. Meanwhile, according to Azjen (1991) attitude may refer as positive or negative feelings towards the actions of individual behavior. This matter can be justified through a rating of the individual's behavior whether it is good or bad. Taib et al. (2008) describes the good relationship between belief and behavior will determine individuals' attitudes. Apparently, studies by Lada et al. (2009), Sulaiman (2003) and Amin et al. (2011) indicate that attitude has a major impact on the selection of Islamic banking products. Therefore, it can be concluded that, attitude has a strong positive relationship towards the selection of Islamic banking products due to the effort of educating the customers through advertising, promotion and marketing campaign. Hence, it may help to deepen the motivation for both Muslim and non-Muslim to choose Islamic banking products.

Subjective Norms

Fishbein and Azjen (1975) defined subjective norm as an individual's perception of others' opinions on whether or not he or she should perform a particular behavior. It is also a perceived pressure from the individual who consumers think it is important to them. Generally, if the reference group agrees to do a certain behavior, it will create a positive perception and at the same time motivate the individual to perform a particular behavior. For instance, reference groups are family, spouse, close friends and peers. A study conducted by Amin et al. (2014) found that the individual is likely to undertake Islamic banking products based on their surrounding who has already adopted and applied Islamic financing. Moreover, a subjective norm is an important factor that will influence an individual's intention of purchasing Islamic banking products (Taib et al., 2008). Moreover, based on previous research by Ramayah et al. (2006) and Yuserrie (2004) highlighted that subjective norm could motivate an individual to use Islamic products. Therefore, it can be explained that individual behavior may give an impact towards a particular action whether or not individual will perform the activities. Hence, it justifies the need to assess its effect on the acceptances of MM home financing among the customers.

Religious Obligation

Religion or religious can be defined as to which a person is devoted to his religion. Besides, it can reflect the commitment of behavior and individuals' attitudes (Johnson et al., 2001). Amin et al. (2011) defined religiosity as one of the factors that are capable of influencing an individual cognitively and behaviorally. According to Amin (2012) it is reported that there is a direct relationship between compliance and religious with the intention of behavior. Nearly 58% of Islamic banks' customers used Islamic financing due to the belief that it will create fairness to the people and it would bring more benefits as compared to conventional (Jaffar and Musa, 2013). In fact, previous studies by Alam et al. (2012) and Yusoff et al. (2013) indicate that religious obligation is capable in influencing an individual to adopt Islamic banking products and services. Particularly, religion performs the key function of providing knowledge that explains and shapes an individual behavioral. Thus, it is necessary to assess its relationship between religious obligation and customers' acceptance towards MM home financing.

Pricing

In 1983, the Islamic Banking Act comes in force mainly to adopt prudent banking and business practices with the enforcement by Bank Negara Malaysia. It is used as a guideline to retain regulation, licensing and supervision. Islamic banks are allowed to offer and set a reasonable price for various Islamic products and services. Amin et al. (2014) highlighted the importance of the product's price in Islamic banking transaction. It is parallel to a study by Ramayah et al. (2006), which explain the outcome of the product's price give an impact on behavioral intention. Apart from that, several studies provide consistent findings, which indicate that price motivates individuals to adopt Islamic banking products and services (Amin, 2008; Dusuki and Abdullah, 2006; and Rahman, 2005). It shows that, the greater the pricing of Islamic products, the lower the product is going to be adopted by an individual. Based on several studies by Yu (2012) and Luarn et al. (2005) conclude that pricing is relatively a good predictor to influence one's decision in patronizing on the use of the Islamic banking product. The findings allow the bankers to have a better understanding particularly to develop an appropriate pricing strategy on products. Hence, it will give a relevance to the study where pricing is adopted to assess its effect on the customers' acceptance.

Level of Awareness

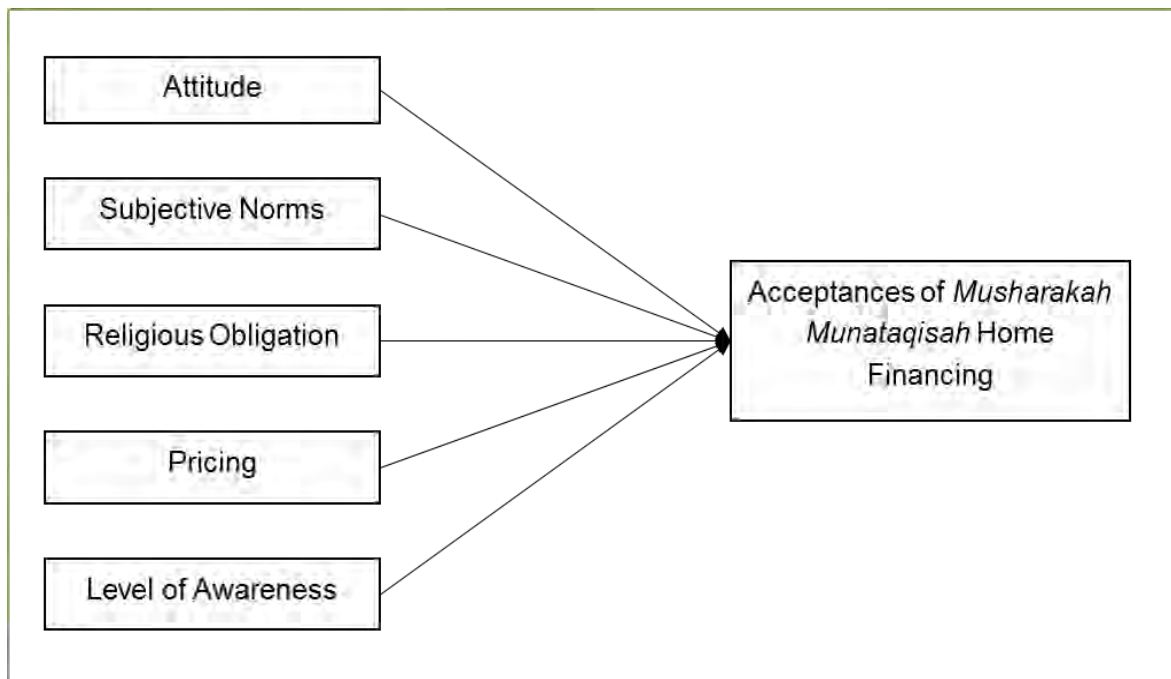
Yusoff et al. (2013) defined awareness as self-awareness on a capability to perceive oneself as an individual in relatively to maintain a sense of subjectivity. In a study conducted by Haron et al. (1994) provides an evident that 100% of Muslims and 75% non-Muslim were alert of the existence of the Islamic bank. They hope to have in-depth understanding on the system. At the same time, Sudin et al. (1994) found that the majority of Muslim in North Malaysia has either completely or partly understand the difference between Islamic and conventional banking transactions. Additionally, another study conducted by Abdul Halim and Norizatun (2001) found that the majority of Malaysian customers have a high level of awareness towards Islamic banking, however, nine out of ten customers did not know or understand the differences between Islamic and conventional banking due to the lack of proper knowledge. It can be supported by Norafifah et al. (2002) which reported that almost 60% of the customers are having limited information regarding Islamic banking. Therefore, customers' satisfaction plays a

significant role in enhancing the customer awareness in products and services of Islamic banking (Basir, 2012). As a result, in order to sustain the awareness among individuals, bankers need to be trained to have in-depth understanding regarding the Islamic systems in order to provide useful knowledge. Hence, it is interesting to investigate the effect of awareness on customers' acceptance towards MM home financing in Malaysia.

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

This study applies theoretical framework from the Theory of Reasoned Action (TRA). This theory is adopted as an underpinning foundation to propose a relationship between a few additional of other variables. TRA is a good model in order to measure the applicability of the consumers' intention to perform a specified behavior. Therefore, this theory will help to measure the customers' acceptances of MM home financing by adding religious obligation, pricing and level of awareness as additional factors to the TRA model. The research framework is illustrated as in Figure 1.

Figure 1: Research Framework



Based on the literature review and theoretical framework, the following hypotheses are developed:

H1: There is a significant relationship between attitudes and the acceptances of MM home financing among customers in Shah Alam.

H2: There is a significant relationship between subjective norms and the acceptances of MM home financing among customers in Shah Alam.

H3: There is a significant relationship between religious obligation and the acceptances of MM home financing among customers in Shah Alam.

H4: There is a significant relationship between pricing and the acceptances of MM home financing among customers in Shah Alam.

H5: There is a significant relationship between levels of awareness and the acceptances of MM home financing among customers in Shah Alam.

RESEARCH METHODOLOGY

For this study, the research population is bank's customers. Whereas, the primary target population are customers who had experienced in dealing with MM home financing facility in the area of Shah Alam, Selangor. Certain potential groups of the customer were identified based on the customer personal experience in dealing with MM home financing facility. Moreover, the sample targets of this research are the customers from selected banks, which are Maybank Islamic, RHB Bank, Affin Bank, Hong Kong and Shanghai Banking Cooperation (HSBC) and Standard Chartered Saadiq. The choice of these selected banking institutions was based on the fact that these banking institutions are available in Shah Alam, Selangor and also offered MM home financing facility.

CONCLUSION

To date, Islamic banking and finance in Malaysia is a dynamic industry that is broadly deemed as a competitive alternative with a well-established conventional financing. In fact, the rapid growth of Islamic banking has surpassed the conventional banking which also been offering similar products and services. Taking note of the demand, Islamic banking system is showcasing their dynamism with a wide array of innovative financial products and services yet to cater the financial needs of both Muslim and non-Muslim who require interest-free financing. Therefore, it is very important to identify the factors that will influence the choice criteria of both Muslim and non-Muslim customers towards Islamic financing products. Hence, the Musharakah Munataqisah home financing facility is designed to fulfill the requirements of the financial needs of customers that focus on buying a house and do not want to opt for conventional loans.

The aim of this study intends to measure the acceptance of Musharakah Munataqisah home financing among the customers in Shah Alam, Selangor. Thus, the Theory of Reasoned Action (TRA) model is going to be used in this study in order to learn the acceptance of Musharakah Munataqisah home financing among the customers in Shah Alam, Selangor. There are five factors which will be analyzed, namely attitude, subjective norms, religious obligation, pricing and level of awareness. However, there are two objectives need to achieve, which the first objective is to determine the important factors that influence the selection of MM home financing in Shah Alam, Selangor using TRA framework. While the second objective is to investigate the main predictor that influence the selection of MM home financing in Shah Alam, Selangor. Thus, these objectives need to be answered in order to have a significant relationship. Moreover, this study enhances the existing knowledge by shedding light on the important factors related to the selection of customers' acceptances of MM home financing. This research will explain in depth related to attitude, subjective norms, religious obligation, pricing and level of awareness. It is worth remarking this study proposes a conceptual model as a framework to understand customers' acceptances to select MM home financing.

REFERENCES

- Abdul Halim & Norizatun, A. M. N. (2001). A study on Islamic Banking Education and Strategy for the New Millennium Malaysian Experience. *International Journal of Islamic Financial Services*, 2(4).
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Alam, S. S., Janor, H., Zanariah, CheWel, C. A. & Ahsan. M. N. (2012). Is Religiosity an Important Factor in Influencing the Intention to Undertake Islamic Home Financing in Klang Valley. *World Applied Sciences Journal*, 19 (7), pp. 1030-1041.
- Amin, H. (2008). Choice Criteria for Islamic Home Financing: Empirical Investigation Among Malaysian Bank Customers. *International Journal of Housing Markets and Analysis*, Vol. 1 No. 3, pp. 256-74.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Amin, H., Abdul Rahman, A. R., Chooi H. A. M., & Sondoh, S. L. (2011). Determinants of Customers' Intention to Use Islamic Personal Financing: The Case of Malaysian Islamic Banks. *Journal of Islamic Accounting and Business Research*, Vol. 2 (1), pp. 22-42.
- Amin, H. (2012). Patronage Factors of Malaysian Local Customers Toward Islamic Credit Cards. *Management Research Review*, Vol. 35, No. 6, pp. 512-530.
- Amin, H., Abdul Rahman, A. R., & Abdul Razak, D. (2014), An Integrative Approach for Understanding Islamic Home Financing Adoption in Malaysia. *International Journal of Bank Marketing*, Vol. 31. No. 7, pp. 544-573.
- Bassir, N. F., Zakaria, Z., Hasan, H. A. & Alfian, E. (2014). Factors Influencing the Adoption of Islamic Home Financing in Malaysia. *Transformations in Business & Economics*, Vol. 13, No 1 (31), pp. 155-174.
- Basir, M. S. (2012). Analysis of Customer Satisfaction with the Islamic Banking Sector: Case of Brunei Darussalam. *Asian Journal of Business and Management Sciences*, 38-50.
- Dusuki, A. W. & Abdullah, N. I. (2007). Why do Malaysian Customers Patronize Islamic Banks. *International Journal of Business Marketing*, Vol. 25 No. 3, pp.142-60.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Addison-Wesley, Reading: MA.
- Haron, S., Ahmad. N., & Planisek, S. L. (1994). Bank Patronage Factors of Muslim and Non-Muslim Customer. *International Journal of Bank Marketing*. Vol. 12 (1), pp. 33-40.
- Jaffar M. A. & Musa, R. (2013). Determinants of Attitude towards Islamic Financing among Halal-Certified Micro and SMEs: A Proposed Conceptual Framework. *International Journal of Education and Research*, Vol. 1, No. 8, pp. 1-10.
- Johnson, B. R., Jang, S.J., Larson, D. B. & Li, S. D. (2001). Does Adolescent Religious Commitment Matter? A Reexamination of the Effects of Religiosity on Delinquency. *Journal of Research in Crime and Delinquency*, Vol. 38, No. 1, pp. 22- 43.
- Jalil, M. A. & Rahman, M. K. (2010). Financial Transaction in Islamic Banking are Viable Alternatives to the Conventional Banking Transaction. *International Journal of Business and Social science*, 1 (3), 219-233.
- Lada, S., Tanakinjal, G. H. & Amin, H. (2009). Predicting Intention to Choose Halal Products using Theory of Reasoned Action. *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 2 No.1, pp. 66-76.
- Luarn, P. & Lin, H. H. (2005). An Understanding of the Behavioral Intention to Use Mobile Banking. *Computer in Human Behavior*, 21 (6), 873-891.
- Norafifah, A., Sudin & Haron (2002). Perceptions of Malaysian Corporate Customers towards Islamic Banking Products & Services. *International Journal of Islamic Financial Services*, Vol 3, No4.
- Ramayah, T. & Dusuki, N. M. (2006). Intention to Use Mobile PC among MBA Students: Implications for Technology Integration in the Learning Curriculum. *UNITAR e-Journal*, 1 (2), 1-10.
- Rahman, Z.A. (2005). *Competitive Pricing of Islamic Banking*. Kuala Lumpur: NST.
- Sudin, H., Norafifah, A. & Planisek, L. (1994). Bank Patronage Factors of Muslim and Non-Muslim Customers. *International Journal of Bank Marketing*, Vol. 12 No.1, pp.32.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Sulaiman, M. (2003). The Influence of Riba and Zakat on Islamic Accounting. *Indonesia Management and Accounting Review*. Vol. 2(2), pp. 149-67.
- Taib, F. M., Ramayah, T. & Razak, D. A. (2008). Factor Influencing Intention to Use Diminishing Partnership Home Financing. *International Journal of Islamic and Middle Eastern Finance and Management*, 1 (3), 235-48.
- Yuserrie, Z., Noresma, J. & Ramayah, T. (2004). Perception of Islamic Banking: Does It Differ Among Users and Non-Users, *Journal Management and Business*, Vol. 6 No. 2, pp. 135-49.
- Yu, C. S. (2012). Factors Affecting Individuals to Adopt Mobile Banking: Empirical Evidence from the UTAUT Model. *Journal of Electronic Commerce Research*, 13(2), 104-121.
- Yusoff, R. & Kamdari, N. A. (2014). Selection Factors of the Acceptance al-Ijarah Thumma al-Bay (AITAB) in Kota Baharu, Kelantan. *Malaysian Journal of Business and Economics*, Vol. 1 No. 2, pp. 23-50.

Goods and Services Tax (GST) Knowledge Among University Students in Malaysia

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Abstract

Taxpayers' knowledge of Goods and Services Tax (GST) serves as a fundamental driving factor for voluntary compliance behaviour. When tax payers are equipped with a good level of GST knowledge, they are more likely to be alert to GST policies and its related information, which improve GST policies application. Further, research studies show taxpayers are likely to have a favourable attitude towards tax system when they possess better level of tax knowledge. In Malaysia, GST implementation was supported by substantial governmental funding for training programmes directed mainly at business entities. GST training grants were provided for talks, workshops, public meetings, briefings and seminars. However, there were limited educational efforts directed at enhancing students' knowledge on the GST system. The objective of this study is to examine GST knowledge among university students in Malaysia due to their vital role within the GST system. As future taxpayers, their compliance behaviour is highly important for success of the GST system. As future business leaders, they are likely to play an active role in fostering GST compliance within corporate sector. Hence, it is important to ensure that university students are equipped with sufficient GST knowledge for continuous success of the GST system. Questionnaires were distributed to business undergraduates in universities located in Perak, Malaysia. Descriptive statistical analysis based on 246 samples indicates respondents possess low to moderate level of GST knowledge, both in terms of technical and administrative aspects. Similarly findings indicate that the respondents possess a low level of perceived fairness on the GST system. This paper provides empirical evidences about GST knowledge among university students, which could provide insights for GST policy makers.

Keywords: Goods and Services Tax (GST), GST knowledge, Perceive Fairness, GST Compliance

INTRODUCTION

Goods and Services Tax (GST) or also known as Value Added Tax (VAT) was implemented in Malaysia on 1st April 2015 in replacement of its preceding Sales and Service Tax (SST) system. GST system is a major tax reform undertaken by Malaysian government in order to improve capability, effectiveness and transparency of its tax administration and management (Shamsuddin et al., 2014). GST system is expected to bring income consistency to the country and strengthens Malaysian's economic development (Ng et al., 2015). Since its implementation, GST has become the key source of revenues for Malaysian Government. According to the Malaysian Federal Government Budget 2016, indirect tax collections including GST constitute the third largest (17.6%) and second largest (21.9%) source of revenues of Malaysian government in year 2015 and 2016 respectively. In order to improve GST compliance, Malaysian government has allocated tremendous resources on educational and training programs for enhancing GST knowledge. These resources includes RM100 million grants for employees training during years 2013 to 2014; RM 150 million financial assistance for purchase of accounting software during years 2014 to 2015 (The 2014 Budget, 2013); and RM 30 million training and consultancy service fees in year 2016 (Malaymail Online, 2016).

Problem Statement

GST knowledge enhancement serves as dominant strategy of Malaysian government to improve taxpayers' awareness and understanding of GST for enhancing tax compliance. However, since GST implementation, there are limited empirical studies that assess GST

knowledge among various GST stakeholders in Malaysia. These stakeholders include businesses, consumers, educational bodies, students and publics. GST knowledge possessed by these stakeholders is particularly important to successful GST implementation. Particularly, current literatures had not paid sufficient attention to the role played by university students within a GST system. As future taxpayers, their compliance behaviour is highly important for a successful GST system. As future business leaders, they are likely to play an active role in fostering GST compliance within the corporate sector. University graduates are expected to have adequate knowledge on GST and possess a positive attitude towards GST (Mansor & Illias, 2013) which is highly important for the continuous success of a GST system. However, according to Shaari, Ali and Ismail (2015), GST information dissemination was not good enough especially for students. Even though students are aware of GST implementation, however, their knowledge on GST is still considered insufficient. Harun et al. (2017) found that despite the introduction of GST technical knowledge in universities, students are still unsure about GST implementation and its impact on consumer consumption. University students are the future income earners and taxpayers (Harun et al., 2017), thus it is important that they are aware of the GST system, which will certainly affect their daily lives (Hamid et al., 2017) and their role within the corporate sector. Hence, this study aims to assess GST knowledge among university students in Malaysia.

Objective of the study

This study aims to evaluate the level of GST knowledge among university students for the continuous success of a GST system. The study focuses on business undergraduates as targeted respondents. This study assesses two major concepts: (1) the perception on the fairness of the GST system; and (2) GST knowledge which is divided into three aspects, namely GST general information, GST technical information and GST administrative information.

Significance of the study

This study provides empirical evidence on the effectiveness of GST-related educational and training programs from the perspective of university students in Malaysia. The results offer feedback to the tax authority for its post-GST implementation assessment. Further, findings of this study also serve as feed-forward information for the tax authority in devising its future GST knowledge-enhancing strategies.

LITERATURE REVIEW

GST knowledge serves as a fundamental driving factor for voluntary compliance behaviour. Tax knowledge could enhance taxpayers' awareness towards tax legislation (Al-Maghrebi et al., 2016; Oladipupo & Obazee, 2016; Palil et al., 2013). Furthermore, Palil et al. (2013) argue that tax knowledge could enhance taxpayers' ethics towards tax compliance. Similarly, empirical studies concluded a positive significant effect of tax knowledge on compliance behaviour. These studies were conducted in London (Kamleitner, Korunka & Kircher, 2010), Nigeria (Oladipupo & Izedonmi, 2013), New Zealand (Saad, 2014), and Kenya (Thiga & Muturi, 2015). On the other hand, insufficient tax knowledge could result in non-compliance behaviour among taxpayers, intentionally or unintentionally (Belay & Viswanadham, 2015). Thus, with sufficient GST knowledge, the level of public acceptance and compliance could improve, thus leading to successful GST implementation (Hambili & Kamaluddin, 2017).

Perception on Fairness of GST

The GST system is replacing the SST system; theoretically it should not result in inflation. However, the public in general tends to believe that GST will impact their daily expenses when goods and services become more expensive after GST implementation (Palil & Ibrahim, 2011). Furthermore, GST is seen as a cause of fluctuation in prices of goods and services, a major criticism observed by multiple parties including academics, professionals and society (Palil et al., 2013). Particularly, anecdotal literature suggests that GST leads to inflation (Lai & Choong, 2006); increase in the cost of living as a result of price increase (Rizal & Azha, 2011; Saira et al., 2010); and negatively affect low-income earners (Hopper & Smith, 1997; Saira et al., 2010).

GST knowledge

Yong and Manual (2016) argue that individuals with better tax knowledge understand more on the importance of tax planning, ways of minimising tax burden, and eventually show

their appreciation of constitutional obligations with regards to tax. Insufficient GST knowledge could lead to mistakes in charging GST, thus create confusion to the consumers and public in general (Hambili & Kamaluddin, 2017). There are three key aspects of GST knowledge including: GST general information, GST technical information and GST administrative information. GST general information refers to information commonly disseminated to publics in order to create awareness for GST implementation. GST technical information refers to details specific to GST regulations that demand mandatory compliance by the businesses and consumers. GST administrative information refers to details of relevant GST authorities and their administration procedures. All three aspects of GST knowledge collectively foster taxpayers' competency for tax compliance. Taxpayers expect tax regulations are sufficiently provided by the tax authorities so that they could improve competency in fulfilling tax obligations (Jepkoech & Muya, 2016). Furthermore, GST knowledge could enhance favourable perceived fairness on tax system and encourage tax compliance.

RESEARCH METHODOLOGY

Research Design

This study adopts quantitative approach and implemented a cross sectional survey in order to collect data from targeted respondents. Cross-sectional survey is a study of particular phenomena at a particular of time (Saunders et al, 2009). The targeted population for this study is business undergraduates in Malaysia.

Population and Sampling

Convenience sampling method is used to collect data from the target population as such sampling method is considered convenient, simple and save time (Saunders et al., 2009). A total of 250 questionnaires were distributed to the university business students and 246 usable responses were collected. As according to Hair et al. (2010), an appropriate sample size is 50 to 100 observations for a research; and it is considered appropriate for this research study.

Research Instrument

This research study used self-administrated questionnaires to collect data. The questionnaires were delivered directly to targeted respondents whom were requested to complete responses to the questionnaires in the presence of researchers, upon which completed questionnaires were collected back immediately.

Constructs Measurement

There were three sections in the questionnaire: Section A includes items recording demographic profile of respondents. Section B includes items to measure students' perception on fairness of GST system. The items are measured using 5 points Likert scale, ranging from 1 = 'strongly disagree', 2 = 'disagree', 3 = 'neutral', 4 = 'agree' and 5 = 'strongly agree'. Section C includes 13 questions measuring respondents' awareness to GST regulations applicable to goods and services of daily use, and regulations on GST invoices. In section C, respondents are required to indicate 'Yes' or 'No' to each question asked.

DATA ANALYSIS

Demographic Profile of Respondents

Table 1 shows demographic profiles of the respondents. A total of 246 questionnaires were collected from business undergraduates of Universiti Tunku Abdul Rahman, Perak campus, Malaysia. Majority of the respondents (76%) are studying a Bachelor Degree in Business Administration and less than 50% of the respondents indicate interest to receive further training on GST.

Table 1: Demographic Profiles and Respondents

Demographic Factors	Category	Frequency	Percentage
Gender	Male	67	27.2
	Female	179	72.8
Course	BBA	187	76.0
	BAC	29	11.8
	BMK	13	5.3
	BBF	6	2.4
	BFN	11	4.5
Ethnic Group	Malay	5	2.0
	Chinese	236	95.9
	Indian	4	1.6
	Others	1	0.4
Interested to Join GST Course	Yes	121	49.2
	No	125	50.8

Perception on Fairness of GST System

Table 2 shows mean score of each item for the construct of perception on fairness of GST system. All items included have a mean score below 3, ranging from 2.01 to 3.17. This shows that majority of respondents tend to disagree with all items included in the constructs. Descriptive data analysis indicates the following findings. First, respondents tend to disagree that (1) GST will not burden people; (2) GST protects the interest of low income earners. This indicates that majority of respondents are of the opinions that GST could bring negative impact to their living. Second, respondents tend to be of neutral opinions on the items: the 6 percent rate of GST is acceptable; GST is fair to the society; GST enables effective audit; GST minimizes tax evasion. This indicates that the respondents are uncertain about the ability of GST in improving efficiency and effectiveness of tax system in Malaysia. Third, the respondents on average tend to agree on the item: GST is implemented so there should be uniformity in the tax system across the country (highest mean score = 3.17). In sum, this study provides empirical evidences that perception of fairness on GST system is low among business undergraduates in Malaysia. This is in line with Ishak and Othamn (2015) whom suggest GST system is an unfair tax system to public and thus cast doubt about the long run benefits of GST implementation.

Table 2: Students' Perception on Fairness of GST system

Item (n=246)	Mean	Std. Deviation
GST will not burden people	2.01	0.94
GST protects the interest of low income earners including student	2.12	0.91
The 6 percent rate of GST is acceptable	2.72	1.09
GST is fair to the society	2.91	1.04
GST enables effective audit	2.93	0.95
GST minimizes tax evasion	2.90	0.95
GST is implemented so there should be uniformity in the tax system across the country	3.17	1.04

GST knowledge

Section C of the questionnaire includes thirty-six questions regarding application of GST regulations in various business sectors. Respondents are requested to indicate 'Yes' or 'No' to each question asked. Based on the percentage scores of correct answers, the level of GST knowledge among business undergraduates was then divided into four different levels:

- (a) High (with percentage scores of 75 to 100)
- (b) Moderate (with percentage scores of 50 to 74)
- (c) Low (with percentage scores of 30 to 49)

(d) Poor (with percentage scores below 30)

Table 3 above shows descriptive analysis of GST knowledge among business undergraduates in Malaysia. Extracts of findings are provided as per following:

Table 3: Descriptive Analysis on Respondents' Knowledge

Item	Category	Frequency	Percentage	Level of Knowledge
Knowledge on the 3 types of supplies of goods and services	Yes	204	82.9	High
	No	42	17.1	
Percentage of GST charges	5%	4	1.6	High
	6%	242	98.4	
Percentage scores on the correct answer obtained from respondents on the twenty-six items	High (75-100)	8	31.0	Moderate
	Moderate (50-74)	9	35.0	
	Low (30-49)	8	31.0	
	Poor (>30)	1	3.0	
Knowledge on all businesses are allowed to collect GST	Yes	52	21.1	High
	No	194	78.9	
Knowledge on the threshold required for a business to register for GST	RM200k- RM300K	39	15.9	Moderate
	RM300,001- RM400k	25	10.2	
	RM400,001- RM500K	14	5.7	
	RM500,001 and above	168	68.3	
Knowledge on property developer is required to charge GST if sales of residential house exceed RM 500k	Yes	188	76.4	Low
	No	58	23.6	
Knowledge on mini market operator is allowed to issue hand written tax invoice	Yes	84	34.1	Moderate
	No	162	65.9	
Knowledge on businesses are allowed not to issue tax invoice if customer did not request	Yes	43	17.5	High
	No	203	82.5	
Knowledge on application for approval to issues simplified invoice	RMCD ^a	133	29.2	Poor
	IRB ^b	152	33.4	
	MDTCC ^c	170	37.4	
Knowledge on mobile phone businesses are not allowed to issues tax invoice for sales of reload coupon	Yes	123	50.0	Moderate
	No	123	50.0	
There are only two types of tax invoice in the GST Era which business are allowed to issue	Yes	122	49.6	Moderate
	No	124	50.4	
Ability in identifying a valid simplified tax invoice	Yes	121	49.2	Moderate
	No	125	50.8	

Ability in identifying a valid full tax invoice	Yes	229	93.1	High
	No	17	6.9	

^aRMCD represents Royal Malaysian Customs Department.

^bIRB represents Inland Revenue Board Malaysia.

^cMDTCC represents Ministry of Domestic Trade, Co-operatives and Consumerism.

GST General Information

With regards to awareness of GST general information, findings indicate that majority of the respondents surveyed are aware about the three types of supplies of goods and services as standard-rated supply, exempt supply and zero-rated supply(82.9%); current GST rate is at 6% (98.4%);it is a general practice that businesses are required to issue tax invoices even without request from customers (82.5%); and all businesses are allowed to collect GST (78.9%). This indicates that on average the respondents are having a high level of knowledge in terms of GST general information.

GST Technical Information

Findings indicate respondents possess a low level of knowledge in the aspect of GST technical information. First, for evaluating respondent's awareness about items that are subject to GST, a total of twenty six questions related to a mix of standard-rate supplies, exempt supplies and zero rated supplies were included in questionnaire. The questions were based on daily expenses items commonly used by the respondents such as groceries, food, clothing, transportation and others. Eleven items from the list are subject to GST while the remaining fifteen items are not subject to GST. Results are presented in table 3. Findings indicate majority respondents have answered wrongly on GST applicability to nine items on the list, which are: mixed rice, calculator, air ticket to Pulau Langkawi, reference book, train, bread, reload coupon, fast food, coffee powder, medical fees from clinic visitation, and 12kg cylinder cooking gas (liquefied petroleum gas). The results indicate that majority respondents are confused about applicability of GST to items of their daily use. Second, respondents indicate a low to moderate level of awareness for other GST specific regulations on various business applications. The percentage of respondents whom answer each question correctly are: a mini market operator is not allowed to issue hand written tax invoice (66%); mobile phone businesses are prohibited from issuing tax invoice for sales of reload coupon(50%); there were only two types of invoice in GST era (50.4%); threshold required for a business to register for GST (68.3%); a property developer is required to charge GST for sales of residential house exceed RM 500k (76.4%). Further, findings also show respondents on average has a low ability to detect an invalid simplified tax invoice(49.2%), however, the respondents show a better ability to detect validity of full tax invoice (93.1%). The above findings suggest that on average the respondents surveyed have a low to moderate level of GST knowledge on GST technical information.

GST Administrative Information

Findings indicate respondents possess low level of knowledge relating to GST administration information. Results of this study indicate that only a 29% of the respondents are aware of the authority responsible for approval to issue simplified invoice. Royal Malaysia Customs Department (RMCD) is the authority approving such application, however, most of the respondents were confused and they thought such application is responsible by Malaysian Inland Revenue Board (IRB), Malaysian Ministry of Domestic Trade, Co-operatives and Consumerism (MDTCC).

CONCLUSION AND DISCUSSION

This study provides empirical evidences on business undergraduates' level of GST knowledge and their perceived fairness on GST system after two years since GST implementation. The study indicates despite business undergraduates in Malaysia possess a high level of awareness on GST general information; they are relatively weak in GST technical Information and GST administrative information. Such discovery is alarming as it indicates that our business undergraduates are only having GST general information similar to those consumers or publics without business degree training. Thus, the business graduates are likely to be unprepared to handle GST implementation in the business sector eventually. This could affect negatively on the success of GST implementation on a long term basis, as business

graduates are the future business leaders that have a critical role in supporting GST system. Further, results of this study indicate a low level of perceived fairness on GST system among business undergraduates in Malaysia. Findings suggest that business undergraduates perceived negatively on the fairness of GST system. Moreover, majority of the students are not enthusiastic in further GST training. This could be due to their negative attitude towards GST system that discourages them from taking actions to improve GST knowledge. GST knowledge is a significant predictor of taxpayers' favourable attitude towards GST system which eventually leads to their tax compliance behaviour. This study reported a low level of GST knowledge in line with a low level of perception on fairness of GST system among business graduates in Malaysia. Such perception could affect their intention for GST compliance at a later stage when they become tax payers or business leaders eventually. Overall, GST implementation in Malaysia is at an initial stage with most of the training resources directed at business sectors. The authority should consider redirecting training resources to business undergraduates. More training efforts are needed for business undergraduates for enhancing their GST knowledge; and for gaining their favourable attitudes towards GST system.

REFERENCES

- Al-Maghrebi, M. S., Ahmad, R., & Palil, M. R. (2016). Budget transparency and tax awareness towards tax compliance: a conceptual approach. *South East Asia Journal of Contemporary Business, Economics and Law*, 10(1), 95-101.
- Belay, S. A., & Viswanadham, P. (2015). An assessment of business taxpayers' tax knowledge, tax complexity, and tax compliance: a case of Amhara Regional State of Ethiopia. *International Journal of Science and Research*, 5(5), 628-634.
- Goh, P. J., Huei, C. T., & Tay, A. G. M. (2017). Consumers' perception towards the implementation of goods and services tax (GST) in Malaysia: a review paper. *Journal of Global Business and Social Entrepreneurship*, 1(4), 17-23.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: a global perspective*. (7thed). United State. Pearson
- Hambali, S. S., & Kamaluddin, A. (2017). Taxpayers' competency level in governing goods services tax (GST) compliance: Malaysia scenario. SHS Web of Conferences. Retrieved from: DOI:10.1051/shsconf/20173600042.
- Hamid, N. A., Harun, N. M., Admad, B., & Yahya, M. (2017). The impact of GST on the spending pattern of students from the faculty of accountancy, UITM Puncak Alam, Selangor. *Advances in Business Reserch International Journal*, 6(1), 14-31.
- Harun, N. M., Hamid, N. A., Yahya, M., Ahmad, B., & Ismail, M. I. (2017). The effects of GST knowledge towards students' spending pattern, *e-Academia Journal*. 6(1), 116-126.
- Ishak, N. I. B., Othman, M. H. B., & Fuzi, O. M. (2015). Students' perception towards the newly implementation Goods and Services Tax (GST) in Malaysia. *International Journal of Contemporary Applied Sciences*, 2(6), 80-99.
- Jepkeoch, S. N., & Muya, J. N. (2016). Assessment of the effect of tax payers' perception of tax payment and tax audit on tax compliance among the mega stores and hypermarkets within Eldoret Central Business District (CBD). *African Journal of Business and Management*, 2(3).
- Kamleitner, B., Korunka, C., & Kirchler, E. (2010). Tax compliance of small business owners: a review. *International Journal of Entrepreneurial Behavior and Research*, 18(3), 330-351.
- Mansor, N. H. A. M., & Ilias, A. (2013). Goods and services tax (GST): A new tax reform in Malaysia. *International Journal of Economics Business and Management Studies*, 2(1), 12-19.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Ng, Y. H., Krishna Moorthy, M., Tan. M. K., & Wong, T. S. (2016). Study on consumers' goods and services tax (GST) knowledge. *Tax Guardian*, 9(2), 16-21.
- Oladipupo, A. O., & Obazee, U. (2016). Tax knowledge, penalties and tax compliance in small and medium scale enterprises in Nigeria. *iBusiness*, 8, 1-9.
- Palil, M. R., & Ibrahim, M. A. (2011). The impact of goods and services tax (GST) on middle income earners in Malaysia. *World Review of Business Research*, 1(2), 192-206.
- Palil, M. R., Ramli, R., Mustapha, A. F., & Hassan, N. S. A. (2013). Elements of compliance cost: lesson from Malaysian companies towards goods and services tax (GST). *Asian Social Science*, 9(11).
- Saad, N. (2014). Tax knowledge, tax complexity and tax compliance: taxpayers' view. *Procedia-Social and Behavioral Sciences*, 109, 1069-1075.
- Saira, L., Zariyawati, M. A., & Yoke-May, L. (2010). An exploratory study of goods and services tax awareness in Malaysia. In: *Proceedings Seminar on Nasional Resilience*, 256-276.
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2009). *Research methods for business students* (5th ed.). London: Prentice Hall.
- Shaari, N., Ali, A., & Ismail, N. (2015). Student's awareness and knowledge on the implementation of goods and services tax (GST) in Malaysia. *Procedia Economic and Finance*, 31, 269-279.
- Shamsuddin, A., Ruslan, M. I. M., Halim, A. A., Zahari, N. F., & Fazi, N. F. M. (2014). Educators' awareness and acceptance towards good and services tax (GST) implementation in Malaysia: a study in Bandar Muadzam Shah, Pahang. *International Journal of Business Economics and Law*, 4(1).
- The 2014 Budget (2013). Ministry of Finance Malaysia. Retrieved July 5, 2017, from: <http://www.treasury.gov.my/pdf/budget/speech/bs14.pdf>.
- The 2015 Budget Speech (2014). Ministry of Finance Malaysia. Retrieved July 7, 2017, from: <http://www.treasury.gov.my/pdf/budget/speech/bs15.pdf>.
- The Malaymail Online. (2016). How did Putrajaya plan to spend the money in 2016? Retrieved from: <http://www.themalaymailonline.com/malaysia/article/how-did-putrajaya-plan-to-spend-money-in-2016>.
- Thiga, M., & Muturi, W. (2015). Factors that influence compliance with tax laws among small and medium sized enterprises in Kenya. *International Journal of Scientific and Research Publications*, 5(6), 1-12.
- Yong, M. T., & Manual, V. S. (2016). A study about economic factors influencing taxpayers' noncompliance behaviour in Kuala Lumpur, Malaysia. *Imperial Journal of Interdisciplinary Research*, 2(9), 1328-1336.
- Yong, Y. (2016). Malaysia says GST collection nears RM60b since implementation. *The Edge Markets*. Retrieved from: <http://www.theedgemarkets.com/article/malaysia-says-gst-collection-nears-rm60b-implementation>.

The Relationship Between Investment Strategies, Corporate Governance and Firm Performance : A Conceptual Study of Islamic Banks in Malaysia

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Abstract

Islamic banking has no different with conventional banks except for the operational of Islamic banks which need to follow the rules of Shariah. However, in the global financial crisis, Islamic banking industry remained stable and efficient as compared to conventional banking industry. The role of human capital and structural capital are important to create value for Islamic banking as they are mainly engaged in relationship lending. As agency theory hold, firm's market valuation is also affected by corporate governance. This study aims to analyze the relationship between investment strategies, corporate governance, and firm performance of Islamic banks in Malaysia. The market performances of Islamic banks were used as dependent variables. The independent variables are investment in human capital, investment in structural capital and corporate governance.

Keywords: Islamic Banks, Market Performance, Human Capital, Structural Capital, Corporate Governance

INTRODUCTION

Islamic banking have a rapid growth in volume and numbers around the world. Islamic banks operated by following Shariah or Muslim religious law. The first Islamic bank being set up in Malaysia was in 1983, by the time Malaysia has a complete Islamic banking system (Haron & Ahmad, 2000). Financial system in Malaysia can be divided to financial market and financial institution. Financial market functioned as intermediaries where they placed fund collected from the public in financial assets. Referring to Nawaz (2017), the main reason for Islamic financial institution to be in the financial system is order to provide ethical/cooperative financial solutions and assumed to be more efficient and provide more value to the stakeholders. It has been proved as Islamic banks showed strong financial and market performance during financial crisis as compared to other financial institution. Hence, it is important to study on the effect of investment strategies towards Islamic banks' performance as the studies on investment strategies in the context of Islamic banks are very limited.

Investment strategy can be defined as the decisions of the company in spending their time and resources to gain profit which considered as the core of the business. The company can be more valuable by having an effective investment strategy through all aspects of overall competitive strength improvisation (Zhang et al. 2016). According to Li, Chen, Lui & Chu (2016), human capital, structural capital and customer capital are three main elements under intellectual capital and supported by Al-Musalli & Ismail (2012). Today's banking industry put a huge attention the concept of human capital where everybody is involved in the development of today's bank (Ezeagba, 2016). Human capital is important to the performance of an investment. Murtinu & Acalera (2016), their study on the strategy of sovereign wealth fund (SWF) showed the funds are less sophisticated as they are less likely to have the internal human capital to manage all of their investments. In addition, they also include reliability on external managers as one of their variable which can increase the potential opportunities available of leverage on the global capital markets.

According to Teixeira (2002) human capital and skills are not totally equivalence. The value of human capital will continue to increase if the skills acquired by individual being applied

to an improved set of production technologies. Furthermore, human capital is relevance to technological competence and development but with mixed result. Munjuri, K'Obonyo & Ogutu (2015) stated that financial services sector would prefer to hire young workers as they can easily cope with the highly dynamic of technological advancement in this sector. O'Connor, Santos-Arteaga & Tavana (2014) states that foreign direct investment by banks are intention to exploit competitive advantages in products, processes, technology, service factor, brand and reputation. To sustain in highly competitive market, banks will maintain their economies of scale and scope and access to capital at lower cost. Based on this study, ownership and location advantages are two of the determinants for the banks to invest in foreign countries directly. Human capital is one of the ownership advantages that the banks possess other than proprietary information, technology and brand. On the other hand, as agency theory hold, corporate governance will give an impact to the firm's value.

This study will focus on banking sector in Malaysia as it is the main financial institutions is that consist of commercial banks, investment banks and Islamic banks. (Kamal, et al.,n.d). According to Kamal, banks should continuously keep track on their performance as the Association of Banks in Malaysia has signified that Malaysia banking sector will remain strong and well capitalized. In addition, human capital and structural capital should be emphasized to Islamic banks in Malaysia besides commercial banks, as the world trend move towards Islamic product for both in the financial and banking sector. Moreover, as Islamic banks can survive better than conventional banks during the financial crisis (Nawaz, 2017), it has lead the researchers to study on the effect of human capital, structural capital and corporate governance towards the performance of Islamic banks in Malaysia.

LITERATURE REVIEW

Human Capital

According to Li, Chen, Lui & Chu (2016), the definition of human capital is the ability, knowledge and skills owned by individual in the company. They concluded that companies' profitability can be increased with a good control of human cost however it cannot improve the efficiency of assets turnover. Ezeagba (2016) provides parallel concept of human capital with Li where it refers to the individual productivity capacity such the skills and efficiency of the workers. This concept also supported by Teixeira (2002) where human capital generally defined as formal education and training where these education and training can produce productive workers. Ezeagba (2016) studied on the effect of human capital development towards banks' financial performance in Nigeria. Based on this research, education is an important element to have a quality of workforce. It is a continuing process from young age to old ages which will allow them to survive in the challenges world. The researcher believe that, organizational performance can be improved by having an efficient training and development as it will improve the workforce capability to apply the knowledge and skills gained to the organizational operation. According to this study, the banks need to provide regular training to the staff in order to improve their human capital management instead of focusing to the financial assets itself. By doing this, it can ensure the staff contribution to the company's performance as it aimed to attract, develop and retain the valuable people in the company and at the same time can efficiently use human capital. The result for this study showed positive relationship between the expenditure on human resources development to the performance of commercial banks in Nigeria which. The positive relationship result also supported by Oyinlola & Adeyemi (2014).

Ikpefan, Taiwo, Tolulope & Kazeem (2016) stated that human capital can be describe as something that will bring value to human resource and there is no different between human capital training and development. However, there is an issue on the human capital cost where the capitalizing human capital considered as intangible assets, supported by Teixeira (2002) where the added value for human capital cannot be recorded as compared to physical or financial assets. On the other hand, the human resources costs will be recorded and affect the account. Their study resulted positive and significant relationship between human capital development and the performance of microfinance banks. Supported by Berzkalnea & Zelgalve (2013), intellectual capital can increase the value of the company which used Tobin's Q as the proxy. However this result is not consistent for different region. Munjuri, K'Obonyo & Ogutu (2015) resulted in positive relationship between human capital and non-financial firm

performance. It means that, the performance of non-financial firm will increase as human capital increase. However, their study showed the effect of human capital towards return on equity and return on assets were not significant. Holding the positive result, the study of Awan & Sarfraz (2013); Odhong, Were & Omolo (2014); and Ozkan et al. (2016) also resulted in positive relationship between human capital and firm performance. Human capital also important in the context of Islamic financial institutions. Cited from (Nawaz, 2017), the employees of Islamic financial institutions need have the knowledge and skills similar with conventional financial institutions' employees but in addition, they need to have good knowledge on Shariah. By having this quality, it can improve the image of Islamic financial institutions. The finding showed positive relationship between human capital and market valuation of Islamic financial institutions.

Structural Capital

According to Li, Chen, Lui & Chu (2016), structural capital defined as the capability and competency of the organization to acquire the knowledge by looking at the strategy, systems and culture that applied the organization. Structural capital efficiency showed positive correlation with the companies' profitability. As mentioned by Saleh, Rahman & Hassan (2009), company can increase in value if the company can manage the intellectual resources (i.e., human capital, tangible asset employed and structural capital) efficiently. According to Zhang et al. (2016), R&D is one of the investment strategies which considered as the element of structural capital. Supported by (Nawaz, 2017), the result showed structural capital positively affect the market value of the Islamic financial institutions. Similar with case study done by Zhang et al., R&D provide a sustainable and healthy development of an industry which proved by the Solar Photovoltaic (PV) Energy Sector's companies, where they can increased their profit margin. The positive relationship result between structural capital and firm performance also supported by Ozkan et al. (2016) but the finding is not significant. Hence, it is clearly showed that, the relationship between structural capital and banks performance is not as strong as the relationship between human capital and banks performance. On the other hand, Wei & Hooi (2009) got a totally different result where there was negative relationship between structural capital towards return on asset (ROA) and not significant. Supported by Kamal, et al. (n.d), their study found structural capital has the most insignificant result towards the firm performance.

Corporate Governance

During the financial crisis 1997, corporate governance became an attractive issue for Asian researchers. According to the Finance Committee of Corporate Governance in Malaysia has identified corporate governance as 'the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective.' In economic view point, corporate governance plays a vital part in accomplishing an efficiency in which scarce funds are moved to investment project with the maximum returns. In addition it is also turn into a critical determinants for institutional investments (Bushee et al., 2007) and according to Karpoff (2001), it also act as components of institutional investors' reform initiatives. There is a plenty of research that have an intentions to clarify the relationship between corporate governance and firm performance, which the empirical evidence yields contradictory and inconsistent results. The arguments and empirical findings have absent both ways. This is shown from the studies of Mashayekhi and Bazaz (2008) and Yermack (1996) stated that there is negative relationship between board size and firm performance.

There are also evidence suggests that investors willing to pay a premium for stocks of well governed companies (Agrawal et al., 1996; Coombes & Watson, 2000). This proof that effective corporate mechanisms confirm better resource allocation and management, that later will contribute to raising on return to capital. Nonetheless companies that have highest rankings in decent governance practices also shown highest financial performance (Business Week, 2000). In addition according to Nandelstadh and Rosenberg (2003), firms with better corporate governance practices able to carry greater stock returns, which contribute to higher values of Tobin's Q and higher ratios of cash flow to assets as compare to their counterparts with poor corporate governance practices. A positive connotation has been established among quality of corporate disclosure and bond ratings (Sengupta, 1998). This result also being supported by Dahya and McConnell (2007), which shown in their studies that companies that comply with corporate governance standards such as the Cadbury Committee recommendations in the UK

experience better-quality performance in as compared to firms that do not comply with corporate governance standards. Companies ranked in the top quarter of corporate governance rankings yield a better average return on capital employed compared to firms in the bottom half of such rankings, which have shown a solid correlations have been established between corporate governance and stock price performance, valuations and financial ratios in the context of emerging markets (CLSA, 2000).

Board Size

The description of board size is the total number of directors on a board (Panasian et al., 2003; Levrau & Van den Berghe, 2007). According to Goshi et al. (2002), an ideal board size should consist of both the executive and non-executive directors. In Malaysia and Singapore, companies' performance was highest when their boards consist of five members (Mak & Yuanto, 2003). According to John and Senbet (1998), the determination of board size is be subject to on forces outside the market system. In reality, there has no ideal board size as the accurate size for a board should be decided by effectiveness of a board to function as a team (Conger and Lawler, 2009). Nonetheless it is no argument that board size is the one of a significant mechanism of effective corporate governance (Bonn et al. 2004). Regardless of extensive amount of effort in research on board size, there are still no unanimous or consensus answers among researchers. Founded on previous studies, plenty of researchers showed that there is positive relationship between board size and firm performance (Shukeri et al., 2012; Adam & Mehran, 2003; Mak & Kusnadi, 2005; Kiel & Nicholson, 2003). Lakhali (2005) have establish that there is a positive but weak relationship between board size and firm performance. According to Chen et al. (2006) have found that board size is positively linked to firm's earning per share (EPS) between listed companies in China whereas Shukeri et al. (2012) shown from the study that board size positively influences firm's return on assets (ROA).

Conversely, there are also some researchers argued that there are negative relationship between these two variables (Mishra et al., 2001; Singh & Davidson, 2003). According to Forbes and Milliken (1999), they argued that board size is not really a demographic attitudes, therefore it is unlikely to affect the board size function. Holthauson and Larcker (1993) also supported the statement that shown from their studies, that they failed to relate board size with firm performance. Furthermore according to Eisenberg et al. (1998) also found negative correlation between board size and profitability when using sample of small and medium firms in Finland. The result shown is also consistent with study on corporate governance of family firms in Norway (Mishra et al., 2001).

Board Independence

Board independence discusses on the percentage of the total number of independent non-executive directors to the total number of directors (Prabowo & Simpson, 2011). It was also being defined as level of presence of independent directors or presence of non-executive directors in the board (Abdullah & Nasir, 2004). According to past studies showed on the disagreement for board independence issues among researchers. For some researchers, they found that board independence can offer benefits to companies (Ramdani & Witteloostuijn, 2009; Zubaidah et al., 2009; Rhodes et al., 2000) whereas some are disagreeing with it (Chen et al., 2006; Conger & Lawler, 2009; Haniffa & Hudaib, 2006). Abdullah (2004), based on his study have mention that independent directors can bring independence into the board and enhance diversity of skills and expertise of the directors. Independent directors are shown to be able on lessen an agency problems and control managerial self-interest (Rhodes et al., 2000).

Moreover an increase of independent directors on the board able to safeguard the shareholders' interests (Ramdani & Witteloostuijn, 2009) and deliver above-average stock price returns (Dennis & Sarin, 1997). Consequently, companies with more independent directors have a tendency to be further profitable compared to those with scarce independent directors (You et al., 1986). In addition, independent directors are also beneficial to observed board's activities and increase the transparency of corporate boards as they enhanced the firm's obedience with the disclosure requirements (Chen & Jaggi, 2000).

Even though previous studies showed that the result for relationship between board independence and firm performance are varied. According to Dehaene et al. (2001) disclosed that a amount of independent directors has a positive correlated ROE among Belgian companies, which this finding is also being supported by Byrd et al. (2010) as he identified that

there are significant positive effect of independent directors on firm performance. Nonetheless according to Ramdani and Witteloostuijn (2009) they have identified that board independence only has an effect on firms with average performance, which from their research shown firms with below average performance are not affected. Then again, Chen et al. (2006) have shown that the percentage of independent directors on boards has slight impact over firm performance. While study by Hermalin and Weisbach (2001) shown that board independence do affects firm performance which this result was consistent with another study done by Klein et al. (2005).

Majority Ownership

An extensive research has been dedicated to the vital monitoring role of major shareholders (Cornett, Marcus, Saunders, & Tehranian, 2007). Major shareholders have being vigorous in corporate governance and more willing to use their ownership rights to force management on improvement of shareholder interests (Hartzell & Starks, 2003). Moreover few studies discover that the existence of significant institutional ownership have results in improved compensation practices (Bertrand & Mullainathan, 2001; Dong & Ozkan, 2008; Hartzell & Starks, 2003). Nonetheless other research also addresses shareholders' preferences about corporate governance. According to studies of Chung and Zhang (2011) have found that the proportion of institutions that hold a firm's shares increases with the firm's governance quality which also stated in the study that these institutions are prefer towards firms that have good corporate governance to meet their fiduciary obligation along with to minimize monitoring and exit costs.

According to Bae and Goyal (2010), they revealed that firms with well governance attracted more foreign ownership rather than those that poorly governed firms, while Kim, Epler-Kim, Kim, and Byun (2010) establish that domestic investors have a tendency to care less about corporate governance than their foreign counterparts. Nonetheless, based on the studies of Ferreira and Matos (2008) and Chung and Zhang (2011) shown there are positive association between the proportion of a firm's shares held by institutional investors and its governance quality which also hypothesize that there is a positive association between the major shareholdings and corporate governance. Moreover according to agency theory, companies that have better corporate governance, tend to have lower agency costs, generate higher returns, and perform better (Henry, 2010; Klapper & Love, 2004).

Shariah Supervisory Board (SSB)

There is no standard definition for the Shariah Supervisory Boards (SSB), and it has various definitions (Nathan Garas & Pierce, 2010). By means of Accounting and Auditing Organization for Islam Financial Institutions (2010), the SSBs are an independent body of scholars and specialists in transactions by adding another member to the specialists in the field of Islamic financial institutions who is acquainted with the turf of Islamic transactions. According to Al-'Iyat (2006) SSBs using the proper legitimate tools and methods, by the indication of mistakes and corrections, simultaneously, finds a legitimate alternative. The precise roles of SSBs differ among institutions. Even though SSBs have similar supervisory procedures, there still remain differences in interpretation. Karim (1990) have stressed that SSBs 'are guided by their moral beliefs and obligations to religious peers and community'.

The shariah board has an interesting relationship with Islamic Financial Institutions, where they are accountable for monitoring the compliance of Shariah rules in their transactions and issuance of Shariah products (Wardhany & Arshad, 2012). Furthermore in counterpart, corporate governance in Islamic banks is required to be responsible for protection in a balanced way for owners and depositors alike, nonetheless the interests of depositors must be the most protuberant because depositors are the weaker party from between the parties in the banks (Garas, 2012). It is significant to note that numerous parties have emphasized the importance of a SSB, which can guarantee that the activities of an Islamic bank are coordinated with shariah law (Safieddine, 2009). Therefore, SSB plays a vital role as an internal control mechanism and duties of reviewing also supervising the activities of an Islamic bank in order to guarantee that they are in accordance with shariah principles (Haniffa & Hudaib, 2007; Darmadi & Sodikin, 2013). In addition, the functions of a SSB also consist of protecting the interest of the depositors from unwarranted risk taking on the asset side of an Islamic banks (Warde, 2010; Alman, 2012).

Tobin's Q

Most of organization analyst and strategy researchers or even government itself have used the Q ratio to study and analyze the effects of market power on performance of a firm, particularly where accounting measures have unsuccessfully to detect any of the performance effects. For instance, a firm may use market power to lessen its risk rather than to rise its price-cost margin. Therefore, the market value of the firm would be improved even though there no clear relationship between market power and accounting rates of return may be distinguished over that period. Nonetheless, consistent with the progressive nature of the capital markets, thus the Q ratio are measuring market power from both existing assets and future potential growth of the firm. The association between firm performance and a extensive variety of industry characteristics for instance capital intensity, and regulation (Simon & Sullivan 1993), industry concentration (Smirlock et al. 1984, Montgomery & Wemerfelt 1988), and other firm-specific factors such as market share, corporate diversification (Lang & Stultz 1994, Lloyd & Jehera 1994, Wemerfelt & Montgomery 1988), and research and development (Cockburn & Griliches 1988, Megna & Klock 1993) are all being examined using the Q ratio. Specifically, the Q ratio are used widely as a measure of a firm's intangible value.

According to Buallay, Hamdan and Zureigat (2017) the use of Q for determining intangible value is based on the assumption that the long-run equilibrium market value of a firm must be equivalent to the replacement value of its assets, giving a q value close to unity. Therefore, any deviations from this relationship (where Q is significantly greater than "1") are interpreted as signifying an unmeasured source of value, and generally attributed to the intangible value enjoyed by the firm. Hence studies have exploited the relationship between Q and intangible value to examine the effects of factors such as R&D, advertising, and brand equity (Megna & Klock 1993, Hall 1993, Simon & Sullivan 1993) that are believed to contribute to a firm's intangible value. According to Fallatah and Dickins (2012), they investigates that the relationship between corporate governance characteristics and firm performance in Saudi-listed companies from 2006 to 2009 using the Tobin's Q measure which resulted that corporate governance and firm value (measured as Tobin's Q and market value of equity) are positively related. Consistent with the study of Al-Ghamdi, and Rhodes, (2015) which study the Family Ownership, Corporate Governance and Performance in Saudi listed companies for the period from 2006 to 2013. The study illustrated that ownership has a significant positive relationship if measured by Tobin's Q and it also shown a strong relationship between performance and ownership if performance is measured as by Tobin's Q.

Nonetheless, the finding from the study of Al-Matari, et al, (2012) which see a relationship between internal corporate governance mechanisms and firm performance as measured by Tobin's in Saudi Arabia, the findings did not add value to firm performance in Saudi companies and are not consistent with the agency theory. Moving to Gulf Cooperation Council countries Khamis, et al, (2015) analyze the relationship between ownership structure and corporate performance in Bahraini listed companies from 2007-2011. The result from the analysis showed that institutional ownership has a negative relationship on company performance if being measured using Tobin's Q, yet it was discover that managerial ownership has a positive effect on performance. Therefore to discover the fact among those contradictory results Siddiqui (2014) have examined the impact of corporate governance characteristics on firm performance based on twenty-five previous studies by doing meta-analysis. Which from the study observes the legal organisms, the internal and external governance structures along with the accounting performance measures and the results indicate that the value of the firm's performance measured by Tobin's Q found that the there is significant relationship with firm value.

Human Capital Theory

Ezeagba (2016), human capital theory assumes that human being are the most important assets of the nation or organization by not denying the other important sources of productive process such land and capital. Moreover, humans have unlimited development of skills, knowledge and capabilities. As stated by Ezeagba, human capital theory assumes production capacity of a population can be improved by formal education also supported by Oyinlola & Adeyemi (2014). According to Teixeira (2002), as neoclassical principles hold as the heart of human capital theory, firms will invest in human capital in order to gain higher profits in future. This concept is derived from the higher productivity levels relative to the wage paid.

Supported by Ikpefan, Taiwo, Tolulope & Kazeem (2016), the aggregate performance of microfinance banks is significantly influenced by the amount, regularity and promptness of salaries payment. The employees compensation can be determined as salaries, wages and also staff training and development.

Agency Theory

Referring to Bonazzi & Islam (2007), the managers are the agents working according to the interest of the principals, the shareholders. According to agency theory, there is no well-developed market for corporate control. This situation will lead to agency problems and the needs of governance mechanisms arise. One of the optimal corporate governance mechanism that can be applied by the corporation is by developing an effective board of directors. In short, based on agency theory, the management ownership can improve the performance of the companies as the conflict between management and shareholders can be reduced (Saleh, Rahman & Hassan, 2009). Saleh, Rahman & Hassan (2009) studied on the effect of ownership structure towards companies' performance. Companies performance might be not directly affected by the ownership structure. There are also other factors such as the decision making. As referring to Saleh et al., the companies that have a good governance will prefer to invest for training, finding new experts and other activities that will improve their firm value.

CONCLUSION

This paper explored the current literature on the relationship between investment strategy, corporate governance and firm performance in Malaysia. Based on the review of related literature in this paper, there are reasonably strong evidence to prove that human capital, structural capital and corporate governance have significant relationship to the firm performance. Studies also clearly stated that high proficiency of employee can ensure positive financial returns for the company. Islamic financial institutions are complex organizations. In order to make sure that Islamic financial institutions can function efficiently, they need to have equipose human capital resource as they have to manage both Islamic and conventional systems. Islamic banks will invest in human capital base which will positively affect their market value. The proficiency of employee mentioned in human capital is related to the R&D and technological advancement in financial sector which explaining on the structural capital. However, there were inconsistent result for the effect of structural capital towards firm performance. According to Nawaz, (2017) the insignificant result that happened during and after crisis in the context of Islamic financial institution is resulted as they are in the growing process that acquiring both tangible and intangible structural capital resources.

It is expected that the investment in structural capital will positively related with the market value of Islamic financial institutions when the Islamic finance industry reached the stability stage. This situation can create the awareness of the importance of structural capital as a tool to evaluate firm performance. Firms and researchers should focus on finding the significant impact between these two variables. Moreover, while holding the agency theory, corporate governance will definitely shows significant impact towards banks' performance. The variables for corporate governance that being selected in this paper is board size, board independence, majority ownership and Shariah Supervisory Board (SSB). In light of this, the understanding of banks performance in relation to human capital, structural capital and corporate governance is very important. Banks should have a good investment strategy in order to improve their performance and ensures their competitiveness for long term survival.

REFERENCES

- Abrell-Vogel, C., & Rowold, J. (2014). Leaders' commitment to change and their effectiveness in change - a multilevel investigation. *Journal of Organisational Change Management*, 27(6), 900-921.
- Aggarwal-Gupta, M., Vohra, N., & Bhatnagar, D. (2010). Perceived organisational support and organisational commitment: the mediational influence of psychological well-being. *Journal of Business and Management*, 16(2), 105-124.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Ahmad, R. S., N. (2015). Fringe benefits and organisational commitment: the case of Langkawi hotels. *Tourism Review*, 70(1), 13-23.
- Ajay, S., & Bintu, G. (2015). Job involvement, organisational commitment, professional commitment, and team commitment - a study of generational diversity. *Benchmarking: An International Journal*, 22(6), 1-36.
- Akintayo, D. I. (2006). *Influence of leadership orientation and managerial effectiveness on organisational commitment among church members in Oyo State, Nigeria.*, University of Ibadan.
- Al-Musalli, M. A. K. & Ismail, K. N. I. K. (2012). Corporate Governance, Bank Specific Characteristics, Banking Industry Characteristics, and Intellectual Capital (IC) Performance of Banks in Arab Gulf Cooperation Council (GCC) Countries. *Asian Academy of Management Journal of Accounting and Finance*, AAMJAF, Vol. 8 (Supp. 1), 115-135.
- AAOIFI. (2010). Governance Standards No. 7: Corporate Social Responsibility, Conduct and Disclosure for Islamic Financial Institutions. Bahrain: AAOIFI.
- Abdullah, S. N., Nasir, M. N., (2004). Accrual Management and the Independence of the board of Directors and Audit Committees. *IUM Journal of Economics and Management* 12(1), 49-80.
- Adam, R., Mehran, H., (2003). Is Corporate Governance Different from Bank Holding Companies? Working Paper, Federal Reserve Bank of New York.
- Agrawal, A. & Knoeber, C.R., (1996). Firm Performance and Mechanisms to Control Agency Problems between Managers and Shareholders. *Journal of Financial & Quantitative Analysis*, 31, 377-397.
- Al-Ghamdi, M., & Rhodes, M. (2015). Family Ownership, Corporate Governance and Performance: Evidence from Saudi Arabia. *International Journal of Economics and Finance*, 7(2), 78-89. <https://doi.org/10.5539/ijef.v7n2p78>
- Al-Matari, Y. A., Al-Swidi, A. K., Fadzil, F. H. B. F. H., & Al-Matari, E. M. (2012). Board of Directors, Audit Committee Characteristics and the Performance of Saudi Arabia Listed Companies. *International Review of Management and Marketing*, 2(4), 241-251.
- Al-'Iayat, A. (2006). Legitimate Supervisions Over the Islamic Banking Products (Master's), Al-Najah National University, Nablus.
- Alman M.(2012), "Shari'ah Supervisory Board Composition Effects On Islamic Banks' Risk-Taking Behavior" Bamberg University Department of Management, Business Administration and Economics
- Awan, M. A. S. & Sarfraz, N (2013). The Impact of human capital on Company performance and the mediating effect of employee's satisfaction. *IOSR Journal of Business and Management (IOSR-JBM)*, Volume 8, Issue 2 (Jan. - Feb. 2013), PP 76-82.
- Bae, K., and Goyal, V. (2010). Equity market liberalization and corporate governance. *Journal of Corporate Finance*, 16, 609-621.
- Berzkalnea, I. & Zelgalvea, E. (2013). Intellectual capital and company value. *Contemporary Issues in Business, Management and Education 2013. Procedia - Social and Behavioral Sciences* 110 (2014) 887 – 896.
- Bonazzi, L. & Islam, S. M. N. (2007). Agency theory and corporate governance A study of the effectiveness of board in their monitoring of the CEO. *Journal of Modelling in Management*, Vol. 2 No. 1, 2007 pp. 7-23.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Bonn, I., Yoshikawa, T., Phan, P. H., (2004). Effects on Board Structure on Firm Performance: A Comparison between Japan and Australia. *Asian Business and Management* 3, 105-125.
- Buallay, A., Hamdan, A., & Zureigat, Q. (2017). Corporate Governance and Firm Performance: Evidence from Saudi Arabia. *Australasian Accounting, Business And Finance Journal*, 11(1), 78-98. <http://dx.doi.org/10.14453/aabfj.v11i1.6>
- Bushee, B., Carter, M. E., & Gerakos, J. (2007). Institutional investor preferences for corporate governance mechanisms. Wharton Financial Institutions Center Working Paper Series.
- Business Week (2000), "The best and worst corporate boards", available at: www.businessweek.com/stories/2000-01-23/the-best-and-worst-corporate-boards (accessed 12 February 2012).
- Byrd, J., Cooperman, E. S., Gleen, A. W., (2010). Another Look at Director Independence. *IRABF* 1(1), 1-16.
- Chen, C. J. P., Jaggi, B., (2000). Association between independent non-executive directors, family control and financial disclosures in Hong Kong. *Journal of Accounting and Public Policy* 19(4-5), 285-310.
- Chen, C. W., Lin, J. B., Yi, B., (2006). CEO Duality and Firm Performance-An Endogenous Issue. *Corporate Ownership and Control* 6(1), 58-65.
- Chung, K., and Zhang, H. (2011). Corporate governance and institutional ownership. *Journal of Financial and Quantitative Analysis*, 46(1), 247-273.
- Cockburn, I., Z. Griliches. (1988). Industry effects and appropriability measures in the stock market's valuation of R&D and patents. *AEA Papers and Proceedings* 78(May) 419-42.
- Conger, J., Lawler, E. E., (2009). Sharing Leadership on Corporate Boards: A Critical Requirement from Teamwork at the Top. Retrieved from SSRN e-Library: <http://ssrn.com/paper=1313353>.
- Coombes, P. and Watson, M. (2000), "Three surveys on corporate governance", *McKinsey Quarterly*, No. 4, pp. 74-77.
- Cornett, M., Marcus, A., Saunders, A., & Tehranian, H. (2007). The impact of institutional ownership on corporate operating performance. *Journal Of Banking & Finance*, 31(6), 1771-1794. <http://dx.doi.org/10.1016/j.jbankfin.2006.08.006>
- Credit Lyonnais Securities Asia (CLSA) (2000), "Report on corporate governance: emerging markets equities research", available at: http://web.management.mcgill.ca/Art.Durnev/clsa_2000.pdf (accessed 5 January 2009).
- Dahya, J. and McConnell, J.J. (2007), "Board composition, corporate performance, and the Cadbury committee recommendation", *Journal of Financial and Quantitative Analysis*, Vol. 42 No. 3, pp. 535-564.
- Darmadi S, & Sodikin A, (2013) "Information disclosure by family-controlled firms : The role of board independence and institutional ownership", *Asian Review of Accounting*, Vol. 21, Pp.223 - 240
- Dehaene, A., Vuyst, V. D., Ooghe, H., (2001). Corporate Performance and Board Structure in Belgian Companies. *Long Range Planning* 34, 383398.
- Dennis, D. J., Sarin, A., (1997). Ownership Structure and Top Executive Turnover. *Journal of Financial Economics* 45, 193-221.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Dong Min. & Ozkan Aidin (2008),. Institutional investors and director pay: An empirical study of U K companies [J]. *Journal of Multinational Financial Management*, 18(1):16-29.
- Eisenberg, T., Sundgren, S., Wells, M. T., (1998). Larger Board Size and Decreasing Firm Value in Small Firm. *Journal of Finance Economics* 48, 35-54.
- Ezeagba, C. E. (2016). Effect of Human Capital Development on the Financial Performance of Banks in Nigeria: A Study of Selected Public Quoted Commercial Banks (2005-2015). *Journal of Advance Research in Business, Management and Accounting*, Volume-2, Issue-11.
- Fallatah, Y., & Dickins, D. (2012). Corporate governance and firm performance and value in Saudi Arabia. *African Journal of Business Management*, 6(36), 10025-10034. <https://doi.org/10.5897/AJBM12.008>
- Ferreira, M., and Matos, P. (2008). The colours of investors' money: The role of institutional investors around the world. *Journal of Financial Economics*, 88, 499-533.
- Forbes, D. P., Milliken, F. J., (1999). Cognition and Corporate Governance: Understanding Boards of Directors as Strategic Decision-Making Groups. *The Academy of Management Review* 24(3), 489-505.
- Goshi, et al., (2002). Board structure, executive compensation and firm performance. Evidence from India. Mumbai, India. Indra Ghandi Institute of Development Research.
- Hall, B. H. (1993), The stock market's valuation of R&D investment during the 1980's. *AEA Papers and Proceedings* 70(2) 259-2.
- Haniffa, R. & Hudaib, M. (2007). Exploring the Ethical Identity of Islamic Banks via Communication in Annual Reports. *Journal of Business Ethics*, 76, 97-116.
- Haniffa, R. M., Hudaib, M., (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Finance and Accounting* 33(7), 1034-1062.
- Hartzell, J. and L. Starks. (2003). "Institutional Investors and Executive Compensation." *Journal of Finance* 52: 2351–2374.
- Henry, D. (2010). Agency costs, ownership structure and corporate governance compliance: A private contracting perspective. *Pacific-Basin Finance Journal*, 18, 24-46.
- Hermalin, B. E., Weisbach, M. S., (2001). Board of Directors as an Endogenously Determined Institution: A Survey of the Economic Literature. *Economic Policy Review*, 7-26.
- Holthausen, R. W., Larcker, D. F., (1993). Organizational Structure and Financial performance. The Wharton School: University of Pennsylvania.
- Ikpefan, O. A., Taiwo, J.N., Tolulope, O. & Kazeem, B. L. O. (2016). An Evaluation of Investment in Human Capital Development on the Performance of Microfinance Banks (Mfb) In Nigeria. *Journal of South African Business Research*, Vol. 2016 (2016), Article ID 466082, DOI:10.5171/2016.466082.
- John, K., Senbet, L. W., (1998). Corporate Governance and Board Effectiveness. *Journal of Banking and Finance* 22, 371-403.
- Kamal, M. H. M., Mat, R.C., Rahim, N. A., Husin, N. & Ismail, I. (n.d). INTELLECTUAL CAPITAL AND FIRM PERFORMANCE OF COMMERCIAL BANKS IN MALAYSIA, *Asian Economic and Financial Review*, 2(4):577-590.

- Karim, R.A.A. (1990). 'The Independence Of Religious And External Auditors: The Case Of Islamic Banks'. *Accounting, Auditing and Accountability*, 3(3), pp. 34-44.
- Karpoff, J. M. (2001). The impact of shareholder activism on target companies: A survey of empirical findings. University of Washington Working Paper Series.
- Khamis, R., Hamdan, A. M., & Elali, W. (2015). The Relationship between Ownership Structure Dimensions and Corporate Performance: Evidence from Bahrain. *Australasian Accounting, Business and Finance Journal*, 9(4), 38-56. <https://doi.org/10.14453/aabfj.v9i4.4>
- Kiel, G. C., Nicholson, G. J., (2003). Board Composition and Corporate Performance: How the Australian Experience Inform Contrasting Theories of Corporate Governance. *Corporate Governance* 11, 189-205.
- Kim, I., Eppler-Kim, J., Kim, W., and Byun, S.(2010). Foreign investors and corporate governance in Korea. *Pacific-Basin Finance Journal*, 18(4), 390-402.
- Klapper, L., and Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance*, 10, 287-322.
- Klein, P., Shapiro, D., Young, J., (2005). Corporate Governance, Family Ownership and Firm Value: The Canadian Evidence. *Corporate Governance* 13(6), 769-784.
- Lakhal, F., (2005). Voluntary Earnings Disclosures and Corporate Governance: Evidence from France. *Review of Accounting and Finance* 4(3), 64–85.
- Lang, L. H. P., R, H, Litzenberger, (1989). Dividend announcements: cash flow signalling vs. free cash flow hypothesis? /. *Financial Econom.* 24 181-191.
- Levrau, A., Van den Berghe, L. A. A., (2007). Corporate Governance and Board Effectiveness: Beyond Formalism. *ICFAI Journal of Corporate Governance* 6(4), 58-85.
- Li, Z., & Chen, Z., & Lui, T.T.S., & Chu, S.K.W. (2016). The Impact of Intellectual Capital on Companies' Performances: A Study Based on MAKE Award Winners and Non-MAKE Award Winner Companies. *International Conference on Knowledge Management, ICKM 2016, Vienna, Austria, Procedia Computer Science* 99, 181 – 194.
- Lloyd, W. P., J, S. Jahera. (1994). Firm-diversification effects on performance as measured by Tobin's q. *Managerial and Decision Econom.* 15 259-26.
- Mak, Y. T., Kusnadi, Y., (2005). Size Really Matters: Further Evidence on the Negative Relationship between Board Size and Firm Value. *Journal of Pacific-Basin Finance* 13, 301-318.
- Mak, Y. T., Yuanto, K., (2003). Board Size Really Matters: Further Evidence on the Negative Relationship between Board Size and Firm Value. *Pulses by Singapore Stock Exchange*.
- Marianne Bertrand & Sendhil Mullainathan (2001),. Are CEOs Rewarded for Luck? The Ones Without Principals are[J]. *Quarterly Journal of Economics*, 116(3):901-932.
- Mashayekhi, B., & Bazaz, M. S. (2008). Corporate governance and firm performance in Iran. *Journal of Contemporary Accounting & Economics*, 4(2), 156-172.
- Megna, P., M. Klock, (1993), The impact of intangible capital on Tobin's q in the semiconductor industry. *AEA Proceedings Paper* 83 265269,

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Mishra, C. S., Randoy, T., Jenssen, J. I., (2001). The Effect of Family Influence on Firm Value and Corporate Governance. *Journal of International Financial Management and Accounting*, 12(3), 235-259.
- Montgomery, C. B., Wemerfelt, (1988). Diversification, Ricardian rents, and Tobin's q. *Rand J. Econom.* 19(Winter) 623-632.
- Munjuri. G. M., K'Obonyo, P. & Ogutu, M. (2015). Human Capital and Performance of Commercial Banks and Insurance Firms in Kenya. 1st DBA-Africa Management Review International Conference. 101-117.
- Murtinu, S., Scalera, V.,G., (2016). Globalization of Capital Markets: Implications for Firm Strategies. *Journal of International Management*, 22(3):249-264.
- Nandelstadh, A.V. and Rosenberg, M. (2003), "Corporate governance mechanisms and firm performance: evidence from Finland", working paper, Swedish School of Economics and Business Administration, Helsinki, 19 May.
- Nathan Garas, S., & Pierce, C. (2010). Shari'a supervision of Islamic financial institutions. *Journal of Financial Regulation and Compliance*, 18(4), 386-407.
- Nawaz, T. (2017) "Momentum investment strategies, corporate governance and firm performance: an analysis of Islamic banks", *Corporate Governance: The International Journal of Business in Society*, Vol. 17 Issue: 2, pp.192-211.
- Nurhastuty Wardhany & Shaista Arshad. (2012). The Role Of Shariah Board In Islamic Banks: A Case Study Of Malaysia, Indonesia and Brunei Darussalam. 2nd. ISRA Colloquium 2012. <http://ifikr.isra.my/documents/10180/16168/e8-Norhastuty%20Role%20of%20Shariah%20Board%20in%20IB.pdf>.
- Odhong', A. E. , Were A. & Omolo, J . (2014). Effect of human capital management drivers on organizational performance in Kenya. A case of investment and mortgages bank ltd. *European Journal of Business Management*, 2 (1), 341-356.
- O'Connor, A., Santos-Arteaga, F. J., & Tavana, M. (2014). A game-theoretical model of bank foreign direct investment strategy in emerging market economies. *International Journal of Bank Marketing*, Vol. 32 Issue: 3, pp.194-222.
- Oyinlola, O. M. & Adeyemi, A. Z. (2014). An Empirical Analysis Of Human Capital Development And Organizational Performance In Banking Sector: A Nigerian Experience. *International Journal of Economics, Commerce and Management United Kingdom*, Vol. II, Issue 7.
- Ozkan, N., et al., Intellectual capital and financial performance: A study of the Turkish Banking Sector, *Borsa _Istanbul Review* (2016), <http://dx.doi.org/10.1016/j.bir.2016.03.001>
- Panasian, C., Prevost, A. K., Bhabra, H. S., (2003). Board composition and firm performance: The case of the dey report and publicly listed Canadian firms.
- Prabowo, M., Simpson, J., (2011). Independent Directors and Firm Performance in Family Controlled Firms: Evidence from Indonesia. *AsianPasific Economic Literature* 25(1), 121-132.
- Ramdani, D., Witteloostuijn, A. V., (2009). CEO Duality and Firm Performance: A Quantile Regression Analyst for Indonesia, Malaysia, South Korea and Thailand. Unpublished Thesis. Belgium: University of Antwerp. Rhodes.
- Rhodes, D. L., Rechner, P. L., Sundamurthy, C., (2000). Board Composition and Financial Performance: A Meta-analysis of the Influence of outside Directors. *Journal of Management Issues* 12(1), 76-91.

- Saleh, N. M., Rahman, M. R. C. A. and Hassan M. S. (2009). Ownership Structure And Intellectual Capital Performance In Malaysia. *Asian Academy Of Management Journal Of Accounting And Finance Aamjaf*, Vol. 5, No. 1, 1–29.
- S. Garas,, (2012). The Conflicts of Interest Inside the Shari'a Supervisory Board, *International Journal of Islamic and Middle Eastern Finance and Management*, 5 (2), 88-105
- Safieddine, A. (2009). Islamic Financial Institutions and Corporate Governance: New Insights for Agency Theory. *Corporate Governance: An International Review*, 17(2), 142-158. <http://dx.doi.org/10.1111/j.1467-8683.2009.00729.x>
- Sengupta,P.(1998),“Corporatedisclosurequalityandthecostofdebt”,*TheAccountingReview*,Vol.7 3 No. 4, pp. 459-488.
- Shukeri, S.N., Ong, W.S., Shaari, M. S., (2012). Does Board of Director's Characteristics Affect Firm Performance? Evidence from Malaysian Public Listed Companies. *International Business Research* 5(9), 120-127.
- Siddiqui, S. S. (2014). The Association between Corporate Governance and Firm Performance-A Meta-Analysis. Available at SSRN 2424592. <https://doi.org/10.2139/ssrn.2424592>
- Simon, C. J., M, W, Sullivan, (1993), The measurement and determinants of brand equity: a financial approach. *Marketing Sci.* 12(Winter) 28-52,
- Singh, M., Davidson, W. N., (2003). Agency Cists, Ownership Structure and Corporate Governance Mechanisms. *Journal of Banking and Finance* 27, 793-816.
- Smirlock, M., T. Gilligan, W. Marshall, (1984). Tobin's q and the structure-performance relationship, *Amer. Econom. Rev.* 74(December) 1051-1060.
- Teixeira, A. (2002). On the Link between Human Capital and Firm Performance: A theoretical and empirical survey. FEP Working Paper no. 12.
- Warde, I (2010). *Islamic Finance in the Global Economy*, 2 nd Edition, Edinburgh University Press.
- Wernerfelt, B., C. A. Montgomery. (1988). Tobin's q and the importance of focus in firm performance. *Amer. Econom. Rev.* 78(March) 246-250.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of financial economics*, 40(2), 185-211.
- You, V., Caves, R., Smith, M., Henry, J., (1986). Mergers and bidder's wealth: Managerial and strategic factors. In: Thomas III, L.G. (Ed.), *The Economics of Strategic Planning: Essays in Honor of Joel Dean*, Lexington Books, Lexington, MA.
- Zhang, X., Shen, J., Yang, T., Tang, L., Wu, Y., Pan, S., Wu, J. & Xu, P., (2017). Assessment of the Effectiveness of Investment Strategy in Solar Photovoltaic (PV) Energy Sector: A Case Study In 8th International Conference on Applied Energy, ICAE2016, 8-11 October 2016, Beijing, China, *Energy Procedia*.
- Zubaidah, Z. A., Nurmala, M. K., Jusoff, K., (2009). Board Structure and Corporate Performance in Malaysia. *International Journals of Economics and Finance* 1(1), 150-164.

Diversity Among Board of Directors And its Impact on Company Performance in Malaysia

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Abstract

This study was conducted with the aims to determine whether diversity on demographic characteristic among board of directors affected the company's performance. The demographic characteristics of gender, age, education level and nationality has been selected as a proxy for board diversity. This study also developed a board diversity index by combining the four demographic characteristics. The data for this study was based on annual reports of 200 Malaysian public listed companies from 2009 to 2013. From the analysis, it was found that age, education level and nationality diversity are positively significant on company's performance. However, this study failed to find any relationship between gender diversity and company's performance. Further results show that board diversity index positively influence the company's performance. This study extended its analysis by performing interaction terms between the components in demographic characteristics. Interestingly, it was found that age, education level and nationality is a substitute component for each other while gender is only a substitute characteristic for education level. The implication from this study reveals that heterogeneity in board of director contributes positively on firm performance. Company should be encouraged to have diversity in their board members composition. Company also should be informed on the benefit for practicing board diversity in order to increase their awareness on board diversity agenda.

Keywords: Board diversity index, education level, age diversity, gender diversity, interaction terms, nationality diversity

INTRODUCTION

This study was conducted with the aims to determine whether diversity on demographic characteristic among board of directors affects the company's performance. Additionally, by using interaction terms this study examines whether the components of demographics characteristics are substitute or complement components on firm performance. It is believes that the study on interaction effect of component in diversity characteristics will beneficial to the regulators and future researcher as they are limited studies in this particular area. Diversity on demographic characteristics among board in this study is defined as the variety or heterogeneity of gender, age, education level and nationality in companies' board of director composition. This study refers the company performance from investment's effectiveness perspective which is measured using Tobin Q. It is suggested that board of director govern the company and are accountable for the company's achievement. Advocates for board of director diversity suggest that diversification in board of director composition will benefit to the company as referring to the statement by Anne Simpson³⁰ to Bloomberg BNA on 9 March 2017, "Companies which are selling to diverse communities, recruiting from diverse communities and developing products for diverse communities are going to be better served when they have the insight of people who are diversified". From the statement, it is believes that each director should equip themselves with knowledge, experience and skills to combat the challenges and competition in business world as their characteristic will be counted in extending the team effectiveness. It was argued that

³⁰ Anne Simpson is an investment director of sustainability at the California Public Employees' Retirement System

board diversity provides equal opportunity to groups historically excluded from position of power, improve organizational process and performance (Rhode & Packel, 2014). Few empirical studies also proves that board of director diversity positively influence the company performance (Kramaric, Milun, & Pavic, 2016; Rodrigues, 2014; Terjesen, Couto, & Francisco, 2016).

Nevertheless, the effect of board diversity on firm performance may not always be positive. Prior studies show that board diversity negatively affect the company performance (Talavera, Yin, & Zhang, 2016; Voß, 2015) and in other research it show insignificant result (Molenkamp, 2015; Pletzer, Nikolova, Kedzior, & Voelpel, 2015). It was acknowledged by prior researcher that board diversity create a conflict among members in the boardroom (Heemskerk, Heemskerk & Wats, 2016) and slower the decision making process (Carter, D'Souza, Simkins & Simpson, 2010). Such conflict potentially occur due to rejection of views by other board members from different background for example the ideas from a senior director being rejected by a junior director. Owing to the benefit and shortfall on board diversity, it is necessary to gain a better understanding on the impact of board diversity on company performance. Furthermore, the implementation of board diversity agenda is not only to fulfill or balancing the numbers of board member composition, more than that, the composition should increase the company's performance. Those issues in board diversity agenda has been debated globally including in Malaysia. Malaysia is a developing country that is moving actively in board diversity agenda. Starting from an agenda to have 30% women representative in higher workplace positions, now it moved one step further to have disclosure on workplace and board diversity. It is not impossible to implement board diversity agenda in Malaysia as labour force in Malaysia comprises of diversity in gender, age, education level and nationality³¹. The only obstacle is whether Malaysian companies are willing to forego their board dominance legacy whereby it is normally controlled by family members. The presentation format in this study are being arrange as follows: the following section discusses about literature review and next section explains the research methodology. The forth section presents the findings and discussion. The final section concludes this research.

LITERATURE REVIEW

This study theorized that board diversity is associated with firm performance using Human Capital Theory (HCT) and the association can be either positive or negative. Becker (1962) argued that investing in human capital through imbedding of resources in people will influence the income. He further explained that people increase their productivity by learning new skills and knowledge from others. We apply HCT in this study by arguing that board member will increase their knowledge and skill by exchanging their expertise with each member in the team. Furthermore, HCT predicts that firm performance is affected by board diversity due to unique human capital in board of directors (Carter et al., 2010). Hafsi and Turgut (2013) highlighted that board diversity increases the range of unique human capital that leads to enhanced decision making skills and greater innovation.

Board Gender Diversity and Company Performance

Board gender diversity means that the board team comprise of female and male representative. Gender diversity receive high attention compared to other diversity characteristics due to propaganda of having gender equality and gender quota. Some arguments supported the proposition that the existence of female director is likely to bring advantages to the firm (Darmadi, 2011), including the improvement in board processes and decision making (Dezs & Ross, 2012). Unfortunately females are unable to hold director's position as it was traditionally dominated by males. This scenario was seen as inequality or discrimination of gender. Theoretically, HCT regards that female who hold top management position would have positive effect on firm performance as only female with higher human capital quality can compete with male to hold the post (Zhang, Guo, & Mu, 2016). However,

³¹ According to Department of Statistic Malaysia in Labour Force Survey (2016) the labour force participation rate for male in Malaysia in year 2016 is 80.2% while female is 54.3%. The labour force age range is from 16 to 64 years old. In addition in year 2015, 56% of labour force is bumiputera, 21.9% is Chinese, 6.2% is Indians, 0.6% is others while 15.1% is not Malaysian nationality.

some scholars from HCT challenge that female representative unable to play a positive roles if they have lower quantity of human capital compared to male (Zhang et al., 2016).

Empirical evidence on gender diversity and company performance ended with inconsistent result. Study conducted by Sanan (2016) found that gender diversity is insignificant on firm performance. The result of Sanan's study (2016) was derived from 54 companies of Economic Times ranking for Indian firms. Indian firms are different from other countries as they moved from closed end economy to a free market regime (Sanan, 2016). Contradict to that, Kilic and Kuzey (2016) found a positive relationship between board gender diversity and firm performance based on 149 companies in Turkey from 2008 to 2012. Kilic and Kuzey (2016) highlighted that the issues on gender equality in Turkey has become a political agenda and several initiatives has been conducted to promote female recruitment in board positions. In the same vein, Low, Roberts and Whiting (2015) also found a positive effect of board gender diversity on firm performance. Their findings were based from Asian companies that consist of Hong Kong, Malaysia, Singapore and South Korea. They are in the opinion that countries which are more supportive on existence of female director enhance the prevalence of board gender diversity. We hypothesized that:

H1: There is a positive association between board gender diversity and company performance.

Board Age Diversity and Company Performance

Board age diversity is another demographic diversity characteristics that the study investigated. Age reflects the individual's maturity and experience (Hafsi & Turgut, 2013). Indeed, board team that comprise of various age group will generate different perspectives and contributes to various ideas. It is perceived that younger people are more flexible, easily adopts to new concepts and technologies and are willing to take risks (Jhunhunwala & Mishra, 2012). Nonetheless, the young director still need guidance from elderly people who have more wealth of experience. Thus, both generation needs each other to perform better. According to HCT, higher age diversity will lead to variation in assessing network resources and human capital.

The significant relationship between board age diversity and company performance can be proven by prior empirical study. Taljaard, Ward and Muller (2015) collected data from 40 largest companies listed in Johannesburg Stock Exchange from year 2000 to 2013 to investigate whether company performance is affected by board diversity. Their results show that board age diversity positively influence the company performance. Parallel to that, another study conducted by Ferreira (2010) on 205 European listed companies also shows a positive significant effect between board age diversity and firm performance. However, the study conducted by Talavera et al., (2016) found that board age diversity was significant and negatively influence the company performance in China. Their study relied on a sample of 97 financial statements of Chinese companies from year 2009 to year 2013. This study hypothesized that:

H2: There is a positive relationship between board age diversity and company performance.

Board Education Level Diversity and Company Performance

Another board demographic diversity was selected is education level diversity. In this study, board education level diversity is refer as the diversification of board composition in term of director's level of education namely PhD, Masters, Bachelor and others. Education level signals the board's knowledge. Receiving and delivering knowledge is not limited from people with high education level, in certain circumstances people gain knowledge from people with lower education level especially the soft skills and technical skills. According HCT, knowledge can be gained from other people or during training (Becker, 1962).

Although theoretically it was suggested that board education level increases the company performance, the prior studies show a contradict result. Molenkamp (2015) found that board education level diversity is not significant on company performance. Molenkamp (2015) concludes his study based on data collected from 95 Dutch listed companies on the Euronext, Amsterdam. The insignificant effect of board education level diversity on company performance is also found in a research conducted by Tarus and Ime (2014). In their study, they gathered the

data of 45 firms in Nairobi Stock Exchange from year 2002 to 2010. By using a sample of non-financial companies from the Stock Exchange of Thailand, a study conducted by Sitthipongpanich and Polsiri (2013) resulted to negative influence of education level on firm performance. This study hypothesized that:

H3: There is a negative association between board education level diversity and company performance.

Board Nationality Diversity and Company Performance

The fourth demographic diversity characteristic being examined in this study is diversity in nationality. Different board nationality will bring different perspective in the boardroom discussion as they come from different country with different culture, economic stability and political view. The literature suggests that foreign directors go beyond financial contributions and extend to the provision of managerial expertise and technical collaborations, increasing creativity and innovation (García-meca, García-sánchez, & Martínez-ferrero, 2015). Based on 100 Dutch companies listed on Euronext, Amsterdam, Diepen et al.,(2015) fail to find any relationship between board nationality and firm performance. Contradict to that, a study by Rodrigues (2014) and Garba and Abubakar (2014), the existence of foreign director was found significant and positively associated with company performance. In addition, from HCT point of view, board can maximise its social and human capital by increasing nationality diversity (Rodrigues, 2014). We hypothesized that:

H4: There is a positive relationship between board nationality diversity and company performance.

METHODOLOGY

In conducting this study, annual reports of 200 public listed companies in Malaysia were used as our source for data collection. The years being observed are from 2009 to 2013. The sample size derived by using stratified random sampling. In this study, the gender diversity was measured using the percentage of female director to the total number of directors. Age diversity was measured using coefficient variation³². Education level was measured using Blau Index³³. According to Jindal (2015, p 431), Blau's index is a true measure of diversity, as it takes into account how many different groups there are as well as how many individuals there are in each group. Nationality was measured using the percentage of foreign director to total number of director. This study performed ordinary least square (OLS) regression analysis to test the relationship between board diversity and company performance. The following model has been developed:

$$PERF = \beta_0 + \beta_1 GENDER + \beta_2 AGE + \beta_3 EDUCATION LEVEL + \beta_4 NATIONALITY + \beta_5 ACSIZE + \beta_6 BOARDSIZE + \beta_7 BOARDMEET + \beta_8 SIZE + \beta_9 IND + \beta_{10} YEAR + e$$

Whereby PERF = company performance measured using Tobin Q, GENDER = gender diversity, AGE = age diversity, NATIONALITY = nationality diversity, ACSIZE = size of audit committee, BOARDSIZE = board size, BOARDMEET = frequency of audit meeting, SIZE = size of company, IND = industrial effect and YEAR = year effect

RESULTS AND DISCUSSION

This study presented the findings in Table 1 and Table 2. Table 1 consists of 6 models. Model 1 of Table 1 depicts the result for the relationship between the control variables (size of

³² Coefficient variation was measured using means divide by standard deviation

³³ Blau Index is represented by $BI = 1 - \sum_{i=1}^n p_i^2$ whereby p_i is the proportion of board members in each category and n is the total number of board members.

audit committee, board size, frequency of board meeting, industrial effects and year effect) and firm performance. The results show that size of audit committee (coef = 0.15, $p < 0.05$) and size of company (coef = 0.31, $p < 0.01$) are significant and positive on firm performance. On the other hand, the results show that board size (coef = -0.05, $p < 0.01$) and frequency of board meeting (coef = -0.07, $p < 0.01$) are significant and influence company performance in negative direction.

In Model 2 of Table 1, this study added diversity of board demographic characteristics (gender, age, education level and nationality diversity) to the item existed in Model 1. The findings show that board age diversity (coef = 2.57, $p < 0.01$), board education level diversity (coef = 0.31, $p < 0.05$) and board nationality diversity (coef = 0.63, $p < 0.05$) are positively significant on firm performance. The positive significant findings on the association between board age diversity and firm performance is consistent with the findings from the study conducted by Taljaard et al., (2015) and Ferreira (2010) whereby it implies that heterogeneity in age diversity improve the firm value. This study suggest on the relationship between board age diversity and company performance is that different age represent different maturity levels, different technology exposures and different generation ideologies which contribute to different views in achieving better company performance. Further, the findings on the association between board education level diversity on firm performance is contradicting with the results of prior study (Molenkamp, 2015; Tarus & Ime, 2014).

The results of this study on the relationship between board education level and company performance indicates that diversification in board education level able to improve company performance. This study explains the relationship between board education level and company performance through HCT. In HCT, unique human capital will contribute to performance. The combination of unique education level provide a platform for the directors to exchange views from different perspective for example the highest education level director might be good in theoretical perspective and lower level education director might be proficient in practical perspective. Another result reveals a positive significant association between board nationality and firm performance. This outcome is in line with the findings conducted by (Rodrigues, 2014). This study believe that the mixture of different nationality attributes to new innovation and creativity. In addition, the results show that gender diversity does not contribute to company performance and this result is consistent with the results from a study conducted by Sanan (2016). The findings indicate that higher gender diversity did not contribute to the market value. The possible reason is due to low quantity of female director in board that make male director control the decision making process.

This study developed Model 3 and Model 4 by performing panel data regression using fixed effect and random effect respectively. As predicted, none of board diversities component shows significant effect on company performance since board diversity is not a time varying variable (Prihatiningtias, 2012). According to Stiglbauer (2010), corporate governance practice had been reported as being sticky and did not change much over time and using panel data would not give better results. This study also perform another model (Model 5) to conform our findings in Model 2. Model 5 is using alternative measurement for diversities component. In this alternative measurement, all the diversity in demographic characteristic has been measured using Blau index. The result in model 5 is consistent with the result in Model 2.

A board diversity index was developed in model 6. This study have measured all diversities characteristic using Blau index measurement and the total score become the board diversity index. From the analysis, this study found that board diversity index is positively and significant on company performance. The result indicates that the combination of all board demographic diversities will contribute to better company performance. This study extended the analysis by performing the interaction term between gender, age, education level and nationality to achieve the second research objective. 6 models were developed in Table 2 to present the findings. In Model 1, the interaction is between gender and education level; Model 2, the interaction is between gender and age; Model 3, the interaction is between gender and nationality; Model 4, the interaction is between education level and age, Model 5, the interaction is between education level and nationality and in Model 6, the interaction is between age and nationality.

Table 1: Board Diversity and Firm Performance

	MODEL 1 Coef t statistic	MODEL 2 Coef t statistic	MODEL 3 Coef t statistic	MODEL 4 Coef t statistic	MODEL 5 Coef t statistic	MODEL 6 Coef t statistic
Board Diversity						
DIVERSITY INDEX						0.24** 2.80
GENDER		-0.27 -1.18	0.00 0.01	-0.06 -0.23	-0.18 -1.33	
AGE		2.57*** 4.40	-0.10 -0.19	0.35 0.75	0.51** 2.18	
EDUCATION LEVEL		0.31** 2.44	0.10 0.62	0.14 0.97	0.33** 2.57	
NATIONALITY		0.63** 2.73	-0.14 -0.23	0.20 0.49	0.65*** 3.41	
Control Variables						
ACSIZE	0.15** 2.25	0.13** 2.12	-0.01 -0.65	-0.01 -0.20	0.12* 1.96	0.14** 2.20
BOARDSIZE	-0.05*** -3.47	-0.06*** -3.70	-0.02 -1.50	-0.03** -2.39	-0.06*** -3.78	-0.06*** -3.86
BOARDMEET	-0.07*** -5.31	-0.06*** -5.08	0.00 1.06	-0.00 -0.11	-0.06* -5.00	-0.07*** -5.10
SIZE	0.31*** 12.07	0.31*** 12.22	0.33*** 8.26	0.32*** 8.90	0.31*** 12.21	0.31*** 12.11
INDUSTRIAL DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
YEAR DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
_CONS	-4.88*** -10.71	-5.38*** -11.44	-5.41*** -7.50	-5.12*** -8.19	-5.18*** -10.32	-5.03*** -10.72
N	1000	1000	200	200	1000	1000
F /Wald chi ²	20.88	16.72	8.12	124.15	17.12	19.69
PROB > F	0.00	0.00	0.00	0.00	1000	0.00
R-SQUARED	0.3401	0.3603	0.2748	0.3257	0.3584	0.3462

***, **, and * indicate that the variable is significant at 0.01, 0.05 and 0.10 respectively

In Model 1, the interaction between gender with education level show a positive significant influence which signals as substitute component while in Model 2 and Model 3 the interaction between gender with age and nationality fail to show any significant influence on company performance. This indicates that gender neither become complement nor substitutive component to age and nationality. Model 4, 5 and 6 show a positive significant effect for all interaction terms on company performance. This indicates that age, education level and nationality are substitutive component for each other.

Table 2: Interaction term of Board Diversity Characteristics and Firm Performance

	MODEL 1 Coef t statistic	MODEL 2 Coef t statistic	MODEL 3 Coef t statistic	MODEL 4 Coef t statistic	MODEL 5 Coef t statistic	MODEL 6 Coef t statistic
Board Diversity						
GENDER	-2.18*** -3.49	-0.30 -0.33	-0.30 -1.29	-0.27 -1.17	-0.21 -0.91	-0.21 -0.89
AGE	2.64***	2.56***	2.58***	-0.76	2.45***	1.47**

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	4.54	3.90	4.38	-0.50	4.25	2.43
EDUCATION LEVEL	0.02	0.31**	0.31**	-0.63	0.05	0.24*
NATIONALITY	0.19	2.44	2.37	-1.43	0.45	1.92
	0.66**	0.63**	0.60**	0.58**	-0.55**	-1.96***
	2.84	2.71	2.13	2.50	-2.02	-3.09
GENDER* EDUCATION LEVEL	3.40***					
	2.91					
GENDER*AGE		0.15				
		0.03				
GENDER* NATIONALITY			0.54			
			0.19			
ECUATION LEVEL*AGE				5.91**		
				2.19		
EDUCATION LEVEL*					2.41***	
					3.22	
NATIONALITY AGE*						17.44***
NATIONALITY						3.65
Control Variables						
ACSIZE	0.13**	0.14**	0.13**	0.13**	0.13**	0.13**
	2.09	2.12	2.12	2.05	2.12	2.19
BOARDSIZE	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***	-0.05***
	-3.68	-3.72	-3.72	-3.63	-3.85	-3.84
BOARDMEET	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***	-0.06***
	-4.96	-5.07	-5.00	-4.97	-4.96	-5.24
SIZE	0.31**	0.31***	0.31***	0.31***	0.30***	0.30***
	12.23	12.34	12.21	12.30	12.04	12.03
INDUSTRIAL DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
YEAR DUMMY	Yes	Yes	Yes	Yes	Yes	Yes
_CONS	-5.23***	-4.91***	-5.38***	-4.88***	-5.13***	-5.06***
	-11.36	-11.01	-11.45	-9.64	-11.18	-11.19
N	1000	1000	1000	1000	1000	1000
F /Wald chi ²	16.16	15.86	15.75	15.88	16.23	16.71
PROB > F	0.00	0.00	0.00	0.00	0.00	0.00
R-SQUARED	0.3637	0.3603	0.3603	0.3622	0.3653	0.3700

CONCLUSION

The twofold objectives of this study is to examine whether board diversity affect the company performance and to identify whether the board diversity characteristics is substitute or complement component on company performance. The result concludes that board age, education level and nationality diversity is positive and significantly influence the company performance. However, this study fail to find significant influence of gender diversity on company performance. This study combined the four demographic diversity in our study which are gender, age, education level and nationality and developed a board diversity index. Based on the findings it is conclude that the board diversity index has positive impact on company performance. Finally, the study conclude that gender, age, education level and nationality is a substitute component.

This study contributed to the understanding of company performance by examining the impact of board diversity characteristics. It provides insights on board diversity agenda for regulators and standard setters. From scholars' point of view, this study provide references for future study. In terms of theoretical implication, this study supports HCT as the findings show that investing in human capital on age, education level and nationality will increase company's performance. There are few limitations in this study. The first limitation is that the panel data does not show any association between board diversity and company performance. Future

study are recommended to increase the year of observation in order to have movement or changes in board composition. Second limitation is that this study only examines four demographic characteristics. There are other demographic characteristics that can be investigated by future researcher.

REFERENCES

- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *The Journal of Political Economy*, Oct 1962, 9–49.
- Carter, D., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review*, 18(5), 396–414. <http://doi.org/10.1111/j.1467-8683.2010.00809.x>
- Darmadi, S. (2011). Board diversity and firm performance : the Indonesian evidence. *Corporate Ownership and Control*, 8, 1–38.
- Dezs, C. L., & Ross, D. G. (2012). Does Female Representation in Top Management Improve Firm Performance? A Panel Data Investigation. *Strategic Management Journal*, 33(9), 1072–1089.
- Department of Statistic Malaysia (2017). <https://www.dosm.gov.my>
- Diepen, A. N. Van, Engelen, P., Kabir, R., Huang, X., Beusichem, H. Van, Essa, S. A. G., & Iatridis, G. (2015). The effect of gender , age and nationality diversity on company performance – Evidence from the Netherlands. In *5th IBA Bachelor Thesis Conference, July 2nd, 2015, Enschede, The Netherlands*.
- Ferreira, D. (2010). Board Diversity. *JWBT*, 225–242.
- Garba, T., & Abubakar, B. A. (2014). Corporate board diversity and financial performance of insurance companies in Nigeria: an application of panel data approach. *Asian Economic and Financial Review*, 4(2), 257–277.
- García-meca, E., García-sánchez, I., & Martínez-ferrero, J. (2015). Board diversity and its effects on bank performance : An international analysis. *Journal of Banking & Finance*, 53, 202–214.
- Hafsi, T., & Turgut, G. (2013). Boardroom Diversity and its Effect on Social Performance: Conceptualization and Empirical Evidence. *Journal of Business Ethics*, 112, 463–479. <http://doi.org/10.1007/s10551-012-1272-z>
- Heemskerk, E. M., Heemskerk, K., & Wats, M. M. (2016). Conflict in the boardroom: a participant observation study of supervisory board dynamics. *Journal of Management and Governance*, 21(1), 1–31. <http://doi.org/10.1007/s10997-015-9339-8>
- Jhunjhunwala, S., & Mishra, R. K. (2012). Board Diversity and Corporate Performance : The Indian Evidence. *The IUP Journal of Corporate Governance*, 71–80.
- Jindal, V. (2015). Board Diversity and Firm Performance Influenced by Ownership Concentration : Evidence from India, (765).
- Kilic, M., & Kuzey, C. (2016). The effect of board gender diversity on firm performance : evidence from Turkey. *Gender in Management: An International Journal*, 31(7), 434–455. <http://doi.org/10.1108/GM-10-2015-0088>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Kramaric, T. P., Milun, T., & Pavic, I. (2016). Does Gender Diversity in the Boardroom Influence Tobin'S Q of Croatian Listed Firms? *International Journal of Economic Sciences*, *V*(3), 50–65. <http://doi.org/10.20472/ES.2016.5.3.004>
- Low, D. C. M., Roberts, H., & Whiting, R. H. (2015). Gender diversity and firm performance : Empirical evidence from Hong Kong , South Korea , Malaysia and Singapore. *Pacific-Basin Finance Journal*, 1–21. <http://doi.org/10.1016/j.pacfin.2015.02.008>
- Molenkamp, J. (2015). Board diversity and firm performance: The Dutch evidence. *5th IBA Bachelor Thesis Conference, Netherlands.*, 1–13. <http://doi.org/10.1007/s13398-014-0173-7.2>
- Pletzer, J. L., Nikolova, R., Kedzior, K. K., & Voelpel, S. C. (2015). Does Gender Matter? Female Representation on Corporate Boards and Firm Financial Performance - A Meta-Analysis. *Plos One*, *10*(6), e0130005. <http://doi.org/10.1371/journal.pone.0130005>
- Prihatiningtias, Y. W. (2012). *Gender diveristy in the boardroom and firm performance: evidience from Indonesian publicly listed financial firms*. University of Canberra.
- Rhode, D. L., & Packel, A. K. (2014). Diversity on corporate boards: How much difference does difference make? *Delaware Journal of Corporate Law*, *39*, 377–425. <http://doi.org/10.2139/ssrn.1685615>
- Rodrigues, I. F. D. S. (2014). *Nationality Diversity on Board of Directors and its Impact on Firm Performance*.
- Sanan, N. K. (2016). Board Gender Diversity , Financial and Social Performance of Indian Firms. *SAGE Publication*, *20*(4), 361–367. <http://doi.org/10.1177/0972262916673006>
- Sitthipongpanich, T., & Polsiri, P. (2013). Who's on board? Influence of diversity and network of Thai boards of directors on firm value. *Journal of Applied Business Research*, *29*(6), 1763–1780.
- Stiglbauer, M. (2010). Transparency & disclosure on corporate governance as a key factor of companies ' success : a simultaneous equations analysis for Germany. *Problems and Perspective in Management*, *8*(1), 161–173.
- Talavera, O., Yin, S., & Zhang, M. (2016). *Mp r a. MPRA PAper*.
- Taljaard, C. C. H., Ward, M. J. D., & Muller, C. J. (2015). Board Diversity And Financial Performance : A Graphical Time - Series A Pproach. *SAJEMS*, *18*(3), 425–448.
- Tarus, D., & Ime, F. (2014). Board demographic diversity , firm performance and strategic change A test of moderation. *Management Research Review*, *37*(January), 1110–1136. <http://doi.org/10.1108/MRR-03-2013-0056>
- Terjesen, S., Couto, E. B., & Francisco, P. M. (2016). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management and Governance*, *20*(3), 447–483. <http://doi.org/10.1007/s10997-014-9307-8>
- Voß, J. (2015). The Impact of Gender Diverse Boards on Firm Financial Performance in Norway. *5th IBA Bachelor Thesis Conference, July 2nd, 2015, Enschede, The Netherlands.*, 1–16.
- Zhang, C., Guo, Q., & Mu, X. (2016). How Female Executives Affect Firm Performance ? A Multi-approach Perspective Determining Firm Performance : *Advanced in Economics and Business*, *4*(7), 351–365. <http://doi.org/10.13189/aeb.2016.040705>

Ownership Structure, Board Nationality Diversity and Firm Financial Performance in Malaysia

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Abstract

This study was conducted with threefold aims. The first aim is to examine the influence of ownership structure on nationality diversity in board of director composition. The ownership structure refers to block ownership and managerial ownership. The second aim is to investigate whether board nationality diversity associate with firm's financial performance. Firm's financial performance is measure using return on assets. The third aim is to identify whether board nationality diversity mediates the relationship between ownership structure and firm financial performance. This study theorized that ownership structure will influence the board nationality diversity based on agency theory. Applying the same theory it further argues that the diversity of board nationality will influence the firm financial performance. This study used 200 non-financial public listed companies as a sample through 1400 observation from year 2009 to 2015. The empirical evidence shows a positive relationship between board nationality diversity and block ownership while negative relationship between board nationality diversity and managerial ownership. Besides, this study found that board nationality diversity is positively significant on firm financial performance. Finally, the result reveals that board nationality diversity partially mediates the relationship between ownership structure and firm financial performance. This study is beneficial for the implementation of corporate governance policy especially the policy for ownership structure and board diversity. This study also indicates that firms should have a diverse board nationality as the findings from this study indicates that heterogeneity in board of director nationality positively influence the firm financial performance.

Keywords: Ownership structure, Block Ownership, Managerial Ownership, Nationality Diversity, Firm Financial Performance

INTRODUCTION

Foreign direct investment is crucial in economic growth of developing countries as it supports the capital flow and transfer of technology. Malaysia is one of the developing country in Asia that rely on the foreign direct investment for its economic growth. Based on information from Bank Negara Malaysia (2017) the inflow of foreign direct investment for the first quarter 2017 in Malaysia rose to RM17billion. The foreign investment brings together their products and foreign directors. The incoming foreign director phenomenon lead to diverse nationality in board members team. Shareholders are the person that responsible to elect the members in the board (OECD, 2012) and the board is required to protect the shareholder investments in the company. According to Abdullah (2014), the ownership structure entails the board composition whereby the major shareholder may appoint the board members using their voting rights. Based on agency theory, it is believes that the task perform by board of directors should maximise the shareholder's wealth.

Introducing nationality diversity to corporate boards brought a new insight for board diversity agenda. The diversity of nationality in board composition is expected to increase the variety of expertise and ideology. In addition, heterogeneity in nationality also expected that the company have access to various resources which is important in the global business competition. The question is whether ownership structure associated with the board nationality

diversity or whether the nationality diversity among board positively influence the firm's financial performance. Although there were researches on ownership structure and board diversity (Francoeur, Ben-amar, Francoeur, Hafsi, & Labelle, 2015), ownership structure and firm performance (Amran & Che Ahmad, 2013; Taufil-mohd, Md-rus, & Musallam, 2013) and nationality diversity and firm performance (Jhunjhunwala & Mishra, 2012; Nielsen & Nielsen, 2013), little is known on the indirect effect of board nationality diversity in the relationship between ownership structure and performance of a firm. Thus, this study focus on three main areas, which are ownership structure, board nationality diversity and firm financial performance. It aims to examine the impact of ownership structure on nationality diversity among board of director. It also intends to investigate whether board nationality diversity associate with firm's financial performance. In addition, the purpose of the current study is to identify whether board nationality heterogeneity mediates the relationship between ownership structure and the company performance. This study contributes to the corporate governance literature as it investigate the three areas (ownership structure, board nationality diversity and firm financial performance) in a single study. It will create awareness to shareholder and directors on the importance of ownership structure and board nationality diversity on firm performance. Theoretically, this study will contribute to agency theory as it determine the separation of ownership and control between principal and agents.

Ownership structure refers to the distribution of equity in terms of votes and capital (Sindhu, Hashmi, & Ul Haq, 2016). In this study ownership structure represented by block ownership and managerial ownership. The block ownership is define as the as shareholders who hold 5% or more of a firm's shares (Brockman, Chung, & Yan, 2009). This definition is in conjunction with the definition by in Section 69D, Companies Act 1965 (Malaysia Companies Act) whereby a substantial shareholder is the shareholder that hold minimum of 5% of the total voting shares in the company. On the other hand, managerial ownership can be explained as the managers who is hold the share of the company (Jensen & Meckling, 1976). Malaysia has been selected for investigation in this study as it has a unique corporate structure which differ from other developed countries (Zainal, Zulkifli, & Salleh, 2013).

Generally, board diversity refers to a situation in which members have different social, cultural and professional background. Board diversity can be categorized into observables (demographic characteristics such as gender, ethnic and religion) and non-observables (education level, education background and experience). This study focus on nationality diversity among board members as lack of previous study investigated on this characteristic. Most of previous study focus on gender, age and ethnic diversity (Abdullah & Ismail, 2013; Carter, D'Souza, Simkins, & Simpson, 2010). The arrangement of this study is presented in 5 section. The first section is the introduction of the study that explains the background of the study. The second section discusses the theoretical framework and review of the prior study. The third section explain the methodology for this study and the forth section elaborate the findings from the analysis that performed in this study. The final section is conclusion for this study.

LITERATURE REVIEW

In Malaysia, major shareholders have the power on the firms' decision making, which includes the power to appoint the board of directors (Zainal, Zukifli and Saleh, 2013). There is limited study that investigate the association between ownership structure and board nationality diversity. A study by Francoeur et al., (2015) shows a positive relationship between ownership structure and board nationality diversity. Their study is based on 289 Canadian firms from year 200 to year 2007. Another study that investigate the effect of ownership structure on board diversity was conducted by Bohdanowicz (2015) and the findings reveals a positive relationship between state ownership and managerial ownership on board diversity. The relationship between ownership structure and board nationality diversity can be explained via agency theory. The theory establishes the existence of conflict of interest between owner and agent (Reyna, Vázquez, & Valdés, 2012) whereby monitoring and controlling the conflict between them will incurred an agency cost. Boards are perceived as mechanisms to overcome the separation of ownership and management which give rise to self-serving utility maximization by the company managers (Kiran, 2014). In agency theory it is suggested that a more

heterogeneity board will have better monitoring in managers behaviour because the board heterogeneity will increase the independence among board member (Carter, D'Souza, Simkins, & Simpson, 2010). Based on the discussion, the following hypothesis has been developed:

- H1: There is a positive relationship between block ownership and board nationality diversity.
H2: There is a positive relationship between managerial ownership and board nationality diversity.

Next, previous study has been conducted to determine whether board nationality diversity influence the firm performance. However, the results are inconsistent. Diepen et al., (2015) found a negative significant relationship between board nationality and firm performance among 100 Dutch companies listed in Euronext, Amsterdam. In contrast, Hornett (2015) failed to find any significant relationship between nationality and firm performance while Nielsen and Nielsen, (2013) found a positive relationship between board nationality diversity and performance. In the same vein, Jhunjhunwala and Mishra (2012) reveals that the existence of foreign nationality in boards increase the firm value. From theoretical perspective, the most frequent theoretical framework applied by finance and economics researchers in explaining the linkage between board diversity and firm performance is agency theory (Carter et al., 2010). In agency theory, board of directors represent the primary internal mechanism for controlling managers' opportunistic behaviour (Fan, 2012). This is essential to reduce agency cost which incurred when the management acts on behalf of their own interest rather than prioritizing the welfare of shareholders. The reduction in agency cost will lead to the improvement in firm performance (Prihatiningtias, 2012).

- H3: There is a positive relationship between board nationality diversity and firm financial performance

Ownership structure was predicted to influence the firm financial performance. A study conducted by Zakaria, Purhanudin, and Palanimally (2014) indicates a positive relationship between concentration and managerial ownership with firm performance. Based on their study, Ruan, Tian, and Ma (2011) concluded that managerial ownership has a direct effect on company's performance. From agency theory point of view, block ownership will reduce the agency cost to the shareholder as the block holders are in better position and better capacity to monitor the management activities (Mohd-Ali, Hassan, & Mohd-Saleh, 2007). Based on these argument, the following hypotheses have been developed.

- H4: There is a positive association between block ownership and firm financial performance.
H5: There is a positive association between managerial ownership and firm financial performance.

The above literature shows that there is inter relationship between ownership structure, board nationality diversity and firm financial performance. The current study further investigate the indirect impact of board nationality diversity on the relationship between ownership structure and firm financial performance. It suggests a mediation effects on the relationship and therefore the following hypotheses have been created.

- H6: Board nationality diversity mediates the relationship between block ownership and firm financial performance
H7: Board nationality diversity mediates the relationship between managerial ownership and firm financial performance.

In this study, board size, independence board of director, number of board meeting, size of audit committee, independence audit committee, number of audit committee meeting, leverage, years and industrial have been identified as control variables.

RESEARCH METHODOLOGY

The current study used 200 non-financial public listed companies as a sample. The companies were selected through stratified random sampling. Stratified random sampling

technique is an efficient probability sampling technique that able to represent the industries in the population (Sekaran & Bougie, 2013). Based on the 200 companies, a total of 1400 data has been observes which derived from year 2009 until year 2015. The selection of year 2009 as a starting point is due to the stability of economic after the global financial crisis in year 2007-2008. On the other hand, the selection of year 2015 as a cut off observation is due to recent availability of annual report after the requirement of board diversity disclosure by Bursa Malaysia³⁴.

Data Variables and Equation Model

The independent variable in this study is ownership structure (block ownership and managerial ownership), mediating variable is board nationality diversity, dependent variable is firm financial performance and control variable is board characteristics (board size, independence board of director and number of board meeting), audit committee characteristics (size of audit committee, independence audit committee and number audit committee meeting), leverage, year effect and industrial effect. Block ownership in this study is measure using total percentage of share ownership held by substantial shareholder (Sengupta & Bhojraj, 2003 as cited by Utama, Utama, & Amin, 2016). Managerial ownership is measured by using the ratio of shares owned by all board members to total shares outstanding (Ruan et al., 2011). Board nationality diversity is measured using the percentage of foreign directors on the board (Jhunjhunwala & Mishra, 2012). Firm financial performance is measure using the computation of return on assets (ROA). ROA gives an idea on how well the company is able to use their assets to generate earnings and calculated by dividing a company's annual earnings with its total assets (Karagiorgos, 2010). This accounting performance indicator is simple to use, easy to understand and they are based on audited figures (Aliabadi, Dorestani, & Balsara, 2013). This ratio determine the firm's efficiency in generating profits from every dollar of assets, and shows how well a company uses investment dollars to generate earnings growth (Ruan et al., 2011).

With regards to control variable, board size is measure by using the total number of directors on the board in a particular financial year (Ehikioya, 2009; Garba & Abubakar, 2014; and Marimuthu & Kolandaisamy, 2009). Board independence is proxy by the ratio of independent director to total directors on the board as stated by (Barros, Boubaker, & Hamrouni, 2013). Frequency of meeting is measured using number of meetings during the fiscal year (Barros et al., 2013). The measurement for size of audit committee is the number of members serving on the audit committee (Al-Matari, Al-Swidi, Fadzil, & Al-Matari, 2012) . Audit committees should be independent and measured by the number of independent audit committee members divided by the total number of members of the audit committee (Al-Janadi, Rahman, & Omar, 2013). The frequency of audit committee meeting is measured by the frequency of audit committee meetings during the year (Barros et al., 2013). Finally, leverage is measured using the ratio of total debt and total assets (Khan, Mutakin, & Siddiqui, 2012).

In order to achieve the objectives of this study, the following three equations have been developed.

$$BNATION = \beta_0 + \beta_1 BOWN + \beta_2 MOWN + \beta_3 BODSIZE + \beta_4 BOARDIND + \beta_5 BOARDMEET + \beta_6 ACSIZE + \beta_7 ACIND + \beta_8 ACMEET + \beta_9 LEVERAGE + \text{Year Effect} + \text{Industry Effect} + e$$

.....**equation (1)**

$$ROA = \beta_0 + \beta_1 NATION + \beta_2 BODSIZE + \beta_3 BOARDIND + \beta_4 BOARDMEET + \beta_5 ACSIZE + \beta_6 ACIND + \beta_7 ACMEET + \beta_8 LEVERAGE + \text{Year Effect} + \text{Industry Effect} + e$$

.....**equation (2)**

$$ROA = \beta_0 + \beta_1 BOWN + \beta_2 MOWN + \beta_3 NATION + \beta_4 BODSIZE + \beta_5 BOARDIND + \beta_6 BOARDMEET + \beta_7 ACSIZE + \beta_8 ACIND + \beta_9 ACMEET + \beta_{10} LEVERAGE + \text{Year Effect} + \text{Industry Effect} + e$$

.....**equation (3)**

Whereby β = constant, BNATION = board nationality diversity, BOWN = Block ownership, MOWN = Managerial ownership, BODSIZE = board size, BODIND = board independence,

³⁴ Bursa Malaysia issued a circular on 22 July 2014 that required all listed companies to disclose diversity policy covering gender, ethnicity and age for board and workforce. The requirement is applicable to all annual reports issued on or after 2 January 2015.

BODMEET = number of board meeting, ACSIZE = size of audit committee, ACIND = independence audit committee, ACMEET = number of audit committee meeting, LEVERAGE = leverage, Year Effect = year 2010, 2011, 2012, 2013, 2014 and 2015, Industrial Effect = consumer industry, property, construction and infrastructure property company, plantation, technology and hotel and trading, ROA = return on assets and services and e = error terms.

FINDINGS

Descriptive Analysis

The results for descriptive analysis is presented in Table 1. Based from Table 1, it shows that the mean for board diversity in nationality is 0.074 with maximum diversity of 0.75. The mean for board size is 7.45 within the range of 3 to 15 directors. For independence board of director, the mean is 0.5 which is within the range of 0.20 to 1.00. Further, the number of minimum number of board meeting is 4 while the highest number of board meeting is 7. The leverage from the selected samples size is between the ranges of 0.00 to 1. Table 1 depicts that the mean for block ownership and managerial ownership is 53.04 and 9.42 respectively.

Table 1: Descriptive analysis

	Mean	Std Dev	Min	Max	25%	50%	75%
BNATION	0.074	0.147	0	.750	0	0	0.1
BODSIZE	7.450	1.887	3.000	15.00	6.00	7.00	9.00
BODIND	.458	.130	0.200	1.000	.375	0.429	0.555
BODMEET	5.17	1.015	4	7	4.000	5.000	6.000
ACSIZE	3.227	.419	3.00	4.00	3.00	3.00	3.00
ACIND	0.889	0.1468	0.67	1.000	0.7500	1.0000	1.0000
ACMEET	4.863	.655	4.0000	6.0000	4.0000	5.0000	5.0000
LEV	0.3813	0.2122	0.0001	1.0000	0.2135	0.3703	0.5143
MANOWN	9.418	11.859	0	33.72	.07	3.835	3.835
ROA	.0425	.0499	-.0369	.1286	.0067	.0400	.0773

Correlation Analysis

Correlation analysis was performed to determine whether there is any autocorrelation between each independent variable and dependent variable. In this study, pairwise correlation has been performed to analyse the correlation between ownership structure and board nationality diversity. The significant association was identified at the confidence level of 1%, 5% and 10%. Outcomes from pairwise correlation is presented in Table 2 and shows that block ownership is positively correlated with board nationality diversity while managerial ownership is negatively correlated with board nationality diversity. In term of control variables, board size and independence board of director indicates a positive correlation with board nationality diversity while number of board meeting, independence audit committee and number of audit committee meeting indicates a negative correlation. Other control variables which are size of audit committee and leverage do not correlate with board nationality diversity. From the other perspective, board nationality diversity, block ownership and managerial ownership are positively correlated with firm performance. The results from Table 2 confirm that there is no multicollinearity problem exists as the coefficient value between the variables does not exceed 0.90.

Table 2: Pairwise Correlation

		(1) Coef (t- stat)	(2) Coef (t- stat)	(3) Coef (t- stat)	(4) Coef (t- stat)	(5) Coef (t- stat)	(6) Coef (t- stat)	(7) Coef (t- stat)	(8) Coef (t- stat)	(9) Coef (t- stat)	(10) Coef (t- stat)	(11) Coef (t- stat)
1.	BNATION	1.00										
2.	BODSIZE	0.05 (0.07)	1.00									

3.	BODIND	0.06 (0.02)	-0.39 (0.00)	1.00								
4.	BODMEET	-0.12 (0.00)	0.12 (0.00)	0.07 (0.00)	1.00							
5.	ACSIZE	0.03 (0.27)	0.27 (0.00)	0.07 (0.00)	0.16 (0.00)	1.00						
6.	ACIND	-0.08 (0.00)	-0.00 (0.84)	0.31 (0.00)	-0.00 (0.82)	-0.23 (0.00)	1.000					
7.	ACMEET	-0.14 (0.00)	0.06 (0.02)	0.07 (0.00)	0.53 (0.00)	0.11 (0.00)	0.02 (0.27)	1.00				
8.	LEV	-0.02 (0.47)	0.05 (0.05)	0.04 (0.09)	0.05 (0.04)	0.05 (0.03)	0.02 (0.36)	0.04 (0.08)	1.00			
9	BLOCKOW N	0.16 (0.00)	0.11 (0.00)	-0.04 (0.13)	-0.02 (0.37)	0.07 (0.01)	-0.02 (0.31)	0.01 (0.73)	0.03 (0.18)	1.00		
10	MANOWN	-0.06 (0.01)	-0.13 (0.00)	-0.05 (0.02)	-0.09 (0.00)	-0.16 (0.00)	0.06 (0.01)	-0.04 (0.09)	-0.03 (0.23)	-0.08 (0.00)	1.00	
11	ROA	0.08 (0.00)	0.20 (0.00)	-0.09 (0.00)	0.00 (0.96)	0.13 (0.01)	-0.07 (0.00)	-0.03 (0.23)	0.02 (0.35)	0.15 (0.00)	0.02 (0.00)	1.00

Regression Analysis

This study performed Ordinary Least Square (OLS) to analyse the regression between the variables. The results reported in Table 3 with 6 models. Model 1 of Table 3 presents the OLS regression between the control variables of audit committee characteristics (ACSIZE, ACMEET, ACIND) and leverage with the board nationality diversity. The results show that the audit committee characteristics (ACIND: coef = -0.04, $p < 0.05$; ACMEET: coef -0.02, $p < 0.01$) and leverage (coef = -0.00, $p < 0.05$) is significant negative relationship with the board nationality diversity, except for size of audit committee (coef = 0.01, $p > 0.10$). The R square for this model was 0.07 which may indicate that 7% of board nationality diversity can be explained by the variables in this regression.

When board characteristics (i.e. BODSIZE, BODIND and BODMEET) are added in Model 2, the results show that R – squared increased from 7% of Model 1 to 9%. This indicates that 9% of board nationality diversity can be explained by the variables in this regression. In terms of board of director mechanisms, board size (coef = 0.01, $p < 0.01$) and independent board (coef = - 0.01, $p < 0.01$) showed a positive significant influence on board nationality diversity and frequency of board meeting (coef = 0.01, $p < 0.01$) show a significant negative relationship with board nationality diversity. Briefly, the result can be interpreted that board size and board independence contributed to the board nationality diversity as the board members expose to discussion and decision making which required them to have variety in resources and knowledge which can be obtained through board nationality diversity. Model 2 witnesses that there was no changes in the significant influence of firm characteristic, year and industry on the board nationality diversity presented in Model 1 with the additional board characteristics in the regression.

Model 3 was developed by adding ownership structure. Table 3 reveals that under ownership structure components, block ownership is positively associated board nationality diversity at $p < 0.01$. This indicates that the higher block the higher the board nationality diversity. On the other hand, managerial ownership is negatively associated with the board nationality diversity at $p < 0.05$. This indicates that the higher the percentage of managerial ownership, the lower the board nationality diversity. Referring to control variables, there is no changes on the relationship between control variables and board nationality diversity. The R square has been increase to 0.1358.

Model 4 was developed by using alternative measurement for BODSIZE, BODIND BODMEET and Model 5 was developed by using alternative measurement for ACSIZE, ACMEET and ACIND. All the alternative measurements are using dummy variables. The board

size is measure as '1' if there is high board size, '0' if there is low board size; the cut off is based on the median for the number of board members; Independent board of director refers as '1' if the total percentage of directors who are independent is more than 50% , '0' if otherwise and for frequency of board meeting represented as '1' if there is high frequency of board meeting, '0' if there is low frequency of board meeting; the cut off is based on the median of number of board meetings per year. As for audit committee characteristics, the independent audit committee is represented by '1' if the percentage of independent audit committee is more than 50% , 0 if otherwise; size of audit committee proxy by '1' if there is high size of audit committee, '0' if there is low size of audit meeting; the cut off is based on the median for the number of audit committee members and for frequency of audit committee meeting measure as '1' if there is high frequency of audit committee meeting, '0' if there is low frequency of audit committee meeting; the cut off is based on the median of number of audit committee meetings per year. There is no changes on the result except for board size by using alternative measurement of board characteristics. The highest R square is the R square from Model 3.

Table 3: Regression Analysis

	MODEL 1 Coefficient (t-value)	MODEL 2 Coefficient (t-value)	MODEL 3 Coefficient (t-value)	MODEL 4 Coefficient (t-value)	MODEL 5 Coefficient (t-value)	MODEL 6 Coefficient (t-value)
BNATION						.02 (1.88)*
BLOCKOWN		-	.00 (7.82)***	.001 (8.00)***	.001 (7.73)***	.00 (4.04)***
MANOWN		-	-.00 (-1.83)**	-.000 (-2.18)**	-.000 (-1.95)*	.00 (3.22)***
Control Variables						
BODSIZE	-	.01 (4.47)***	.01 (3.61)***	.009 (1.51)	.005 (3.13)***	.00 (5.75)***
BOARDIND	-	.16 (4.94)***	.15 (4.74)***	.016 (2.63)***	.101 (3.87)***	-.00 (-0.02)
BOARDMEET	-	-.01 (-2.35)**	-.01 (-2.00)**	-.003 (-0.47)	-.004 (-3.33)***	.00 (0.02)
ACSIZE	.01 (1.04)	-.006 (-0.82)	-.01 (-1.24)	-.002 (-0.33)	-.009 (-1.13)	.00 (2.45)**
ACIND	-.04 (-2.17)**	-.095 (-4.17)***	-.09 (-3.92)***	.059 (-2.82)***	-.021 (-3.13)***	-.01 (-1.31)
ACMEET	-.02 (-4.51)***	-.017 (-3.21)***	-.02 (-3.34)***	-.021 (-4.25)***	-.025 (-3.67)***	-.00 (-1.23)
LEV	-.00 (-2.11)**	-.000 (-2.66)**	-.00 (-3.48)***	-.00 (-3.17)***	-.000 (-3.55)***	.00 (2.38)**
_CONS	.215 (4.73)***	.173 (3.84)***	.122 (2.77)***	.177 (3.83)***	-.007 (-0.29)	-.03 (-1.71)*
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes
N	1400	1400	1400	1400	1400	1400
F /Wald chi ²	9.22	9.37	10.26	9.14	10.09	9.90
Prob > F	0.000	0.000	0.000	0.000	0.000	0.00
R-SQUARED	0.0686	0.0916	0.1358	0.1228	0.1307	0.0917

The represent the significant level as *** (0.01), **(0.05) and *(0.10)

Model 6 represents the result for regression analysis for the effect of ownership structure and board nationality diversity on firm financial performance. The result shows that board nationality diversity (coef 0.02, p<0.10), block ownership (coef 0.00, p<0.01) and managerial ownership (coef 0.00, p<0.01) is positively significant on firm financial performance. The current study also perform a regression analysis on the direct impact of board nationality diversity on firm financial performance without taken into the model the ownership structure. The result also show a positive significant relationship and reported in Table 4.

Mediating Analysis

In order to determine the mediation effect on the relationship between ownership structure and firm performance, the current study employed the conditions outlined by Baron and Kenny (1986). For the first condition, the independent variable should make a significant contribution towards mediating variables. In this study, it is applicable to the regression between ownership structure and board nationality diversity. With reference to Table 4, the results showed block ownership (coef 0.00, $p < 0.01$) and managerial ownership (coef = -0.00, $p < 0.05$) are significant on board nationality diversity and thus, meet the first condition. Second condition is that, the independent variable should make a significant contribution towards dependent variable. For this study it refers to ownership structure and firm performance. The result showed block ownership (coef = 0.00, $p < 0.01$) and managerial ownership (coef = 0.00, $p < 0.01$) are significant on firm financial performance and fulfil the second condition. The third condition is that, when mediation included in the regression between independent variable and dependent variable, the previous significant relationship between independent variable and dependent variable is no longer significant or the significant effect is reduced. It showed that block ownership and managerial is significant (coef = 0.00, $p < 0.01$), however the coefficient value have been decrease (Baron & Kenny, 1986). The result suggests a partial mediation effect of board nationality diversity on the relationship between ownership structure and firm financial performance.

Table 4: Mediation Analysis Using Baron and Kenny (1986) Step

	Step 1	Step 2	Step 3	Type of effect
Independent variables (BNATION)				
BLOCKOWN	.00 (7.82) ^{***}	.004 (4.54) ^{***}	.003 (4.04) ^{***}	Partial mediation
MANOWN	-.00 (-1.83) ^{**}	.003 (3.13) ^{***}	.002 (3.22) ^{***}	Partial mediation
MEDIATOR (BNATION)	-	-	.023 (1.88) ^{**}	
F	10.26	10.28	9.90	
R-SQUARED	0.1358	0.0893	0.0917	

The represent the significant level as ^{***} (0.01), ^{**}(0.05) and ^{*}(0.10)

DISCUSSION AND CONCLUSION

Based on the findings it is concluded that block ownership positively influence board nationality diversity. This finding is in line with a finding from a study conducted by Francoeur et al., (2015). It is foresee that the block shareholder who own more than 5% shares in the company able to control the selection of board members to elect a more diverse nationality in the board composition. Diverse board nationality will increase board independence and increase network resources. On the other hand, managerial ownership negatively influence board nationality diversity. This study also concludes that board nationality diversity is positively associated to firm financial performance. The outcome is consistent with an outcome of study by Jhunjhunwala and Mishra (2012). It is suggested that board nationality diversity will reduce the agency cost and therefore the firm financial performance will increase. In addition, the current study empirically evidenced that board nationality diversity partially mediates the relationship between ownership structures whether block ownership or managerial ownership and firm performance. The findings imply that ownership structure and heterogeneity in board of director nationality do contribute to firm performance and hence the management should consider these factors in shaping their shareholder structure and selecting their board members. The results of this study also empirically support the principles of separation of ownership and control in agency theory whereby the substantial shareholders will have control on the election of the board of directors and lead to efficient operation. The board of director who perform duty on behalf of the owners should maximise the company's profit.

The main limitation of this study is low R square which indicates that there are factors that contribute to board nationality diversity and firm performance which has not been

investigate in this study. It is suggested that future study may include other factors such as family ownership and institutional ownership. Another limitation for this study is it does not consider endogeneity problem because there is limited in this area. Future researcher may analyse whether there is any endogeneity problem in the relationship between ownership structure, board nationality diversity and firm performance.

REFERENCES

- Abdullah, S. N. (2014). The causes of gender diversity in Malaysian large firms. *Journal of Management and Governance*, 18(4), 1137–1159. <http://doi.org/10.1007/s10997-013-9279-0>
- Abdullah, S. N., & Ismail, K. N. I. K. (2013). Gender, ethnic and age diversity of the boards of large Malaysian firms and performance. *Jurnal Pengurusan*, 38, 27–40.
- Aliabadi, S., Dorestani, A., & Balsara, N. (2013). The Most Value Relevant Accounting Performance Measure by Industry. *Journal of Accounting and Finance*, 13(1987), 22–34.
- Al-janadi, Y., Rahman, R. A., & Omar, N. H. (2013). Corporate Governance Mechanisms and Voluntary Disclosure in Saudi Arabia. *Research Journal of Finance and Accounting*, 4(4), 25–36.
- Al-Matari, E. M., Al-Swidi, A. K., Fadzil, F. H., & Al-Matari, Y. A. (2012). The Impact of board characteristics on Firm Performance: Evidence from Nonfinancial Listed Companies in Kuwaiti Stock Exchange. *International Journal of Accounting and Financial Reporting*, 2(2), 310–332. <http://doi.org/10.5296/ijaf.v2i2.2384>
- Amran, N. A., & Che Ahmad, A. (2013). Effects of Ownership Structure on Malaysian Companies Performance. *Asian Journal of Accounting and Governance*, 60(4), 51–60.
- Ararat, M., Aksu, M., & Cetin, A. T. (2010). Impact of Board Diversity on Boards ' Monitoring Intensity and Firm Performance : Evidence from the Istanbul Stock Exchange. *SSRN Electronic Journal*, 90(216).
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research : Conceptual , Strategic , and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Barros, C. P., Boubaker, S., & Hamrouni, A. (2013). Corporate Governance And Voluntary Disclosure In France. *Journal of Applied Business Research*, 29(2), 561–578.
- Bohdanowicz, L. (2015). The Impact of Ownership Structure on Supervisory Board Size and Diversity: Evidence from the Polish Two-Tier Board Model. *Procedia Economics and Finance*, 23(October 2014), 1420–1425. [http://doi.org/10.1016/S2212-5671\(15\)00429-3](http://doi.org/10.1016/S2212-5671(15)00429-3)
- Brockman, P., Chung, D. Y., & Yan, X. (Sterling). (2009). Block Ownership, Trading Activity, and Market Liquidity. *Journal of Financial and Quantitative Analysis*, 44(06), 1403. <http://doi.org/10.1017/S0022109009990378>
- Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance*, 18(5), 396–414. <http://doi.org/10.1111/j.1467-8683.2010.00809.x>
- Carter, D., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. *Corporate Governance: An International Review*, 18(5), 396–414. <http://doi.org/10.1111/j.1467-8683.2010.00809.x>

- Diepen, A. N. Van, Engelen, P., Kabir, R., Huang, X., Beusichem, H. Van, Essa, S. A. G., & Iatridis, G. (2015). The effect of gender, age and nationality diversity on company performance – Evidence from the Netherlands. In *5th IBA Bachelor Thesis Conference, July 2nd, 2015, Enschede, The Netherlands*.
- Ehikioya, B. I. (2009). Corporate governance structure and firm performance in developing economies: evidence from Nigeria. *Corporate Governance*, 9(3), 231–243. <http://doi.org/10.1108/14720700910964307>
- Fan, S. P. (2012). *Is Board Diversity Important for Firm Performance and Board Independence? - An exploratory study of Singapore Listed Companies*.
- Francoeur, C., Ben-amar, W., Francoeur, C., Hafsi, T., & Labelle, R. (2015). What Makes Better Boards?: A Closer Look at Diversity and Ownership. *British Journal of Management*, 24(March 2013), 85–101. <http://doi.org/10.1111/j.1467-8551.2011.00789.x>
- Garba, T., & Abubakar, B. A. (2014). Corporate board diversity and financial performance of insurance companies in Nigeria: an application of panel data approach. *Asian Economic and Financial Review*, 4(2), 257–277.
- Hornett, C. D. (2015). The Impact of Gender and Age Diversity on Company Performance. *Gordon Institute of Business School*, (November).
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 3(4), 305–360. [http://doi.org/http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://doi.org/http://dx.doi.org/10.1016/0304-405X(76)90026-X)
- Jhunjhunwala, S., & Mishra, R. K. (2012). Board Diversity and Corporate Performance: The Indian Evidence. *The IUP Journal of Corporate Governance*, 71–80.
- Karagiorgos, T. (2010). Corporate Social Responsibility and Financial Performance: An Empirical Analysis on Greek. *European Research Studies*, XIII(4).
- Khan, A. R., Mutakin, M. B., & Siddiqui, J. (2012). Responsibility disclosures: evidence from an emerging economic. *Journal of Business Ethics*, 1–41.
- Kiran, A. (2014). *Association between gender diversity in board composition and firm performance: Empirical evidence from Finland*. University of Oulu.
- Marimuthu, M., & Kolandaisamy, I. (2009). Ethnic and Gender Diversity in Boards of Directors and Their Relevance to Financial Performance of Malaysian Companies. *Journal of Sustainable Development*, 2(3), 139–148.
- Mohd-ali, S., Hassan, M. S., & Mohd-saleh, N. (2007). Block-Ownership And Earnings Management In Malaysian. *Corporate Ownership & Control*, 5(1), 195–201.
- Nielsen, B. B., & Nielsen, S. (2013). Top management team nationality diversity and firm performance: A multilevel study. *Strategic Management Journal*, 34(3), 373–382. <http://doi.org/10.1002/smj.2021>
- Prihatiningtias, Y. W. (2012). *Gender diversity in the boardroom and firm performance: evidence from Indonesian publicly listed financial firms*. University of Canberra.
- Reyna, J. M. S. M., Vázquez, R. D., & Valdés, A. L. (2012). Corporate Governance, Ownership Structure and Performance in Mexico. *International Business Research*, 5(11), 12–27. <http://doi.org/10.5539/ibr.v5n11p12>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Ruan, W., Tian, G., & Ma, S. (2011). Managerial Ownership, Capital Structure and Firm Value: Evidence from China's Civilian-run Firms. *Business and Finance Journal*, 5(3), 73–92. Retrieved from <http://ro.uow.edu.au/aabfj>
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill-building approach*.
- Sengupta, P., & Bhojraj, S. (2003). Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and Outside Directors Author (s): Sanjeev Bhojraj and Partha Sengupta Published by : The University of Chicago Press Stable URL : <http://www.jstor.org/stable>. *The Journal of Business*, 76(3), 455–475.
- Sindhu, M. I., Hashmi, S. H., & UI Haq, E. (2016). Impact of ownership structure on dividend payout in Pakistani non-financial sector. *Cogent Business & Management*, 3(1), 1–11. <http://doi.org/10.1080/23311975.2016.1272815>
- Taufil-mohd, K. N., Md-rus, R., & Musallam, S. R. M. (2013). The Effect of Ownership Structure on Firm Performance in Malaysia. *International of Journal of Finance and Accounting*, 2(2), 75–81. <http://doi.org/10.5923/j.ijfa.20130202.04>
- Utama, C. A., Utama, S., & Amin, A. M. (2016). The influence of corporate governance practices and ownership structure on credit ratings: Evidence from Indonesia. *Asian Journal of Business and Accounting*, 9(2), 41–72.
- Zainal, D., Zulkifli, N., & Salleh, Z. (2013). Corporate Board Diversity in Malaysia : A Longitudinal Analysis of Gender and Nationality Diversity. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 3(1), 136–148.
- Zakaria, Z., Purhanudin, N., & Palanimally, Y. R. (2014). Ownership Structure and Firm Performance: Evidence From Malaysian Trading and Services Sector. *European Journal of Business and Social Sciences*, 3(2), 32–43. Retrieved from <http://www.ejbss.com/recent.aspx>

Risks and Vulnerabilities of Shadow Banks: The Case in Malaysia

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Abstract

This research paper aimed to examine the risk and vulnerability of shadow banking sector in Malaysia. Due to the tremendous growth of shadow banking sector in our country since the global financial crisis, we have factored in a total of 7 independent variables in our model to figure out the impact of these variables on the non-performing loan of shadow banking firms in Malaysia. Our sample datasets are secondary data which was collected from the annual report of the respective 11 shadow banks as well as Financial Stability Board in Malaysia and International Monetary Fund from the time period from 2005 to 2015. Also, we have adopted Fixed Effect Models (FEM) in our research to run the hypothesis testing. The empirical result of our full model found that the deposits of securitized debts, debt-to-equity ratio, household debt and financial crisis are negatively related with non-performing loan while collateral intermediation, housing loan to total loan ratio are positively related to non-performing loan. However, there is one exceptional case in our model where shareholding owned by management is actually having a non-linear relationship with the non-performing loan. Future researchers are encouraged to enlarge the research area and include other important determinant variables in examining the effect of these variables on the risk and vulnerability of shadow banking firms in Malaysia.

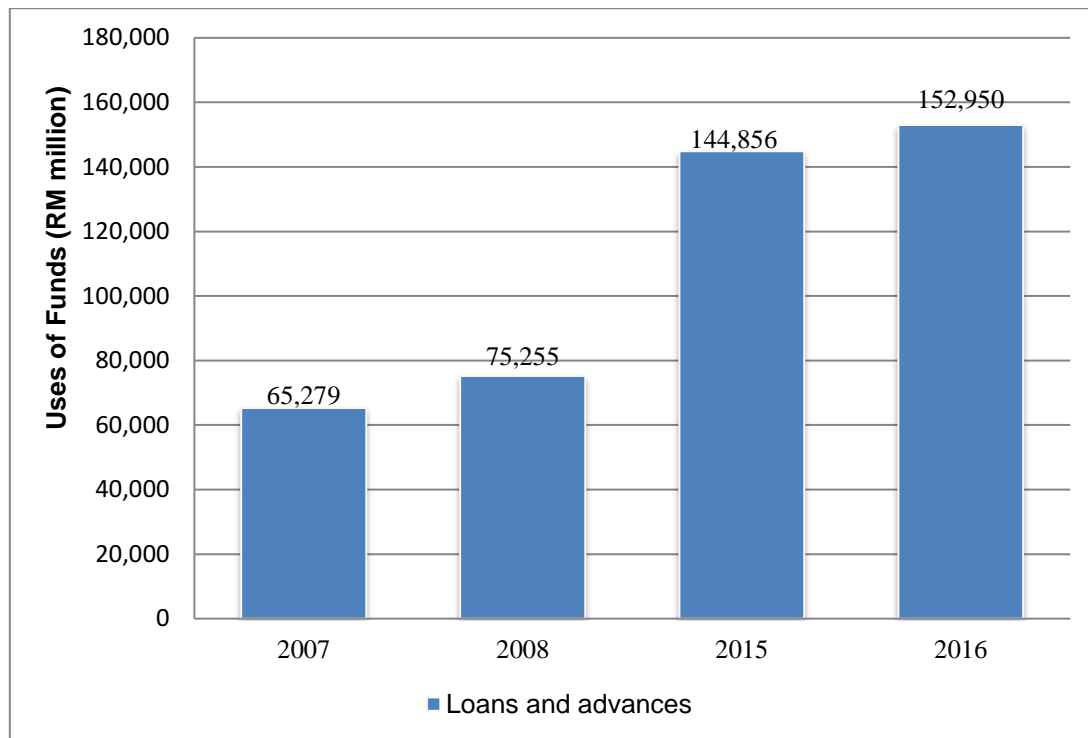
INTRODUCTION

Shadow banking system denotes to the financial intermediaries whose members are not subject to regulatory while easing the creation of credit across the global financial system. Due to shadow banking has greater flexibility as they less impacted by regulatory body of financial institutions, the failure of a number of such institutions during the crisis caused in substantial risks that were transmitted more widely through the financial system (Elliott, Kroeber & Qiao, 2015). After the global financial crisis in 2008, superior attention has been concentrated on the role and scope of shadow banking system in transmitting risks to the financial system. In Malaysia, shadow bank is used more familiar with to cover all financial intermediaries-like activity performed by bank. For example, the activities of shadow bank that are not subject to regulation include hedge funds, unlisted derivatives and other unlisted instruments (Bank Negara Malaysia, 2011). Shadow banks are not required to hold reserve requirement and it does not backed by central bank act as lender of last resort and they do not have safety net (Elliott et al., 2015). As shadow banks do not take deposits, they are financed by uninsured, unsecured and secured short term financial instruments. The fundamental idea behind the functioning of shadow banking system is financed by short-term funds in the money markets and uses those funds to buy assets with longer term maturities, but then without the regulatory enable shadow banks access to emergency liquidity support. Shadow bank may expose to high degree of risk if it have along with the misappropriation and default caused by wrong incentives from the significant players (Luttrell, Rosenblum & Thies, 2012).

In the recent years, the growth of shadow banks was extensive in most regions. The main reasons may be due to "regulatory arbitrage" and cost efficiency factor. It is undeniable that the costs for traditional banks will be higher than shadow banks as they are subject to regulatory constraints on the on-balance sheet activities. In order to minimize the costs, they tend to shift most activities off their balance sheets. According to Bank Negara's Financial Stability and Systems Report 2016, the lending standards may be eased by shadow banks, causing the outstanding personal financing grew at 4.8% in 2016, as compared to 3.4% in 2015.

The household debt-to-GDP ratio is predicted to be about 88% in 2016, which is on an increasing trend since 2012 (around 80%). Shadow banks are expanding in terms of the assets owned that consist of almost 40% of the total financial system assets. From the figure 1, development financial institution as one of the categories under shadow banks, we notice that the number of funds used for loans and advances have almost doubled from 2007 to 2016. This signals a growing trend of shadow banking industry in Malaysia.

Figure 1: Uses of Funds by Development Financial Institutions



Source from: *Financial Stability and Systems Report 2016*

On November 2016, the Security Commission Malaysia (SC) has granted license to 6 P2P platforms, which are B2B FinPAL, Peoplender, Ethis Kapital, ManagePay Services, Modalku Ventures and FundedByMe Malaysia. These operators are taking initiatives to drive the growth of Fintech in Malaysia. As the Fintech falls under the category of shadow banking industry (Buchak, Piskorski & Seru, 2017), we believe that with the regulatory change in Malaysia financial industry, the size of shadow bank in Malaysia would start growing rapidly, causing our financial system more vulnerable to any shock and default risk. Therefore, this study aims to identify the determinants of default risk in Malaysia's shadow banking system.

LITERATURE REVIEW

Shadow banking, commonly prescribed as credit intermediation outside the conventional banking system, is defined by Financial Stability Board (FSB) as "credit intermediation involving entities and activities outside the regular banking system" (Financial Stability Board, 2013). Eichner, Kohn and Palumbo (2010) studied about data restrictions of the flow of funds in foreseeing the risks prior to the financial crisis. Bernstein (1996) established a model which presented that the total of non-performing loans is a substantial influential factor of the expenses that shadow banks incur as well as the estimates of scale economies for lending institutions. On the other hand, Isa and Rashid (2014) adopted Random Effect model (REN) to identify the determining factor of default risks of shadow banks restricting to focus on their two main activities which are securitization and collateralization. Securitization and collateral intermediation (CI) are two main intermediation functions in the shadow banking.

Research done in the earlier stage indicates that securitization can help to reduce risks faced by banks (Pavel & Philis, 1987; Greenbaum & Thakor, 1987; Hess & Smith, 1988). Later works studied how securitization affect bank risks and focuses are given from various perspectives. Research done by Cantor and Rouyer (2000) suggest that when the risk of a security sold to investors is higher than the issuer risk before securitization, the issuer's credit risk is said to be improved. On the contrary, some researchers found evidence showing that the loan kept in the banks have a lower default rate than those being offered to the market (Carey, 1998; Mian & Sufi, 2009; Dell'Aricca, et.al., 2009; Keys, et. al., 2010). Furthermore, Ashcraft and Schuermann (2008) label asymmetric information that existed in the securitization of subprime mortgage credit although these frictions can be generalized to all securitization transactions. Besides that, Meeks, Nelson and Alessandri (2013) have established and tested a dynamic model which simulates the interaction between shadow banking and banking system through the securitized assets channel.

The collateral plays an important role to the risk of shadow banks. The amount of collateral and the frequency of intermediation (velocity) between the scarce collateral available can result in the bank risks as it amplifies the procyclicality problem (Ghosh et al., 2012). This is because in security financing, banks use assets instead of deposits collected as collateral to raise funds, then they use the funds to purchase more assets and later use the assets as collateral to raise additional funds. This whole cycle results in the pro-cyclicality of financial system, which in turn increases banks risks. Studies done by Singh (2011) support this view by saying that a reduction in the re-use of collateral has a positive role on financial stability.

A different view was given by Adrian and Shin (2010) who claimed that when collateral use drops, it slows down financial intermediation, in other words, it dries up the interbank markets. Archaya, Schnabl and Suarez (2010) and Plantin (2012) pointed out that many shadow-banking arrangements aim to bypass minimum bank capital requirements in order to achieve a higher leverage position which are allowed prior to the recent financial crisis. Therefore, they have greater flexibility to utilize their leveraging position in order to increase their short-term profit. As these institutions are not restricted by any type of solvency or prudential regulation like what is imposed on commercial banks, shadow banks are more likely to fail than traditional commercial banks (Crockett and Cohen, 2001).

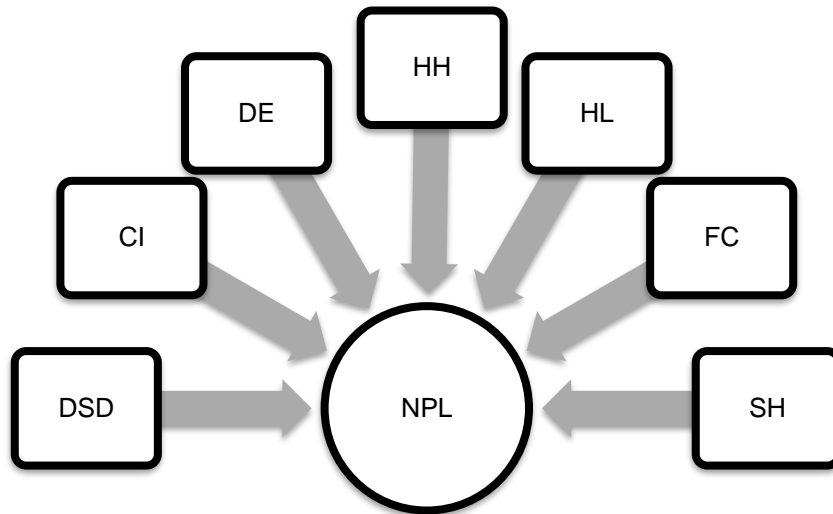
Based on the statistic given by Bank Negara Malaysia in "Financial Stability and Payment System Report 2016", household debt and real estate loan are considered as the most common type of loan by shadow banks. The high level and increasing growth of household would increase the sensitivity of household to shock or any crisis and this lead to default risk. Moreover, previous studies show that high level of household debt may have great impact on macroeconomic in two situation which are: (1) economic downturn as high leverage may lead to financial crisis and, (2) households are exposed to volatility and increase the vulnerability to financial shocks that involve income, interest and asset price risk (Finocchiaro, Nilson, Nyberg & Soutanaeva, 2011).

On the other side, the ratio of the non-performing loans declined in Europe from year 1998 although the debt ratio increased. The reason that may explain this condition is the better use of advance technique in risk management by bank or the bigger bank may gain better opportunities to diversify their risk by using financial derivative product or securitization. Similarly, previous research found that financial crisis caused by the asset bubble burst will lead to more serious non-performing loan which may result in default risk (Wan, 2015). The higher the housing loan, the higher the possibilities of bad debts.

As shadow banks were operating with a very high leverage and they were also loosely regulated and supervised by central bank. Hence it resulted in a more severe problem to the global financial system (Schleifer, 2010). In the current literature, there is no any research that studies the performance of shadow bank in the crisis period. The agency problem in shadow banking industry also remained a doubt. Due to the conflict of interest between shareholder and management, it is commonly believed that the management would have difficulty to act at the interest of shareholder when they have limited stake in the firm. As most of the shadow banks in Malaysia are owned by the country, and thereby the management generally does not possess any ownership of the shadow banks. We think that the answer could be important to help

shadow banks in Malaysia perform better. Based on the previous research, we construct the following conceptual framework for our study.

Figure 2: Conceptual Framework



Note: DSD = Deposits of securitized debt; CI = Collateral Intermediation; DE= Debt-to-equity ratio; HH = Household debt; HL = Ratio of housing loan to total loan; FC = Financial crisis; SH = Number of shares held by management.

METHODOLOGY

In spite of the enormous threat caused by the shadow banks, neither the methodologies to measure systematic risk of shadow banking activities nor theory that explain shadow banks have been established. Due to incompleteness of data, it added up the challenges for researchers to investigate the issues, so as the difficulty to address the interconnectedness of shadow banks. This study is limited to focus on the default risk in Malaysia shadow banking industry. Isa and Rahid (2014) measured the default risk in shadow banking activities based on the approach proposed by Financial Stability Board in “Global Shadow Banking Monitoring Report 2013”, which focus on two main activities: deposits of securitized debts (DSD) and Collateral Intermediation (CI). We noticed that some of the variables that had been used vastly in other studies for default risk of shadow bank and commercial bank were neglected in the abovementioned model therefore we attempt to take these factors into account and improve the model.

Empirical Model

There are 7 independent variables have been chosen to use, which are collateral intermediation (CI), deposit securitization debt (DSD), shareholding by company directors, household debt, debt to equity, housing loan ratio and financial crisis. We can formulate them into the following model:

$$NPL_{it} = \beta_0 + \beta_1 \text{Log}(DSD)_{it} + \beta_2 \text{Log}(CI)_{it} + \beta_3 \text{Log}(DE)_{it} + \beta_4 \text{Log}(HH)_{it} + \beta_5 HL_{it} + \beta_6 FC_{it} + \beta_7 SH_{it} + \beta_7 SH_{it}^2 + \varepsilon_{it}$$

Where:

NPL: Non-performing loan is the amount of borrowed money upon which the borrower unable to fulfill the obligation to repay the loan. It is calculated by using the ratio of impaired financing to total loan of each bank.

DSD: Deposit securitization debt: Deposit for the process of transforming asset with a payment stream into a marketable security. DSD is regarded as a combination of “Deposits and placements at other financial institutions” and “Amount due for guarantees”

CI: Collateral intermediation. Scarce collateral used for intermediation purpose to reduce counterparty risks for the safety of the lenders (investors). In this category, it is computed by using the sum of "Investment Securities" and "Derivative Financial Instruments".

DE: The debt to equity ratio represents company's financial leverage, calculated by how much debt a company financed by dividing a company's total liabilities by total equity.

HH: Household debt is the total aggregate amount of money that the household require payments of interest or principal to financial institutions.

HL: Amount of real estate loan to total loan by each shadow banks.

FC: A financial crisis here refers to the 2008 global financial market. It is a dummy variables and the variable equal to 1 if the observation belong to 2008, otherwise it equal to 0.

SH: Number of share hold by company directors.

In this study, Non-Performing Loan (NPL) Ratio was adopted as a proxy of default risk. NPL is refers to ratio of bad debts to the total lending loan. In broad senses, the non-performing loan is a good reflection of credit risk. Meanwhile, credit risk is the uncertainty arises from the relationship with borrower, as they are unable to make required payment. Due to the reason that the nature of business of a bank is money lending, NPL is usually used by researcher to represent probability of default in banking sectors. Unbearably high NPL can cause a bank to default.

The similar approach has been adopted by other researchers. Kucukkocaoglu and Altintas (2016) used NPL as default rates for macroeconomic credit stress testing and to estimate credit losses. Jovic (2017) measured the credit risk level in Serbian banking sectors by using NPL as a proxy for credit risk. Rashid, Azid and Malik (2014) pointed out that credit risk is one of the biggest factors that affect the sustainability of the banking sector. Heffernan (2005) mentioned that high NPL ratio in banking sector is an early warning signal indicating distress. According to Khemraj and Pasha (2009), non-performing loans are threatening the financial vulnerability in the particular country or region. They also found a significant relationship between non-performing loans and banking crises. Besides, Sorge (2004) also argued that it is viable to use non-performing loans as one of the variables to determine the vulnerability of financial system.

In the current literature, the impact of ownership by management to the NPL is uncertain. Novaes and Werlang (1995) claimed that the market outperform the state-owned banks in general, as government tends to focus their portfolios of NPL caused by the state itself. Bank with higher ownership by government is found to be related to sluggish development and lower growth (La Porta, Silanes, Shleifer & Vishny, 2002). We should take note that a numbers of shadow banks in Malaysia are owned by the state or nation government. Besides, research also showed that insider ownership has a significant negative relationship with credit risk of the firm (Akwaa-Sekyi & Moreno Gené, 2016; Adjei-Mensah, Amidu & Abor, 2015). On the other hand, a research targeting in Taiwan's banks showed that increase in private shareholding also induces more NPL (Hu, Li & Chiu, 2004). Therefore, we hypothesize that there could be non-linear relationship between shareholding by management and the default risk of shadow bank. Hence, we include SH_{it}^2 in the empirical model in order to identify the threshold level.

Data

Based on the previous works by Isa and Rashid (2014), there are total numbers of 15 financial institutions falls in the category of shadow banks. . Due to the limited cross-sectional units and time-series data, we are unable to perform cross-sectional or time series analysis. Therefore, we applied panel method for the research. The sample size included a total number of 11 companies from year 2005 to 2015. The data used are sourced from Bank Negara Malaysia, International Monetary Fund (IMF) and company's annual report. In short, 96 total panel observations are included in this analysis. The detailed of the number of observations are summarized as table below:

Table 1: Sampling Size and Sampling Period

Bank Name	Period
Bank Rakyat	2007-2015
BSN	2005-2015
Bank Pembangunan	2009-2015
EXIM Bank	2008-2015
SME bank	2009-2015
CGC	2005-2015
Lembaga Tabung Haji	2010-2015
Sabah Development	2010-2015
Sabah Credit	2005-2015
MBSB	2005-2015
RCE	2005-2015

Source: Developed for the research

Data Analysis

The descriptive statistic of each variable is listed in table 2. Based on the statistic, we can notice that the standard deviation of the variable is high and the min and max value vary vastly, implying each of the shadow banks has very different characteristic and background. Therefore, Pooled OLS panel method wouldn't be a good choice for this study. We performed 3 different panel data estimates for the study. The results for each estimate are tabulated in table 3.

Table 2: Descriptive Statistic

		Mean	SD	Minimum		Max
NPL	9	0.102	0.1220	0.0050	9	0.697
DSD	+09	1.30E	1.36E+09	1.18E+06	+09	7.11E
CI	+09	5.10E	1.03E+10	6.53E+05	+10	4.77E
DE	4	5.637	9.2601	-63.6423	88	31.07
HH	+05	6.95E	2.16E+05	3.60E+05	+06	1.03E
HL	5	0.265	0.3549	0.0000	0	1.000
SH	8	0.044	0.1333	0.0000	9	0.542

Source: Developed for the research

Table 3: Results of Panel Data Estimates

Dependent Variable: NPL						
Variable	POLS	M	FE	REM	FEM (White Cross Section)	
C	1.7675** (0.5461)	39*** (029)	2.5 (0.5	25*** (95)	2.44 (0.40)	2.5386*** (0.4534)
LOG(DSD)	-0.0050 (0.0096)	0.0224** (086)	- (0.0	0.0111 (79)	- (0.00)	-0.0224** (0.0099)
LOG(CI)	- 0.0226*** (0.0058)	100	0.0 (0.0	0.0048	- (0.00)	0.0100 (0.0123)

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			139)	78)		
LOG(DE)	0.0284**	0.0507**	-	0.0224	-	-0.0507**
	(0.0129)	216)	(0.0	56)	(0.01	(0.0215)
LOG(HH)	-0.0807**	878***	0.1	0.1472***	-	-0.1878***
	(0.0403)	382)	(0.0	22)	(0.03	(0.0336)
HL	0.2045***	122***	0.3	0.0050	-	0.3122***
	(0.0592)	976)	(0.0	31)	(0.06	(0.0845)
FC	-0.0221	0.0448	-	0.0286	-	-0.0448***
	(0.0446)	329)	(0.0	23)	(0.03	(0.0146)
SH	-1.4258*	9545	12.	0.8274	-	12.9545**
	(0.8088)	0094)	(14.	45)	(0.65	(6.4474)
(SH)^2	2.4217	13.2427	-	07	1.49	-13.2427*
	(1.7976)	7262)	(14.	17)	(1.34	(6.7118)
R-squared	0.2885	754	0.6	91	0.23	0.6754
Adjusted R-squared	0.2230	995	0.5	91	0.16	0.5995
F-statistic	4.4085***	009***	8.9	73***	3.41	8.9009
Specification Test						
Poolability Hypothesis test		791***	9.1			
Breush-Pagan Larange Multiplier test	**	11.2629*				
Hausman test				581***	35.4	

Notes: 1) ***, ** and * referring to the rejection of null hypothesis at significance level 1%, 5% and 10% respectively; 2) Figures in parenthesis represent the standard error.

All specification tests rejected the null hypothesis testing at 1 % significance level. Therefore, the POLS and REM model are rejected for this study, suggesting FEM model is the best for the analysis. The result also suggests that there are a fixed "characteristic" among all the shadow banks which make their default risk not the same as the other. It is noteworthy to mention that White Cross-Sectional coefficient covariance was applied to the FEM model to tackle heteroscedasticity problem. The heteroscedasticity may affect the distribution of coefficients increasing the variances of the distributions and therefore making the estimators of OLS method inefficient. As a result, we may obtain higher t-statistic and F-statistic, making us tends to reject the null hypothesis. According to table 3, the result show that R^2 equals to 0.6754, which indicate that the data fits well to the regression line. Meanwhile, the probability value of F-test is found to be less than 0.01. In conclusion, there is enough evidence that the model is significant at 1% significance level. Based on the result from table 3, we have enough evidence to prove that there is a non-linear relationship between shareholding by management and non-performing loan. The threshold level can be found by using the following method:

$$B_{sh} + B_{sh^2}(SH) = 0$$

For B_{sh} , it equals to 12.9544, and the value of B_{sh^2} is -13.2427. Thus, the threshold level is can be computed by doing some simple algebra:

$$SH = \frac{B_{sh}}{B_{sh^2}}, \quad SH = \frac{12.9544}{13.2427} = 0.9782$$

Eventually, we get result of threshold level which is at 0.9782 equivalents to 97.82%. In simple words, if the percentage of shares held by management is less than 97.82%, it signals a positive relationship between two variables. In contrary, if management held the company's share is more than 97.82%, it will become negatively related between two variables.

DISCUSSION

According to table 3, all the variables are found to have significant influence to the default risk of shadow banks, except for collateral intermediation (CI). This is contradicting to the finding of Isa and Rashid (2014), which found that the DSD and CI tend to increase the shadow banks' default risk as it grows, based on REM approach. According to our result, the deposit of securitized debt is the variables that had significant relationship with non-performing loan and it is negatively related. The result showing an increase in deposits of securitized debt reduces the non-performing loan is in line with the study done by Casu et. al. (2010) which showed that the increase in securitization will result in greater credit risk exposure which causes the banks to become risk averse and leads them to shift their portfolio to lower risk. A negative relationship between them is also shown in studies done by Jiangli and Pritsker (2008) and Cebenoyan and Strahan (2004). The contradictory could be a result of quality of assets. As Carey (1998) discovered securitizing an asset of lower quality can increase the possibility of non-performing loan.

A negative relationship between debt-to-equity and non-performing loan is also found in this research. Ghosh (2005) proposed that leverage ratio is negatively associated to non-performing loan especially when the bank is highly leveraged because it influences the banks to decrease their credit supply. This is mainly due to a higher leverage increases the vulnerability of banks towards default risk as it adds more weaknesses and uncertainties to the operation of the banks, thereby banks choose to decrease credit supply and lower risk of default. We also find that there the NPL tend to be lower during Financial Crisis, which is out of our expectation. However, Bernanke and Gertler (1989), and Kiyotaki and Moore (1997) state that a change in aggregate economic activity causes changes in investment, spending and production over business cycle and then it reduce credit supply in the market. Due to inverse relation between output changes and the external finance premium, borrowing becomes more difficult and/or expensive during financial crisis (recession) than during the expansionary phase. This in turn amplifies the fluctuations in investment, spending and production over business cycles. As a result, the happening of financial crisis reduces the loan provided in the market, hence, lower possibility of non-performing loan.

We identified a non-linear relationship between shareholding owned by management and shadow bank's non-performing loan. According to our result, the non-performing loan tends to increase in the same direction with shareholding owned by management until it meets certain threshold level at 97.82% and then the non-performing loan starts to fall down when the shareholding owned by management exceeded the threshold. Sullivan and Spong (2007) have concluded that the stock ownership of managers for the banks is positively related with the bank risk, where they argue that bank managers could operate the banks for their own benefit under certain circumstances. Hu et al. (2004) also found an increasing of the shareholding will lead to the greater non-performing loan in private firm. As a result, the management become more aggressive operating strategy and led to a higher non-performing loan in the banks. On the other hand, Zakaria (2015) found that a higher concentration of ownership will bring more intervention from the owner or the management side. Therefore, the management could thus become more conservative when the shareholding by management is overwhelmed.

CONCLUSION

The main objectives of our research are focusing on the factor that stimulates the default risk of 11 shadow bank in Malaysia from 2005 to 2015. Based on empirical results, that shareholding by management has significant positive impact on NPLs until management's shareholding reached 97.82%. Due to the nature of Malaysia's shadow banks industry, where majority of DFI and ODFIs are establish with a specific mission to develop key economic sectors, most shadow banks are actually owned by the government, hence the shareholding by company directors are commonly low. In short, the agency problem would not be a main concern for Malaysia's shadow banking industry as increase in shareholding does not increase risk management efficiency. On the other hand, it is more advisable to incentives the managers based on methods, instead of Employee Stock Ownership Plan (ESOP).

Considered banks as a deposit collector, higher deposit from the public increase it debt-to-equity ratio, implied its high credibility and stability. However, we also concern about the rising interconnectedness between shadow bank and traditional bank when the leverage ratio of shadow banks is increasing staggeringly. An overwhelmed leverage ratio in shadow bank could indicate a possibility of regulatory arbitrage, where traditional bank borrow its capital to shadow bank in order to gain higher profit. We suggest the shadow bank regulator of Malaysia to pay attention to OFI with unusual high/low leverage ratio and to pay specific attention to the source of debts of shadow bank. Policy makers should also beware of the impact of housing loan to the default risk of shadow banks. Housing bubble is usually a catalyst for the growth of shadow banks and brings enormous damage as it burst. Shadow banks are encouraged to take initiatives in deriving a more appropriate approach to impose stringent rules in order to control the approval of new housing loan, such as FICO credit scores to evaluate borrowers' creditability. The supervisory board should also not take their eyes away from the housing/ real estate market, as the surge in housing price may increase the speculative activities and causing threats to financial stability. The BNM and security commission is recommended to require more shadow banks to disclose its data, in order to better investigate and understand the issues.

According to Kucukkocaoglu and Altintas (2014), there are many drawbacks in using non-performing loan ratios to measure the risk of shadow banking sector as it underestimated portfolio losses and ignored the issue of transferring non-performing loans from bank's balance sheet to asset management companies. Therefore, using NPL as a proxy of default risk has its flaws. We should also note that our study has limitation to include certain shadow banks in Malaysia in our study. The development financial institution only represents a part of shadow bank. We are restricted from capturing special purpose vehicle (SPV) and off balance sheet vehicles hatched by shadow banks into our study, including the fintech firms which emerge in recent years. The fintech firm is an emerging fraction of shadow bank industry in recent year, but its impact is yet to be fully understood. The future study should develop better methodologies to measure the risk and interconnectedness in shadow banking industry. With the current growth of finteh firms, shadow banking industry in Malaysia is expected to grow more rapidly, we hope the future researcher would put more focus on it when the data become available.

REFERENCE

- Akwaa-Sekyi, E. K., & Moreno Gené, J. (2016). Effect of internal controls on credit risk among listed Spanish banks. *Intangible Capital*, 12(1), 357–389. <https://doi.org/10.3926/ic.703>
- Adjei-Mensah, G., Amidu, M., & Abor, J. Y. (2015). Executive Compensation, Ownership Structure and Loan Quality of Banks in Ghana. *African Development Review*, 27(3), 331–341. <https://doi.org/10.1111/1467-8268.12151>
- Adrian, T., & Shin, H. S. (2010). Liquidity and leverage. *Journal of Financial Intermediation*, 19(3), 418–437. <https://doi.org/10.1016/j.jfi.2008.12.002>
- Acharya, V. V., Schnabl, P., & Suarez, G. (2010). Securitization without risk transfer. *Journal of Financial Economics*, 107(3), 515–536.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Ashcraft, Adam B. and Schuermann, Til, Understanding the Securitization of Subprime Mortgage Credit (March 2008). Wharton Financial Institutions Center Working Paper No. 07-43; FRB of New York Staff Report, No. 318. <http://dx.doi.org/10.2139/ssrn.1071189>
- Bank Negara Malaysia. (2011). Financial Stability and Payment System Report 2011.
- Bank Negara Malaysia. (2016). Financial Stability and Payment System Report 2016.
- Bernake, B., & Gertler, M. (1989). American Economic Association. *The American Economic Review*, 79(3), 14–31.
- Bernstein, D. (1996). Asset Quality and Scale Economies in Banking. *Journal of Economics and Business*, 48, 157–166.
- Buchak, G., Matvos, G., Piskorski, T., & Seru, A. (2017). Fintech, regulatory arbitrage, and the rise of shadow banks. *NBER Working Paper Series*, 76.
- Casu, B., Clare, A., Sarkisyan, A., & Thomas, S. (2010). Does securitization reduce credit risk taking? Empirical evidence from US bank holding companies. *The European Journal of Finance*, 17(9–10), 769–788.
- Carey, M. (1998). Credit risk in private debt portfolios. *Journal of Finance*, 53(4), 1363–1387.
- Cantor, R., & Rouyer, S. (2000). Another Perspective on Credit Risk Transfer and Asset Securitization. *The Journal of Risk Finance*, 1(2), 37–47.
- Cebenoyan, S. A., & Strahan, P. E. (2004). Risk Management, Capital Structure and Lending at Banks. *Journal of Banking and Finance*, 28, 19–43.
- Crockett, A., & Cohen, B. H. (2001). Financial markets and systemic risk in an era of innovation. *International Finance*, 127, 137–38.
- Dell’Ariccia, G., Igan, D., & Laeven, L. A. (2009). Credit Booms and Lending Standards: Evidence from the Subprime Mortgage Market. *Journal of Money, Credit and Banking*, 44(2–4), 367–384.
- Elliott, D., Kroeber, A., & Qiao, Y. (2015). Shadow banking in China: A primer. *Economic Studies at Brookings*, 3, 1–7.
- Eichner, M., D. Kohn, and M. Palumbo. (2010). Financial Statistics for the United States and the Crisis: What Did They Get Right, What Did They Miss, and How Should They Change? *System Finance and Economics Discussion Series*, 20.
- Financial Stability Board. (2013). *Global Shadow Banking Monitoring Report 2013*.
- Finocchiaro, D., Nilsson, C., Nyberg, D., & Soutanaeva, A. (2011). Household Indebtedness , House Prices and the Macroeconomy: A Review of the Literature. *Sveriges Riksbank Economic Review*, 6–28.
- Ghosh, S. (2005). Does leverage influence banks’ non-performing loans? Evidence from India. *Applied Economic Letters*, 12(2), 913–918.
- Ghosh, S., Gonzalez M. I., & Otker-Robe, I. (2012). Chasing the shadows: How significant is shadow banking in emerging markets? *Economic Premise*, 88.
- Greenbaum, S. I., & Thakor, A. V. (1987). Bank funding modes. Securitization versus deposits. *Journal of Banking and Finance*, 11(3), 379–401.

- Hess, A. C., & Smith, C. W. (1988). Elements of Mortgage Securitization. *The Journal of Real Estate Finance and Economics*, 1, 331–346.
- Heffernan, S. (2005). Modern banking in theory and practice. *Long Range Planning*, 29.
- Hu, J.-L., Li, Y., & Chiu, Y.-H. (2007). Ownership and Nonperforming Loans: Evidence from Taiwan's Banks. *The Developing Economies*, 42(3), 405–420. <https://doi.org/10.1111/j.1746-1049.2004.tb00945.x>
- Isa, M. Y. M., & Rashid, M. Z. H. A. (2014). Shadow Banking Credit Intermediation : Determinants of Default Risk in Securitization and Collateralization. *Journal of Modern Accounting and Auditing*, 10(11).
- Jiangli, W., & Pritsker, M. (2008). The impacts of securitization on U.S. bank holding companies. *Proceedings*, 3, 1–58.
- Jovic, Z. (2017). Determinants of credit risk - the case of Serbia. *Economic Annals*, 62(212), 155–188.
- Keys, B. J., Mukherjee, T. K., Seru, A., & V, V. (2010). Did Securitization Lead to Lax Screening? Evidence from Subprime Loans. *Quarterly Journal of Economics*, 125.
- Kiyotaki, N., & Moore, J. (1997). Credit Cycles. *Journal of Political Economy*, 105(2), 211–248. <https://doi.org/10.1086/262072>
- Khemraj, T., & Pasha, S. (2009). Determinants of non-performing loans in licensed commercial banks: Evidence from Sri Lanka. *Asian Economic and Financial Review*, 8.
- Kucukkocaoglu, G., & Altintas, M. A. (2016). Using non-performing loan ratios as default rates in the estimation of credit losses and macroeconomic credit risk stress testing: A case from Turkey. *Risk Governance and Control: Financial Markets and Institutions*, 6(1), 52–63.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2002). Investor protection and corporate valuation. *Journal of Finance*, 57(3), 1147–1170. <https://doi.org/10.1111/1540-6261.00457>
- Luttrell, D., Rosenblum, H., & Thies, J. (2012). *Understanding the Risks Inherent in Shadow Banking: A Primer and Practical Lessons Learned*. Federal Reserve Bank of Dallas Staff Papers.
- Meeks, R., Nelson, B., & Alessandri, P. (2013). *Shadow banks and macroeconomic instability*. Banca d'Italia Working Paper series No. 939.
- Mian, A. ., & Sufi, A. (2009). The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis. *Quarterly Journal of Economics*, 124(4), 1449–1496.
- Novaes, W., & Werlang, S. (1995). Inflationary bias and state-owned financial institutions. *Journal of Development Economics*, 47(1), 135–154. [https://doi.org/10.1016/0304-3878\(95\)00007-0](https://doi.org/10.1016/0304-3878(95)00007-0)
- Pavel, C., & Philis, D. (1987). Why Commercial Banks Sell Loans: An Empirical Analysis. *Federal Reserve Bank of Chicago Economic Perspectives*, 11(3), 3–14.
- Plantin, G. (2012). *Shadow banking and bank capital regulation*. Retrieved from <http://www.gplantin.net/ShadowRegul.pdf>.
- Rashid, R. N., Azid, T., & Malik, S. (2014). Microeconomic Determinants of Credit Risk Management in Pakistan : A Case Study of Banking Sector Abstract : *Pakistan Journal of Social Sciences (PJSS)*, 34(1), 177–192.

- Singh, M. (2011). Velocity of Pledged Collateral: Analysis and Implications. *IMF Working Papers*, 11(256), 1.
- Sorge, M. (2004). *Stress-testing financial systems: an overview of current methodologies*. *BIS Working Papers No 165*. Retrieved from <https://doi.org/10.2139/ssrn.759585>
- Sullivan, R. J., & Spong, K. R. (2007). Manager wealth concentration, ownership structure, and risk in commercial banks. *Journal of Financial Intermediation*, 16(2), 229–248.
- Schleifer, A. (2010). Comments on Gorton and Metrick: Regulating the Shadow Banking System. *Brookings Papers on Economic Activity*, 2, 298–303.
- Wan, J. (2015). *Non-performing Loans in Housing Bubbles*. Retrieved from <https://doi.org/10.13140/RG.2.1.2135.3049>
- Zakaria. (2015). The link between ownership structure , Loan to Deposit Ratio Nonperforming Loan and Return on Equity: evidence from the Indonesian banking industry. *International Journal of Humanities and Social Science Invention*, 4(5), 39–44.

The Impact of Energy Efficiency, CO₂ Emissions, FDI and Exports on Malaysian Real GDP at Aggregated and Disaggregated Levels

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Abstract

This paper empirically examines the relationship between energy efficiency, CO₂ emissions, foreign direct investment, exports and real GDP at both aggregated and disaggregated levels in Malaysia based on ARDL approach. The results based on annual data of 1971-2013 indicate that energy efficiency Granger causes economic growth at the aggregated level but not in each of the three main sectors (primary, secondary and tertiary) of the economy. Another important finding of the study is that export-led growth hypothesis is found to be valid in Malaysia at both the aggregated and disaggregated levels. The results of our study also confirm the fact that CO₂ emissions do affect the overall economic performance and growth in all sectors, except agricultural industry. This finding implies that pollution from both the secondary and tertiary sectors has led to economic growth in Malaysia. Surprisingly, it is also discovered that FDI does not have a significant impact on economic growth in Malaysia. The results of this study can be of great importance to the policy makers of Malaysia to design appropriate policies for each of the three main sectors that can lead to robust growth in the country. Instead of focusing on enhancing energy efficiency and promoting FDI that do not seem to contribute to growth, decision makers should now start to look for alternative strategies to ensure long-term economic growth in the country.

Keywords: Energy efficiency, Aggregated level, Disaggregated level, Real GDP, ARDL bounds test, Malaysia.

INTRODUCTION

The current extreme climatic condition that reduces food supply and threatens coastal cities could cause an additional 100 million people in the world to suffer from poverty by 2030 (World Bank 2016). An accelerating global energy demand particularly on fossil fuels over the years has created great pressures on the environment. The burning of fossil fuels is the main human activity that has led to climate change. According to the World Bank (2016), to improve energy efficiency is one of the most effective ways in achieving the objective of carbon dioxide (CO₂) reduction. Despite various international attempts (e.g. Kyoto Protocol) made so far to mitigate the problem of global warming, little success has been achieved in reducing greenhouse gases worldwide. In many cases, the failure of these international climate change negotiations is mainly due to the fact that developing countries are sceptical and reluctant to commit to binding emissions constraints set as they fear of a trade-off between energy efficiency and economic growth. In other words, the developing nations are facing a dilemma of how to achieve continuous growth while reducing emissions simultaneously. As a developing nation, Malaysia is encountering the same problem as other developing countries do.

The issue concerning how efficiently energy has been used in Malaysia is critical due to two main reasons. First, because of rising energy demand and gradual depletion of local reserves of resources such as oil, the country would need to rely on imported energy sources particularly coal for energy production. However, it is risky to depend on foreign supply of coal for 40 per cent of energy used in electricity production (Bujang et al. 2016). The dependency on imported coal would expose Malaysia to the risks of supply interruption and price fluctuations. By improving energy efficiency, it is expected that the country's dependency on foreign resources can be minimised. Second, Malaysia has been relying on fossil-based energy

sources such as coal and oil that contribute to the emissions of greenhouse gases. According to Safaai et al. (2011), 285.73 million tonnes of CO₂ will be emitted in Malaysia by 2020, 68.86 per cent higher than in 2000, if nothing is done to reduce CO₂ emissions. It is also predicted that CO₂ emissions in the country will triple by 2030 as compared to its magnitude in 2004 (Gan and Li 2008). It is believed that a reduction in CO₂ emissions can be achieved by increasing energy efficiency in the country.

In view of the above reasons of environmental protection and national security, it is vital for Malaysia to achieve high energy efficiency while moving towards the realization of the goal of becoming a high income nation. However, the question is, can energy efficiency be achieved without retarding economic performance in Malaysia? If energy efficiency is not realised at the expense of economic growth, there would be no issue to implement both the environmental protection policies and growth strategies simultaneously in the country. Otherwise, we would need to think of other alternatives to achieve the dual goals of clean environment and steady economic performance at the same time. To our best of knowledge, there has never been a study on the relationship between energy efficiency and economic growth exclusively for Malaysia. This study, therefore, attempts to fill the gap by investigating the impact of energy efficiency on economic performance of Malaysia by considering CO₂ emissions, exports and foreign direct investment (FDI) as control variables. By employing time series data from 1971 to 2013 using autoregressive distributed lag (ARDL), we explore the relationship between energy efficiency and economic growth with the presence of CO₂ emissions, exports and FDI. Specifically, the study aims to examine the extent to which energy efficiency contributes to economic growth in each of the three main sectors (primary, secondary and tertiary) in Malaysia.

LITERATURE REVIEW

In recent years, increasing attention has been paid to the role of energy efficiency in affecting economic growth. Investigating the relationship between economic growth and energy efficiency is crucial as an improvement in energy efficiency contributes to increased firms' productivity that will in turn lead to higher economic growth. According to a hypothesis by Porter and van der Linde (1995), energy efficiency may enhance productivity because firms are able to adopt new technologies and innovative processes following a saving in energy costs. Most importantly, improved energy efficiency is expected to reduce the environmental costs of higher economic growth.

Most of the existing literature concerning the relationship between energy and economic growth focus on examining the energy consumption-growth nexus. These studies include Ang (2007), Lee and Chang (2008), Zhang and Cheng (2009), and Borozan (2013). More recently, Sohag et al. (2015) applied the ARDL bounds testing approach to examine the relationships among energy use, technological innovation, economic growth and trade openness in Malaysia for the period 1985-2012. The results indicate that economic growth and trade openness lead to a rebound effect of technological innovation on energy consumption. Researches on the link between energy intensity / energy efficiency and economic growth remain scarce. For instance, Cantore et al. (2016) examine the impact of energy efficiency on economic growth at both micro- (total factor productivity) and macro-level (overall economic growth) in 29 developing countries. Whether at micro- or macro- level, energy efficiency is found leading to better economic performance. In other words, trade-off does not exist between energy efficiency and economic growth in low- and middle-income countries. The findings of the study further suggest that both environmental mitigation policies and growth strategies can be implemented simultaneously without affecting economic performance in these countries.

A vast amount of researches have been done on the growth-pollution nexus ever since the pioneering research by Grossman and Krueger (1991). Two possible relations are found. First, economic growth may be treated as both the cause and the cure for pollution problem. In relation to this, many empirical studies such as Dijkgraaf and Vollebergh (1998), Kristrom and Lungren (2003), Galeotti et al. (2005), Jalil and Mahmud (2009), and Apergis and Ozturk (2015) have found an inverted U-shaped curve of pollution relative to income which is known as "Environmental Kuznets Curve (EKC)". The curve indicates that emission tends to increase at

lower levels of income and then reduce at higher levels of income. As countries get richer, they experience structural change in the economy towards less polluting sectors and at the same time adopt cleaner technologies that help to reduce pollution. However, there are exceptions to the usual inverted-U relationship in the empirical literature.

There are two possible explanations that can be put forward in figuring out the negative relationship between CO₂ emission and economic growth based on the existing literature. First, some researchers like Stern et al. (1996), Lean and Smyth (2010), and Borhan et al. (2012) argue that if the issue of environmental degradation is not taken care of, then negative externalities brought about by pollution problem may reduce human health and the quality of industrial equipment, and in turn lead to a decline in productivity in the long run. This is the reason why income declines as environmental degradation deteriorates. Another reason that can explain the negative relationship between CO₂ emissions and income has been pointed out by Coondoo and Dinda (2002) who suggest that as income reaches a threshold level, decreasing emissions would be associated with income growth. Some specific conditions are required for the realisation of this relationship. For countries to experience low emission with high growth, they may need to undergo a structural change from emission-intensive manufacturing to less emission-intensive services in the economy. Another condition under which the negative relationship may emerge is that the conventional fossil fuel is replaced with less polluting energy resources, even if a country's economy continues to be manufacturing-intensive.

There has been an abundance of research on examining the relationship between foreign direct investment (FDI) and economic growth. However, mixed results of these studies indicate that the relationship between the two variables remains controversial. Some studies report a positive effect (Buckley et al. 2007; Abbes et al. 2015; Amri 2016) while others show a negative or null effect of FDI on economic growth (Meyer 2004; Coric and Pugh 2013; Gui-Diby 2014). To conclude, in most cases, studies that involved solely developed economies produce a significantly positive relationship between FDI and economic growth. For instance, studies by Barry and Bradley (1997) on Ireland, Liu et al. (2000) on the United Kingdom and Schneider (2005) on some rich nations have proven the positive relationship. On the other hand, researches done on developing countries show mixed results with some showing a direct link between FDI and growth (Lim 2001; Hansen and Rand 2006; Omer and Yao 2011) while others prove no significant impact of FDI on productivity in the host countries (Akinlo 2004; Schneider 2005; Ran Voon and Li 2007; Mah 2010; Tekin 2012; Kinuthia and Murshed 2015).

Hundreds of researches have been conducted to study the exports-growth nexus in the last two decades in different nations. According to Giles and Williamson (2000), the causal link between economic growth and exports can be grouped into four categories after surveying more than 150 related papers. First of all, a unidirectional causal relationship can go from exports to growth, and the reverse (unidirectional causality from growth to exports) is also possible. Furthermore, bidirectional causality between the two variables is discovered too in the existing literature. The fourth possibility is that another factor can be the determinant of both. In other words, there is no clear agreement on whether exports cause growth or growth stimulates exports. However, majority of the early studies using cross-section data support the former.

Based on the export-led growth hypothesis, exports lead to economic growth (Balassa 1978; Edwards 1998; Lean and Smyth 2009; Pistorresi and Rinaldi 2012). There are few reasons that can explain why export activities and trade openness are key factors for economic growth. For instance, export expansion stimulates the production of more goods for exports. Due to this, firms will be able to engage in specialisation that makes the exploitation of economies of scale and country's comparative advantages possible. Moreover, stiff foreign market competition encourages technological innovation in the domestic country. In addition, the foreign exchange earned from exports enables countries to raise imports of capital goods as well as technologies and in turn further increases production and income. However, the arguments for exports-led-growth hypothesis has been criticised by a group of researchers who believe in inward oriented trade policies instead of outward oriented trade policies. They argue that exports are not able to lead to growth due to a few reasons. The reasons given include deteriorating terms of trade and inefficient demand on products manufactured by less developed countries (Prebisch 1962), unequal exchange (Emmanuel 1972) as well as

unpredictable global market (Jaffe 1985). In addition, a more recent study by Tang et al. (2015) confirms the instability of export-led growth hypothesis in Asia's Four Little Dragons. The authors further suggest that the four economies should reduce their dependency on exports in order to ensure continuous growth.

In contrast, economic growth has an impact on trade too. This is considered as the link between outward orientation and growth (Edwards 1993). In empirical studies, however, exports are used as a measurement for the policy of outward orientation. Economic growth may cause an increase in exports due to improvements in domestic labour skills and technologies (Love and Chandra 2004; Reppas and Christopoulos 2005; Gokmenoglu et al. 2015).

DATA AND METHODOLOGY

This study uses the annual data for Malaysian economic indicators over the period from 1971 to 2013. These data are obtained from the World Development Indicators (WDI), published by the World Bank. Among the Malaysian economic indicators, this study uses the gross domestic product (GDP) per capita based on 2010 constant prices (US Dollar) to represent as the aggregated production. To categorize the real GDP per capita for different types of production sector (primary, secondary and tertiary), the value added per capita based on 2010 constant prices (US Dollar) is used to represent the disaggregated production. In this regard, both variables are our dependent variables.

For independent variables, this study uses the net export of goods and services at constant price in 2010 (US Dollar), net inflow of foreign investment (per cent of GDP), and carbon dioxide emission (metric tonnes per capita). To further seek whether the performance of production contributes to significant effect on the economic performance, energy productivity is computed by using Equation (1) as a ratio of GDP per capita to energy consumption (kilogram of oil equivalent per capita) and included as an independent variable.

$$\text{Energy productivity} = \text{Real GDP per capita} / \text{Energy consumption} \quad (1)$$

There are three steps involved in modeling the autoregressive distributed lag (ARDL) model. The first step is to examine the existence of long-run relationship among variables based on an estimation of error correction version of the ARDL model (or an unrestricted error correction model, UECM). This model consists of short-run (differenced) variables and long-run (level) variables (Equations (2a)-(2d)).

For aggregated level:

$$\Delta RGDP_t = \beta_0 + \beta_1 RGDP_{t-1} + \beta_2 EX_{t-1} + \beta_3 FDI_{t-1} + \beta_4 CO_{2t-1} + \beta_5 EP_{t-1} + \sum_{i=1}^p \alpha_{1,i} \Delta RGDP_{t-i} + \sum_{i=0}^q \alpha_2 \Delta EX_{t-i} + \sum_{i=0}^r \alpha_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \alpha_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \alpha_5 \Delta EP_{t-i} + u_t \quad (2a)$$

For disaggregated level:

$$\Delta RGDP_{1,t} = \beta_0 + \beta_1 RGDP_{1,t-1} + \beta_2 EX_{t-1} + \beta_3 FDI_{t-1} + \beta_4 CO_{2t-1} + \beta_5 EP_{t-1} + \sum_{i=1}^p \alpha_{1,i} \Delta RGDP_{1,t-i} + \sum_{i=0}^q \alpha_2 \Delta EX_{t-i} + \sum_{i=0}^r \alpha_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \alpha_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \alpha_5 \Delta EP_{t-i} + u_t \quad (2b)$$

$$\Delta RGDP_{2,t} = \beta_0 + \beta_1 RGDP_{2,t-1} + \beta_2 EX_{t-1} + \beta_3 FDI_{t-1} + \beta_4 CO_{2t-1} + \beta_5 EP_{t-1} + \sum_{i=1}^p \alpha_{1,i} \Delta RGDP_{2,t-i}$$

$$+ \sum_{i=0}^q \alpha_2 \Delta EX_{t-i} + \sum_{i=0}^r \alpha_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \alpha_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \alpha_5 \Delta EP_{t-i} + u_t$$

$$(2c) \quad \Delta RGDP_{3,t} = \beta_0 + \beta_1 RGDP_{3,t-1} + \beta_2 EX_{t-1} + \beta_3 FDI_{t-1} + \beta_4 CO_{2t-1} + \beta_5 EP_{t-1} + \sum_{i=1}^p \alpha_{1,i} \Delta RGDP_{3,t-i}$$

$$+ \sum_{i=0}^q \alpha_2 \Delta EX_{t-i} + \sum_{i=0}^r \alpha_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \alpha_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \alpha_5 \Delta EP_{t-i} + u_t$$

(2d)

where, $RGDP$ is the ln real GDP per capita; $RGDP_1$ is the ln value added per capita for agriculture sector; $RGDP_2$ is the ln value added per capita for manufacturing sector; $RGDP_3$ is the ln value added per capita for service sector; EX is the ln net export of goods and services; FDI is the ln net inflow of foreign direct investment; CO_2 is the ln carbon dioxide emission; EP the ln energy productivity; Δ is the first-difference operator; orders of an ARDL (p, q, r, s, v) are restricted to two; and u_t is a white-noise disturbance term.

To discern the long-run relationship between the concerned variables, the Wald F test is used to impose restrictions on the estimated parameters of lagged level of variable (EX_t, FDI_t, CO_2, EP_t) in Equations (2a)-(2d). The null and alternative hypotheses of testing are stated as follows:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0 \text{ (There is no long-run level relationship)}$$

$$H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0 \text{ (There is a long-run level relationship)}$$

Pesaran et al. (2001) develop a statistical table that consists of two sets of critical value for the F-statistic at the 1 per cent, 5 per cent and 10 per cent of significance levels, respectively. With integrated order of a series whether zero or one, lower critical bound (LCB) is used for explanatory variables that follow an integrated order zero process ($I(0)$), while upper critical bound (UCB) is used for explanatory variables that follow an integrated order one process ($I(1)$). They calculate critical values based on large sample sizes of 500 and 1,000 observations, and 2,000 and 40,000 replications, respectively. However, Narayan and Narayan (2005) and Narayan (2005) state that the use of these critical values for small sample size contributes to misleading results. To overcome such problem, Narayan (2005) uses a similar GAUSS code by Pesaran et al. (2001) to generate a new set of critical values for small sample sizes ranging from 30 to 80 observations. Since the number of observations for the data in this study is small, Narayan's (2005) LCB and UCB are used to compare the computed test statistic value. If the F test statistic exceeds the UCB, the null hypothesis of no long-run relationship is rejected. This concludes in favor of a long-run relationship. If the F test statistic below the LCB, the null hypothesis is not rejected. If the F test statistic falls within the two bounds, the test will be inconclusive.

When cointegration is established, the second step is to obtain the long-run and short-run models based on the following tentative model for ARDL level relation (shown from Equations (3a)-(3d)). The orders of an ARDL (p, q, r, s, v) specification in the level form of variables (EX_t, FDI_t, CO_2, EP_t) are restricted to 2 based on the minimum Schwarz Information Criterion (SIC). This criterion is advisable to define a more parsimonious specification.

$$\text{For aggregated level:} \quad RGDP_t = \theta_0 + \sum_{i=1}^p \theta_{1,i} RGDP_{t-i} + \sum_{i=0}^q \theta_{2,i} EX_{t-i} + \sum_{i=0}^r \theta_{3,i} FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} EP_{t-i} + \varepsilon_t$$

(3a)

For disaggregated level:

$$RGDP_{1,t} = \theta_0 + \sum_{i=1}^p \theta_{1,i} RGDP_{1,t-i} + \sum_{i=0}^q \theta_{2,i} EX_{t-i} + \sum_{i=0}^r \theta_{3,i} FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} EP_{t-i} + \varepsilon_t$$

(3b)

$$RGDP_{2,t} = \theta_0 + \sum_{i=1}^p \theta_{1,i} RGDP_{2,t-i} + \sum_{i=0}^q \theta_{2,i} EX_{t-i} + \sum_{i=0}^r \theta_{3,i} FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} EP_{t-i} + \varepsilon_t \quad (3c)$$

$$RGDP_{3,t} = \theta_0 + \sum_{i=1}^p \theta_{1,i} RGDP_{3,t-i} + \sum_{i=0}^q \theta_{2,i} EX_{t-i} + \sum_{i=0}^r \theta_{3,i} FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} EP_{t-i} + \varepsilon_t$$

(3d)

Based on Equations (3a)-(3d), the following long-run elasticities are derived for aggregate and disaggregate levels, respectively.

Long-run constant:

$$(4a) \quad \omega_0 = \frac{\theta_0}{1 - \sum_{i=1}^p \theta_{1,i}}$$

Long-run net export elasticity:

$$\omega_1 = \frac{\sum_{i=0}^q \theta_{2,i}}{1 - \sum_{i=1}^p \theta_{1,i}}$$

$$(4b) \quad \omega_2 = \frac{\sum_{i=0}^r \theta_{3,i}}{1 - \sum_{i=1}^p \theta_{1,i}}$$

Long-run net inflow of investment elasticity:

$$(4c) \quad \omega_3 = \frac{\sum_{i=0}^s \theta_{4,i}}{1 - \sum_{i=1}^p \theta_{1,i}}$$

Long-run CO2 emissions elasticity:

$$(4d) \quad \omega_4 = \frac{\sum_{i=0}^v \theta_{5,i}}{1 - \sum_{i=1}^p \theta_{1,i}}$$

Long-run energy productivity elasticity:

(4e)

The resulted in the choice of ARDL (p, q, r, s, v) specification with the long-run elasticities of EX_t, FDI_t, CO_2 and EP_t ($\omega_1, \omega_2, \omega_3, \omega_4$) are given by Equations (5a)-(5d).

For aggregated level:

$$RGDP_t = \omega_0 + \omega_1 EX_t + \omega_2 FDI_t + \omega_3 CO_{2t} + \omega_4 EP_t + \varepsilon_t$$

(5a)

For disaggregated level:

$$RGDP_{1,t} = \omega_0 + \omega_1 EX_t + \omega_2 FDI_t + \omega_3 CO_{2t} + \omega_4 EP_t + \varepsilon_t$$

$$(5b) \quad RGDP_{2,t} = \omega_0 + \omega_1 EX_t + \omega_2 FDI_t + \omega_3 CO_{2t} + \omega_4 EP_t + \varepsilon_t$$

$$(5c) \quad RGDP_{3,t} = \omega_0 + \omega_1 EX_t + \omega_2 FDI_t + \omega_3 CO_{2t} + \omega_4 EP_t + \varepsilon_t$$

(5d)

After obtaining the long-run relation, the ECM framework in first differences associates with the long-run estimates is specified as Equations (6a)-(6d). To capture the short-run effects, the coefficients for the first-differenced variables are used. Furthermore, one lagged error correction term (ECT_{t-1}) is used to measure the speed of adjustment towards disequilibrium level in the short run.

$$\Delta RGDP_{1,t} = \theta_0 - \left(1 - \sum_{i=1}^p \theta_{1,i}\right) ECT_{t-1} + \sum_{i=1}^p \theta_{1,i} \Delta RGDP_{1,t-i} + \sum_{i=0}^q \theta_{2,i} \Delta EX_{t-i} + \sum_{i=0}^r \theta_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} \Delta EP_{t-i} + \varepsilon_t$$

(6a)

$$\Delta RGDP_{1,t} = \theta_0 - \left(1 - \sum_{i=1}^p \theta_{1,i}\right) ECT_{t-1} + \sum_{i=1}^p \theta_{1,i} \Delta RGDP_{1,t-i} + \sum_{i=0}^q \theta_{2,i} \Delta EX_{t-i} + \sum_{i=0}^r \theta_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} \Delta EP_{t-i} + \varepsilon_t$$

$$\Delta RGDP_{2,t} = \theta_0 - (1 - \theta_1) ECT_{t-1} + \sum_{i=1}^p \theta_{1,i} \Delta RGDP_{2,t-i} + \sum_{i=0}^q \theta_{2,i} \Delta EX_{t-i} + \sum_{i=0}^r \theta_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} \Delta EP_{t-i} + \varepsilon_t$$

$$\Delta RGDP_{3,t} = \theta_0 - \left(1 - \sum_{i=1}^p \theta_{1,i}\right) ECT_{t-1} + \sum_{i=1}^p \theta_{1,i} \Delta RGDP_{3,t-i} + \sum_{i=0}^q \theta_{2,i} \Delta EX_{t-i} + \sum_{i=0}^r \theta_{3,i} \Delta FDI_{t-i} + \sum_{i=0}^s \theta_{4,i} \Delta CO_{2t-i} + \sum_{i=0}^v \theta_{5,i} \Delta EP_{t-i} + \varepsilon_t$$

(6d)

The third step is to determine the short-run directions of causality. To test the short-run causality, the null hypothesis is formed to state that set of interested coefficients of $\phi_1, \phi_2, \phi_3, \phi_4$ and ϕ_5 in Equations (6a)-(6d) are insignificantly different from zero, indicating that no short-run causality between the variables (Engle and Granger 1987). The greater Wald-F test statistic (Equation (7)) than critical value from F distribution ($F_{\alpha, [K_U - K_R], [n - K_U - 1]}$) indicates that the null hypothesis is rejected.

$$F = \frac{[RSS_R - RSS_U] / [k_U - k_R]}{RSS_U / [n - k_U - 1]}$$

(7)

where, RSS_R is the sum square of residuals for restricted model, RSS_U is the sum square of residuals for unrestricted model, K_R is the number of independent variables in restricted model, K_U is the number of independent variables in unrestricted model, and n is the number of observations. To test further the short-run adjustment towards the long-run equilibrium, the coefficient of $(1 - \sum_{i=1}^p \theta_{1,i})$ in Equations (6a)-(6d) are emphasized. The rejection of null hypothesis of this coefficient equal to zero implies that steady state relationship exists between the variables in the long run.

EMPIRICAL RESULTS

Table 1 presents the results of unit root test. The results show that aggregated real GDP per capita, real value added per capita in agricultural sector, real value added per capita in

manufacturing sector, net export and CO₂ emission contain a unit root. While real value added per capita for service sector, FDI and energy productivity are found to be stationary at the level form.

Table 1: Results of Augmented Dickey-Fuller Unit Root Test

	Level		First difference		Order of integration
	Intercept & no trend	Intercept & trend	Intercept & no trend	Intercept & trend	
<i>RGDP</i>	-1.5898(0)	-2.4203(1)	5.5682(0)***	5.6525(0)***	1
<i>RGDP</i> ₁	2.31132(5)	-1.997(5)	6.3157(0)***	-6.317(0)***	1
<i>RGDP</i> ₂	-2.2541(0)	-0.9631(0)	5.7526(0)***	-6.2896(0)	1
<i>RGDP</i> ₃	-1.7413(1)	-3.8036(1)**	3.9525(0)***	-4.0973(0)**	0
<i>EX</i>	-1.7555(0)	0.3308(0)	-5.466(0)***	5.9864(0)***	1
<i>FDI</i>	2.7991(8)*	-2.7583(8)	-2.7754(9)*	-2.4723(9)	0
<i>CO</i> ₂	-0.7106(0)	-2.1831(0)	7.8338(0)***	7.7521(0)***	1
<i>EP</i>	-1.9118(0)	-3.4526(0)*	4.1519(3)***	4.4714(3)***	0

Notes: The auxiliary ADF model with a drift and without deterministic trend is used. The optimal lag length is reported in (). The ADF critical values are based on McKinnon. ***, ** and * indicate the null hypothesis of a series has a unit root is rejected at the 1%, 5% and 10% levels, respectively.

The UECM of aggregated real GDP per capita and respective disaggregated real value added per capita (Equations (2a)-(2d)) are estimated. The robustness of the model is confirmed by Breusch-Godfrey serial correlation Lagrange multiplier (LM) and autoregressive conditional heteroskedasticity (ARCH) tests. These tests indicate that these models are free from autocorrelation and heteroskedasticity problems.

Table 2: Results of Bounds Test for Cointegration Analysis

			F-statistics		
Aggregated level $RGDP = f(EX, FDI, CO_2, EP)$			0.6863		
Disaggregated level					
Agricultural sector : $RGDP_1 = f(EX, FDI, CO_2, EP)$			1.9757		
Manufacturing sector : $RGDP_2 = f(EX, FDI, CO_2, EP)$			2.6064		
Service sector : $RGDP_3 = f(EX, FDI, CO_2, EP)$			3.9611*		
Pesaran et al. (2001) ^a			Narayan (2005) ^b		
Critical value	Lower bound	Upper bound	Critical value	Lower bound	Upper bound
1%	3.74	5.06	1%	4.394	5.914
5%	2.86	4.01	5%	3.178	4.450
10%	2.45	3.52	10%	2.638	3.772

Notes: ***, ** and * indicate that the null hypothesis of no long-run level relationship is statistically rejected at the 1%, 5% and 10% levels, respectively. ^a Critical values are obtained from Pesaran et al. (2001), Table CI (iii) Case III: Unrestricted intercept and no trend, p. 300. ^b Critical values are obtained from Narayan (2005), Table Case III: Unrestricted intercept and no trend, p. 1988.

Based on the adequate models, the bounds cointegration is tested. Table 2 presents the results of the bounds cointegration based on aggregated real GDP per capita, real value added per capita in agricultural sector, real value added per capita in manufacturing sector and real value added per capita in service sector. The computed F-statistic of 3.9611 for real value

added per capita in service sector is greater than the upper critical bound value at the 10 per cent level from either Pesaran et al. (2001) or Narayan (2005), indicating that there is a rejection of null hypothesis of no cointegration. This suggests that the existence of steady-state long-run relationship among real value added per capita in service sector, net export, FDI, CO₂ emission and energy productivity.

From the bounds testing, it demonstrates that the long-run relationship among variables is only established for the case of service sector. The ARDL (1, 1, 0, 0, 2) model is selected to fit the data of value added per capita in service sector. Table 3 shows the diagnostic testing on the selected model. The Breusch-Godfrey serial correlation LM test indicates that the model is free from autocorrelation problem. The ARCH test indicates that the model is free from heteroskedasticity problem. Then, Jarque-Bera test indicates that the error term of model is normally distributed. Lastly, the Ramsey regression equation specification error test indicates that there is no functional form misspecification. Furthermore, plots of cumulative sum (CUSUM) and CUSUM of squares tests in Figure 1 indicate that there is no misspecification and structural instability of long-run and short-run estimated parameters in the sample period. This suggests that the estimated parameters of the model produce reliable estimation.

Table 3: Diagnostic Testing for the Equation of Real Value Added per Capita in Service Sector with ARDL (1, 1, 0, 0, 2)

		Null hypothesis (H_0)	Test statistic	Decision
Breusch-Godfrey correlation LM test	serial	No autocorrelation	4.0187 (0.1341)	Do not reject H_0
ARCH test		Homoscedasticity	0.0586 (0.8087)	Do not reject H_0
JB test		Normality of error term	3.0763 (0.2148)	Do not reject H_0
Ramsey RESET		The model is correctly specified	0.9094 (0.4136)	Do not reject H_0

Notes: LM, Lagrange multiplier; ARCH, autoregressive conditional heteroskedasticity; JB, Jarque-Bera; RESET, Ramsey regression equation specification error test. All p-values are reported in ().

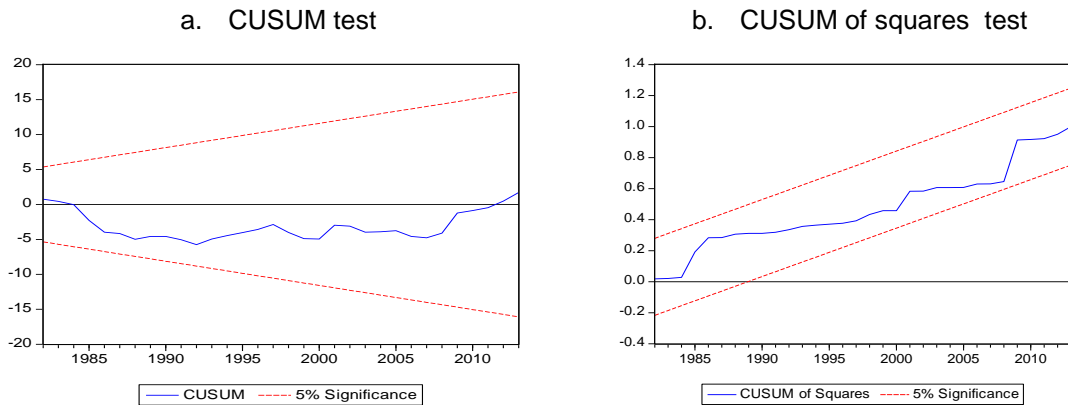


Figure 1: Plot of Cumulative Sum (CUSUM) and CUSUM of Squares Tests for the

Equation of Real Value Added per Capita in Service Sector

Table 4 presents the results of long-run elasticities and short-run causality of real value added per capita in service sector. From the long-run model which explains real value added per capita in service sector, it is evident that net export enters with a positive and significant coefficient throughout, indicating that 1 per cent increase of export leads to 0.2767 per cent increase in real value added per capita for the service sector. The result indicates that export expansion encourages the production of more services such as financial services for the purpose of export in Malaysia. It is in line with previous evidences such as Edwards (1998), Lean and Smyth (2009), and Pistoresi and Rinaldi (2012) who claim that exports activities may help to enhance real GDP per capita.

Meanwhile, an additional percentage increase in net flow of investment significantly reduces real value added per capita for service sector by 0.0363 per cent. This suggests that FDI does not help in promoting growth in the service sector. Worse still, it is harmful to the service sector in Malaysia. The adverse effect of FDI on real value added per capita for service sector can be explained by the fact that Malaysia is still lacking of some important factors such as sufficient human capital and established financial market that can realize a positive relationship between the two variables (Aizenman and Noy 2006). The finding is also supported by Chakraborty and Nunnenkamp (2007) who discover that FDI does not play an important role in contributing to output growth in the services sector.

For CO₂ emission, its additional percentage change significantly increases real value added per capita by 0.5935 per cent. The result is consistent with findings by Coondoo and Dinda (2002) and Dinda (2009) who suggest that better economic performance can sometimes be achieved with more polluted environment. This may also imply that the utilisation of conventional fossil fuel is much more than the less polluting energy resources in Malaysian service sector. However, the result of long-run elasticities shows that the impact of energy productivity on real value added per capita is not significant for service sector. Apparently, energy productivity has no relation to real value added per capita in the service sector. In other words, production volume in the service sector is not affected by its energy consumption per unit of output.

From the error correlation model, short-run impacts of net export, FDI, CO₂ emission and energy productivity on real value added per capita for service sector are further investigated. As indicated in Table 4, net export, CO₂ emission and energy productivity are found to Granger cause the real value added per capita for service sector at 10 per cent level, while FDI provides Granger causality to real value added per capita at the 1 per cent level.

The coefficient value of lagged one ECT is found to have an expected sign and statistically significant at the 1 per cent level. Its coefficient value of -0.3793 indicates that real value added per capita in service sector significantly adjusts by 37.93 per cent within the first year to reduce the deviation from its long-run equilibrium level in the short run. In the case of any internal shock and/or external shock to real value added per capita in service sector, such adjustment requires approximately 3 years in eliminating disequilibrium in the short run.

The bounds testing indicates that there is no existence of steady-state long-run relationship among real GDP per capita, net export, FDI, CO₂ emission and energy productivity for the case of aggregated level. Likewise, the long-run relationship does not exist in agricultural and manufacturing sectors. Table 5 presents the results of dynamic short-run causality among the determinants of real GDP per capita for aggregated level as well as for disaggregated level especially real value added per capita in both agricultural and manufacturing sectors. This can be done by restricting the coefficient of an interested variable with its own lags equal to zero and testing the existence of Granger causality from such variable to real output (real GDP per capita and real value added per capita). The rejection of null hypothesis of no Granger causality indicates that an interested variable Granger causes real output.

For aggregated level, the empirical results indicate that all variables significantly Granger cause real GDP per capita, except FDI. As net exports Granger cause real GDP per capita, it can be concluded that trade activities are important in ensuring a stable and sustainable economy in Malaysia. Other empirical studies such as Kubo (2011) and Hye et al. (2013) also support the export-led growth hypothesis. The fact of Granger causality from CO₂ emission to GDP indicates that the importance of energy emission in stimulating economic growth in Malaysia. Our result does not seem to support the neo-classical assumption that economic growth is unaffected by the use of energy (Hakimi and Hamdi 2016). It is also shown in Table 7 that energy productivity Granger causes economic performance. The result confirms the previous evidence that energy efficiency tends to influence output growth in the economy (Sahu and Narayanan 2011; Cantore et al. 2016).

Table 4: Long-Run Elasticities and Short-Run Causality of Real Value Added per Capita in Service Sector

Long-run elasticities		
Dependent variable: $RGDP_{3,t}$		
	Coefficient	Standard error
Intercept	0.3575	4.0324
EX_t	0.2767*	0.162
FDI_t	-0.0363***	0.0127
$CO_{2,t}$	0.5935**	0.29
EP_t	-0.3583	0.5432
Short-run causality		
Dependent variable: $\Delta RGDP_{3,t}$		
	Coefficient	Standard error
Intercept	0.1356	1.5281
ΔEX_t	-0.2927*	0.1639
ΔFDI_t	0.0363***	0.0127
$\Delta CO_{2,t}$	0.2251*	0.1226
ΔEP_t	0.3109*	0.1665
ECT_{t-1}	-0.3793***	0.0764

Notes: The long-run elasticities are derived using Equations (4a)-(4e) to form Equation (5d). ***, ** and * indicate as statistical significance at the 1%, 5% and 10% levels, respectively.

For both agricultural and manufacturing sectors, all variables are found to be not significant to Granger cause real value added per capita, except net export. This indicates that net export is an important determinant for real value added per capita in the short run. The significance of exports can be proven with the fact that Malaysia has been relying on exports from the agricultural and manufacturing sectors for achieving impressive growth in the past decades.

Table 5: Short-Run Causality of Real GDP per Capita for Aggregated Level and Real Value Added per Capita in Agricultural and Manufacturing Sectors

	Aggregated level	Disaggregated level	
	$\Delta RGDP_t$	Agricultural sector $\Delta RGDP_{1,t}$	Manufacturing sector $\Delta RGDP_{2,t}$
ΔEX_t	5.3418**	4.3509**	11.4615***
ΔFDI_t	0.6940	2.4275	0.8015
$\Delta CO_{2,t}$	3.1521*	0.0848	1.0360
ΔEP_t	2.5063*	0.3265	1.9433

Notes: The short-run causality is tested based on Equation (7). ***, ** and * indicate as statistical significance at the 1%, 5% and 10% levels, respectively.

CONCLUSION

The results of our study indicate that energy productivity Granger causes economic growth at the aggregated level but not in each of the three main sectors of the economy. It is also interesting to note from the correlation coefficient matrix that energy productivity and real GDP are found to be negatively correlated. Another vital finding of this study is that export-led growth hypothesis is found to be valid in Malaysia at both the aggregated and disaggregated levels. This implies that export is not only playing an important role in enhancing the overall economic performance, but also helping to improve the value-added per capita in the primary, secondary and tertiary sectors. The results of our study also confirm the fact that CO₂ emissions do have an influence on overall and sectoral growth, except in the agricultural industry. This indicates that pollution in the secondary sector (e.g. industrialization process) and tertiary sector (e.g. transportation) has led to income growth in Malaysia. When it comes to FDI, it is discovered surprisingly that it does not really contribute to economic growth in all sectors.

Due to the fact that energy productivity Granger causes economic growth only at the aggregated level and they are negatively correlated, more efforts and commitments should be given to other factors that might have been contributing to economic growth such as small and medium enterprises, domestic investment and local consumption in the country. However, it does not imply that we can neglect the importance of energy productivity as it still helps to reduce environmental degradation in the country. The role of exports in stimulating GDP is essential in all sectors. Thus, it is suggested that the policy makers should adopt the existing export-oriented policies continuously while coming up with new strategies that can further encourage exports. Even though CO₂ emissions induce economic expansion, this does not mean that pollution can be used as a 'tool' to obtain better growth. Instead, the government should attempt to embrace the concept of green economic growth, a strategy for Malaysia to realise sustainable development. Thus, it is suggested that the country should seriously consider using more of renewable energy sources particularly in secondary and tertiary sectors rather than fossil fuel to achieve sustainable growth. As Malaysia is not able to benefit from FDI, it is timely for the policy makers to relook into the absorptive capabilities of the country that include human capital, financial system, trade policy and formal institutional frameworks. Only with good absorptive capabilities, the full benefits of FDI inflows can be obtained.

REFERENCES

- Abbes, S. M., Mostefa, B., Seghir, G. M., & Zakarya, G. Y. (2015). Causal interactions between FDI, and economic growth: evidence from dynamic panel co-integration. *Procedia Economics and Finance*, 23, 276-290.
- Aizeman, J., & Noy, I. (2006). FDI and trade-two way linkages? *The Quarterly Review of Economics and Finance*, 46(3), 317-337.
- Amri, F. (2016). The relationship amongst energy consumption, foreign direct investment and output in developed and developing countries. *Renewable and Sustainable Energy Reviews*, 64, 694-702.
- Ang, J. B. (2007). CO₂ emissions, energy consumption, and output in France. *Energy Policy*, 35, 4772-4778.
- Apergis, N., & Ozturk, I. (2015). Testing Environmental Kuznets Curve hypothesis in Asian Countries. *Ecological Indicators*, 52, 16-22.
- Balassa, B. (1978). Exports and economic growth: further evidence. *Journal of Development Economics*, 5, 181-189.
- Barry, F., & Bradley, J. (1997). FDI and trade: the Irish host-country experience. *The Economic Journal*, 107, 1798-1811.
- Borhan, H., Ahmed, E. M., & Hitam, M. (2012). The impact of CO₂ on economic growth in ASEAN 8. *Procedia- Social and Behavioral Sciences*, 35, 389-397.
- Borozan, D. (2013). Exploring the relationship between energy consumption and GDP: evidence from Croatia. *Energy Policy*, 59, 373-381.
- Buckley, P., Wang, C., & Clegg, J. (2007). The impact of foreign ownership, local ownership and industry characteristics on spillover benefits from foreign direct investment in China. *International Business Review*, 16, 142-158.
- Bujang, A. S., Bern, C. J., & Brumm, T. J. (2016). Summary of energy demand and renewable energy policies in Malaysia. *Renewable and Sustainable Energy Reviews*, 53, 1459-1467.
- Cantore, N., Cali, M., te Velde, D. W. (2016). Does energy efficiency improve technological change and economic growth in developing countries? *Energy Policy*, 92, 279-285.

- Chakraborty, C., & Nunnenkamp, P. (2007). Economic reforms, FDI, and economic growth in India: a sector level analysis. *World Development*, 36(7), 1192-1212.
- Coondoo, D., & Dinda, S. (2002). Causality between income and emissions: a country group-specific econometric analysis. *Ecological Economics*, 40, 351-367.
- Coric, B., & Pugh, G. (2013). Foreign direct investment and output growth volatility: a worldwide analysis. *International Review of Economics and Finance*, 25, 260-271.
- Dijkgraaf, E., & Vollebergh, H. R. J. (1998). A note on testing for environmental Kuznets curves, environmental policy, economic reform and endogenous technology (OCFEB Working Paper Series 7). Netherlands: OCFEB.
- Dinda, S. (2009). Climate change and human insecurity. *International Journal of Global Environmental*, 1-2(9), 103-109.
- Engle, R. F., & Granger, C. W. (1987). Cointegration and error correction: representation, estimation, and testing. *Econometrica*, 55(2), 251-276.
- Edwards, S. (1993). Openness, trade liberalisation, and growth in developing countries. *Journal of Economic Literature*, 32(3), 1358-1393.
- Edwards, S. (1998). Openness, productivity and growth: what do we really know? *Economic Journal*, 108, 383-398.
- Emmanuel, A. (1972). Unequal exchange, a study of imperialism of trade. London/New York: New Left Book/Monthly Review Press.
- Galeotti, M., Lanza, A., & Pauli, F. (2005). Reassessing the environmental Kuznets curve for the CO₂ emissions: a robustness exercise. *Ecological Economics*, 57, 152-163.
- Gan, P. Y., & Li, Z. (2008). An econometric study on long-term energy outlook and the implications of renewable energy utilization in Malaysia. *Energy Policy*, 36, 890-899.
- Giles, A. J., & Williamson, L. C. (2000). Export-led growth: A survey of the empirical literature and some non-causality results (University of Victoria Econometric Working Paper EWP0001). Canada: University of Victoria.
- Gokmenoglu, K. K., Sehnaz, Z., & Taspinar, N. (2015). The export-led growth: a case study of Costa Rica. *Procedia Economics and Finance*, 25, 471-477.
- Grossman, G. M., & Krueger, A. B. (1991). Environmental impacts of a North American Free Trade Agreement (National Bureau of Economic Research No. 3914). Cambridge MA: National Bureau of Economic Research.
- Gui-Diby, S. L. (2014). Impact of foreign direct investments on economic growth in Africa: bvidence from three decades of panel data analyses. *Research in Economics*, 68, 248-256.
- Hakimi, A., & Hamdi, H. (2016). Trade liberalization, FDI inflows, environmental quality and economic growth: a comparative analysis between Tunisia and Morocco. *Renewable and Sustainable Energy Reviews*, 58, 1445-1456.
- Hansen, H., & Rand, J. (2006). On the causal links between FDI and growth in developing countries. *The World Economy*, 29, 21-41.
- Hye, Q. M. A., Wizarat, S., & Lau, W. Y. (2013). Trade-led growth hypothesis: An empirical analysis of South Asian countries. *Economic Modelling*, 35, 654-660.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Jaffe, D. (1985). Export dependence and economic growth: a reformulation and respecification. *Social Forces*, 64, 102-118.
- Jalil, A., & Mahmud, S. F. (2009). Environment Kuznets Curve for CO₂ emissions: a cointegration analysis for China. *Energy Policy*, 37, 5167-5172.
- Kinuthia, B. K., & Murshed, S. M. (2015). FDI determinants: Kenya and Malaysia compared. *Journal of Policy Modeling*, 37, 388-400.
- Kristrom, B., & Lundgren, T. (2003). Swedish CO₂ emissions 1900-2010: an exploratory note. *Energy Policy*, 33, 1223-1230.
- Kubo, A. (2011). Trade and economic growth: is export-led growth passé? *Economics Bulletin*, 31(2), 1623-1630.
- Lean, H. H., & Smyth, R. (2010). On the dynamics of aggregate output, electricity consumption and exports in Malaysia: evidence from multivariate Granger causality test. *Journal of Applied Energy*, 87(6), 1963-1971.
- Lee, C. C., & Chang, C. P. (2008). Energy consumption and economic growth in Asian economies: a more comprehensive analysis using panel data. *Resource and Energy Economics*, 30(1), 50-65.
- Lim, E. G. (2001). Determinants of, and the relation between, foreign direct investment and growth: a summary of the recent literature (IMF Working Paper No.175). Washington: International Monetary Fund.
- Liu, X., Siler, P., Wang, C., & Wei, Y. (2000). Productivity spillovers from foreign direct investment: evidence from the UK industry level panel data. *Journal of International Business Studies*, 31(3), 407-425.
- Love, J., & Chandra, R. (2004). Testing export-led growth in Bangladesh in a multivariate VAR framework. *Journal of Asian Economics*, 15, 1155-1168.
- Mah, J. S. (2010). Foreign direct investment inflows and economic growth in China. *Journal of Policy Modeling*, 32, 155-158.
- Meyer, K. (2004). Perspectives on multinational enterprises in emerging economies. *Journal of International Business Studies*, 35, 259-276.
- Narayan, P. K., & Narayan, S. (2005). Estimating income and price elasticities of imports for Fiji in a cointegration framework. *Economic Modelling*, 22(3), 423-438.
- Narayan, P. K. (2005). The saving and investment nexus for China: evidence from cointegration tests. *Applied Economics*, 37(17), 1979-1990.
- Omer, M. S., & Yao, L. (2011). Empirical analysis of the relationships between inward FDI and business cycles in Malaysia. *Modern Applied Science*, 5(3), 157-163.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289-326.
- Pistoresi, B., & Rinaldi, A. (2012). Exports, imports and growth: new evidence on Italy (1863-2004). *Explorations in Economic History*, 49, 241-254.
- Porter, M., & van der Linde, C. (1995). Towards a new conception of the environment-competitiveness relationship. *The Journal of Economic Perspectives*, 9(4), 97-118.
- Prebisch, R. (1962). The economic development of Latin America and its principal problems. New York: United Nations.

- Ran, J., Voon, J. P., & Li, G. (2007). How does FDI affect China? Evidence from industries and provinces. *Journal of Comparative Economics*, 35, 774-799.
- Reppas, P. A., & Christopoulos, D. K. (2005). The export-output growth nexus: evidence from African and Asian Countries. *Journal of Policy Modeling*, 27, 929-940.
- Safaai, N. S. M., Noor, Z. Z., Hashim, H., Ujang, Z., Talib, J. (2011). Projection of CO₂ emissions in Malaysia. *Environmental Progress & Sustainable Energy*, 30(4), 658-665.
- Sahu, S., & Narayanan, K. (2011). Total factor productivity and energy intensity in Indian manufacturing: a cross-sectional study. *International Journal of Energy Economics and Policy*, 1(2), 47-58.
- Schneider, P. H. (2005). International trade, economic growth and intellectual property rights: a panel study of developed and developing countries. *Journal of Development Economics*, 78(2), 529-547.
- Sohag, K., Begum, R. A., Abdullah, S. M. S., & Jaafar, M. (2015). Dynamics of energy use, technological innovation, economic growth and trade openness in Malaysia. *Energy*, 90, 1497-1507.
- Stern, D.I., Common, M. S., & Barbier, E. B. (1996). Economic growth and environmental degradation: the environmental Kuznets curve and sustainable development. *World Development*, 24(7), 1151-1160.
- Tang, C. F., Lai, Y. W., & Ozturk, I. (2015). How stable is the export-led growth hypothesis? evidence from Asia's Four Little Dragons. *Economic Modelling*, 44, 229-235.
- Tekin, R. B. (2012). Economic growth, exports and foreign direct investment in least developed countries: a panel Granger causality analysis. *Economic Modelling*, 29(3), 868-878.
- World Bank. (2016). Climate change action plan 2016-2020. Retrieved on November 20, 2016, from <http://pubdocs.worldbank.org/en/677331460056382875/WBG-Climate-Change-Action-Plan-public-version.pdf>
- Zhang, X. P., & Cheng, X. M. (2009). Energy consumption, carbon emissions, and economic growth in China. *Ecological Economics*, 68(10), 2706-2712.

The Development of Information Technology on Single Window: Study of Malaysia's Readiness for Asean Economic Community (AEC)

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Abstract

ASEAN members (Singapore, Malaysia, Thailand, Brunei, Laos, Cambodia, Vietnam, Philippine, Indonesia and Myanmar) have worked together since many years ago to improve the Asia economic. Some members have also formed their Single Window for better flow of information among nations. In year 2007, ASEAN leaders agreed to form a consortium for free movement of goods, capital and investment by year 2015. This consortium is named ASEAN Economic Community (AEC). In order to achieve this target, all members need to reach mutual understanding and make sure their national Single Window is well implemented before enter into ASEAN Single Window. However, the differences in ICT infrastructure, various institutions, IT literacy, etc. within and among those ASEAN members may become the obstacle. The Information in this study is important to evaluate Malaysia's readiness for AEC. Its readiness can be determined by comparing the Information Technology (IT) development among all members. Furthermore, European Union was chosen as an example to review the requirements for the development of ASEAN Single Window.

Keywords: ASEAN Economic Community, Single Window, Malaysia's readiness

INTRODUCTION

National single window is a virtue system established for the trade facilitation to increase the efficiency of the government delivery system and provides benefits to all members of the trading parties ("Malaysia Implement Single," 2010). It is served as a single point of entry for the submission of data and information to avoid repeated duplicate of resources which can fasten the trade system, reducing processing time and boundaries' barriers. In the concept of national single window, Malaysia is one of the implemented nations which in charge by Ministry of International Trade and Industry (Mamat, 2010). In 20 November 2007, ASEAN leaders had agreed to form ASEAN Economic Community (AEC) for free movement of goods, capital and investment by 2015 (Thanya, 2012). On the same time, ASEAN Single Window must be integrated. In the evolution of single window, Malaysia is currently in nationwide single window and heading to regional ASEAN single window (Soh, 2011). Table 1(a) shows the Malaysia's status in the stage of global single market.

Under the agreement to establish the ASEAN Single Window, the Nation Single Window will be implemented in Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand by 2008, and in Cambodia, Lao PDR, Myanmar and Vietnam by 2012 (USAID, 2010). However, there are many considerations for the implementation. The main concerns are the barriers to trade exist as a result of a lack of trade facilitating infrastructure and advance technology for networks facilitation is needed which can provide the smooth transaction for all members in ASEAN (Karim & Ramlah, 2007). Besides, the different in ASEAN countries such as living standard, government policies, poverty and culture may become the obstacles (Samitt, 2012). For example, the less developed Southeast Asian countries, Cambodia, Laos, Myanmar and others are still fall under low incomes countries which have poor IT infrastructure (Hussin & Saidin, 2012). Green (2008) found that in terms of the economic growth, the countries in ASEAN are generally different from each other ranging from poor, rural to the developed nation such as Singapore.

LITERATURE REVIEW

European Union has been reviewed to determine the requirements for ASEAN Single Window. After that, critical evaluation on Malaysia's IT infrastructure development and the readiness on implementing ASEAN Economic Community (AEC) were discussed.

Evaluation on European Union (EU) regarding to the Information Handling

The population in Europe is kept increasing and the average life expectancy has increased to 80 years old in year 2010. This change has brought significant challenges to Europe's society. However, this challenge can be solved by the helps of Information and communication technology (ICT). This is because ICT can help people to improve quality of life and fasten the daily transactions (Chen & Mcqueen, 2010). Therefore, European Union is very encouraging the development of ICT in order to form the knowledge societies among the members. For example, there is an action plan on ageing well in the information society introduced in 2008 which support EU's visions to increase the IT awareness (European Commission, 2010).

Table 2(a) shows the percentage of EU internet users and usage in global. From the research, it shows that the populations in EU is considered a small portion in the world but the internet users have reached more than quarter of the populations in the world. Besides, the internet penetration rate has reached 73% of the population as well.

Table 2(a): European Union internet users & usage

	Population (2012)	Internet user	Penetration (% population)
European Union	7.20%	15.30%	73%
World	92.80%	84.70%	31.30%
Total	100%	100%	100%

Source: Internet World Stats. (2012). *Internet usage in the European Union*. Retrieved from <http://www.internetworldstats.com/stats9.htm>

Limitation on Information Processing faced by European Union

Data protection and standard of ICT procedures & legal requirements were discussed.

Data Protection

The personal information processes is an issue concerned by most of the EU members due to the data protection. Personal information refers to all kinds of information that directly or indirectly can be recognized to a living, individual physical person such as personal data, birthday, and family or employment condition.

In European, there is a council called European Parliament and the Council Europe's Directive 95/46/EU in charged on the protection of individual's data when handling the personal information (Hanlon, 2012). This directive enables the free flow of personal information among EU countries with certain protection procedures. However, it also allows EU countries to transfer personal information to another country within the union even though that country does not have sufficient protection level (CODEX, 2013). It can be done as long as the country representative can guarantee the personal information will be protected. The reason is due to the fair treatment to all EU members in the online transaction. EU also faced the risk on transmitting personal information abroad. Some European data controllers may simply transmit the data to countries outside Europe such as Japan or any other country without domestic data protection laws (Christopher & Timothy, 2011).

Standard of ICT Procedures & Legal Requirements

The different ICT procedures among EU members will create the problem for information handling in single window. Even though all members in EU have reached the mutual agreement on single window concept, the lack on common standards for information assessment procedures will result in conflict among some members (Europe Economics, 2011). For example, the health and social care issue. The differences in social and health care schemes within the EU members result in different legal requirements (European Union, 2012).

European Union Best Practices in Informational Technologies on Single Window (e-Maritime and Port Community System)

This system has been implemented in European ports to serve as an efficient system that would facilitate procedures and information exchange in port areas and the logistic chain among EU members (ESPO, 2012). In EU main economic activities' supply chain, maritime port plays an important role in the market. It consists of 90% Europe's international trade and 40% of intra-community trade. Therefore, EU needs an effective electronic platform to monitor and facilitate the information flows. ICT plays an important role in the implementation of e-maritime and port community system because it can facilitate the information flow of goods at different international ports (Howard, Kay, Omulf & Maria, 2012). The developments in international trade had increased the needs of ICT due to the globalization. Besides, ICT is needed to make sure the logistic can be done smoothly in international supply chain. It has been known as "Best practice guide on Single Window".

By using this system, the transferring goods become more efficiency, reduce the administrative costs, reduce the human error and time in the information transfer process and enhance port's merchandise dispatch procedures (George, Maria, Nikitakos & Nikolaos, 2011). Besides, the application of ICT in port system can reduce the waiting time at border, secure processing data and provide accurate information to transport operations (Graff, 2009). For the EU members, the introduced of e-maritime increase the opportunities to have new transactions which include new users among the countries by simplification of administrative (SKEMA, 2009).

Evaluation on Malaysia's Readiness on Single Window and IT infrastructure

ASEAN leaders consists of Singapore, Malaysia, Thailand, Brunei, Laos, Cambodia, Vietnam, Philippine, Indonesia and Myanmar. Each member has different standard of infrastructure, information and communication technology, human capital, culture, political policies and other considerations. Malaysia is not ready to implement AEC in the aspects of information sharing, management and control and IT infrastructure readiness. It is because Malaysia itself has no sufficient ICT readiness and most of the members in ASEAN are not ready as well.

Digital Economic Readiness among ASEAN Countries

A survey done by Economist Intelligence Unit (2010), Malaysia is ranked as the 38 out of 70 countries in the e-readiness ranking. This unit is form by 650 analyses from global to forecast the political, economic and business conditions in 200 countries. This ranking is a measure of the quality of a country's ICT infrastructure and the ability of its consumers, businesses and government to use ICT to their benefits. This is very important because when ICT is used for trade facilitation, the economy can become more transparent and efficient (Cador, Melo & Portugal, 2007). Table 2(b) shows the e-readiness ranking.

Table 2(b): Digital Economist Readiness rankings and score in 2010

2010 rank (of 70)	2009 rank	Country	2010 score (of 10)	2009 score
36	38	Malaysia	5.93	5.87

Source: Economist Intelligent Unit. (2010). *Digital Economic Ranking and Score 2010*. Retrieved from http://www935.ibm.com/services/us/gbs/bus/pdf/eiu_digital-economy-rankings-2010_final_we b.pdf

For other ASEAN members, Singapore and Thailand are ranked in the top 70 in the e-readiness. In other words, only these two countries are having the good IT infrastructure to facilitate the online trading but not all ASEAN countries. This ranking is done in 2010 and the problem is whether the other ASEAN countries have enough time to improve their IT infrastructure since the remaining years is less than 5 years. When compare among Singapore, Malaysia and Thailand, their gap in rankings is huge. It will increase the difficulty to work together for information sharing. Table 2(c) shows their e-readiness ranking.

Table 2(c): Digital Economist Readiness rankings and score in 2010

2010 rank (of 70)	2009 rank	Country	2010 score (of 10)	2009 score
8	7	Singapore	8.22	8.35
49	49	Thailand	4.86	5.00

Source: Economist Intelligent Unit. (2010). *Digital Economic Ranking and Score 2010*. Retrieved from http://www935.ibm.com/services/us/gbs/bus/pdf/eiu_digital-economy-rankings-2010_final_w eb.pdf

Information Technology Literacy Development among ASEAN Members

Information technology literacy is very important in the implementation of ASEAN single window. It is a set of skills needed to find, retrieve, analyze and use information for trading purpose. Single window system will be monitored by ICT infrastructure from every member. It is very important to make sure all countries have sufficient IT literacy, professionals and human capital to facilitate the system. Strong information technology literacy enables the member aware of resources available; know how to facilitate online trading, evaluate the e-commerce and communicate the information conscientiously and ethically (Diljit & Tan, 2008).

When compare to European Union, ASEAN is still lags behind in the internet adoption. When compare to the population and internet users between EU and ASEAN, the internet penetration rates in EU are surpass 50% of the total population. More than half citizens in EU are get used with internet services which is a very important requirement to form single market. Table 2(d) shows the comparison between EU and ASEAN in year 2010.

Table 2(d): Composition of population vs. internet users for EU and ASEAN

Country	Population	Internet Penetration	Internet Users
	2010	2010	2010
ASEAN	604,308,830	20%	123,146,458
EU	499,671,847	68%	337,779,055

Source: ASEAN Working Group. (2010). *The ASEAN e-commerce database project*. Retrieved from <http://www.asean.org/images/2012/publications/ASEAN%20eCommerce%20Database%20Project.pdf>

Other Conditions in ASEAN Countries Affect the ICT Infrastructure

Economic condition and internet speed were discussed.

Economic Condition

The economic conditions will affect the country's ICT infrastructure. Government plays an important role in providing good ICT infrastructure to support the e-commerce industry. It is the key to enter into single market because without improvement in ICT, the law enforcement as well as electronic trading support services will not growth smoothly (Pakeh, 2012). However, different economic conditions in ASEAN countries may affect the implementation of single window. For example, Malaysia, Brunei and Singapore have the good economic conditions to support ICT infrastructure but not for other members (Maftuh, 2011). When evolve into ASEAN Single Market, there will be the IT gap among nations and make the online trading become harder. According to ASEAN Working Group (2010), higher GDP per capital countries such as Brunei, Singapore and Malaysia have higher internet penetration rates but lower GDP per capital countries such as Cambodia, Lao and Myanmar have lower penetrations rates.

Internet Speed

Internet connection speed plays an important role in the implementation of ASEAN Single Market. The faster speed of connection can make the online transaction become much easier and smoother. According to the research, Malaysia was listed among the slowest countries in the world for loading web pages. Result shown that the average web page loading speed in Malaysia is 14.3 second, ranked as one of the world slowest ("Malaysian Among The," 2012). Table 2(e) shows the average connection speed in ASEAN.

Table 2(e): Average connection speed in ASEAN

Global Rank	Country	Q3'12 Avg. Mbps	QoQ Change	YoY Change
32	Singapore	4.90%	-3.50%	12%
58	Thailand	2.90%	-6.30%	-14%
-	Malaysia	2.20%	2%	18%
-	Philippines	1.30%	6%	13%
-	Vietnam	1.30%	-21%	-19%

Source: MEVOTEX. (2013). *World's faster internet speed. Top 3 all East Asians*. Retrieved from <http://www.miricomunity.net/viewtopic.php?f=1&t=59449&start=0>

Malaysians' Concept on IT Usage and Needed

A survey done by Malaysian Communications and Multimedia Commission (2010) found that only 28 percent of the Malaysians agree that internet is 'very important' and 51 percent rate it is 'important' in their daily lives. Table 2(f) shows the important of internet to user.

Table 2(f): Important of Internet to user

Feedback	%
Very Important	28
Important	51
Neutral	10.4
Not so important	9.3
Not important at all	1.3

Source: Malaysian Communications and Multimedia Commission. (2010). *Statistic brief number ten. Household use of the internet survey 2009*. Retrieved from <http://www1.skmm.gov.my/skmmgovmy/files/attachments/inlayHUIS2009.pdf>

For the survey done on the year of experience of using internet, there is only 26.4 percent Malaysians with 5 years and above. Majority is 1 to 3 years of experiences. It shows that Malaysians do not have sufficient experience in internet adoption. Table 2(g) show the years of experience of using the internet.

Table 2(g): Years of experience of using the internet

Years	%
less than 1 year	16.7
1 - 3 years	39.1
3 - 5 years	17.8
5 years and above	26.4

Source: Malaysian Communications and Multimedia Commission. (2010). *Statistic brief number ten. Household use of the internet survey 2009*. Retrieved from <http://www1.skmm.gov.my/skmmgovmy/files/attachments/inlayHUIS2009.pdf>

Information Technology Security Concern - Perceived risk

The important of security risk has been acknowledged in the implementation of single window. This issue has raised the public concern especially in Malaysia's banking industry (Ndubisi & Sinti, 2006). It is also treated as the barrier in the adoption of electronic commerce regardless age group, education and income level (Poon, 2008). Besides, perceived security

risk is viewed as the major obstacle in the evolution of nationwide single market due to the confidential data may be jeopardized easily during the online transaction (Sonja & Rita, 2008).

In other words, trust is very important in ASEAN single window. Yousafzai, Pallister and Foxall (2009) stated that the successful of transaction through electronic form, trading information and trade facilitation are depend on whether the ICT system from different parties is perceived trustworthy by the customers. In Malaysia, the government is concerns about this issue due to the gaps in IT are different among ASEAN members, such as the online banking infrastructure (Alain, Chong, Ooi & Tan, 2010). Table 2(h) show the trust of the internet perceived by Malaysians. 55.1% neither trust nor distrust what they read on the internet.

Table 2(h): Trust on internet

	%
Do not trust	13.1
Distrust	6.9
Neutral	55.1
Trust	22.4
Completely trust	2.4

Source: Malaysian Communications and Multimedia Commission. (2010). Statistic brief number ten. *Household use of the internet survey 2009*. Retrieved from http://www1.skmm.gov.my/skmmgovmy/files/attachments/inlay_HUIS2009.pdf

Online trading in Malaysia is still considered a starting stage (Rajaainul, 2010). Most of the SMEs in Malaysia are left behind in online business transaction. Although the e-commerce has been implemented in Malaysia for many years, most of the Malaysians still perceive internet is a medium for entertainment and communication, but not for trading. There is only a small portion of Malaysians buy online compare to western countries. One of the reasons is security issue such as information losses, theft of data, virus infection and data manipulation (Abidin & Mansor, 2010). This issue has become a major concern for many businesses and consumers when they consider to do online trading. Table 2(i) shows the purpose for use of the internet

Table 2(i): Purpose for use of the internet

Objective	%
Getting information	76.9
Communication	74.8
Leisure	50.1
Social networking	46.8
Educational	46
Financial activities	27.2
Government services	19.6
Maintain homepage	7
Others	7.6

Source: Malaysian Communications and Multimedia Commission. (2010). *Statistic brief number ten. Household use of the internet survey 2009*. Retrieved from http://www1.skmm.gov.my/skmmgovmy/files/attachments/inlay_HUIS2009.pdf

RECOMMENDATION

In order to get ready for the development of ASEAN Economic Community (AEC), Malaysia needs to put more effort to improve the ICT infrastructure and education.

Increase the Usage of Internet

Increase the usage of internet is the way to encourage people goes for online trading. The facilities of internet are every important to let people connected to cyber world which create the awareness of e-commerce. Malaysia can improve the broadband performance to let it becomes more common in all possible geographical areas. Currently, the broadband service is more concern on the developed cities according to the survey done by the *Suruhanjaya Komunikasi Dan Multimedia Malaysia* (SKMM, 2011). The coverage of broadband should expand to rural areas instead of just focus on urban areas.

Besides, the WIFI infrastructure should improve further. People usually will connect to internet through public WIFI when go for information searching. It is because the public WIFI is free and it will encourage more and more users to access the internet. Research done by SKMM has shown that users will prefer to use net book or laptop when access to internet. With the availability of WIFI, they can easily connect into internet and mobile internet is expected to overtake the desktop internet. Table 3(a) shows the 83.2% users used the laptop to access the internet.

Table 3(a): Facilities to access internet by Malaysian in year 2011

Netbook/Laptop	83.20%
PC	40.40%
Smartphone	21.50%
Other Mobile Phone	13.10%
Tablets	13.00%
Game Console	1.50%
Others	0.40%

Source: SKMM. (2011). Household use of the internet survey 2011. Retrieved from <http://ww1.skmm.gov.my/Resources/Statistics/Household-Internet-Usage-Survey.aspx>

Promote IT Awareness

IT literacy rate in Malaysia need to further increase to make sure all Malaysians can utilize the opportunity of online trading. Government can motivate people to make online transaction by create the awareness of advantages of e-commerce such as IT campaign. Besides, online trading procedures can be simplified to make ease of using. When all Malaysians are closed to IT and understood the benefits of online trading, they will ready to accept the concept of single market. This is because all transactions will be done online and facilitate by virtue system in single market (Alshawi & Salleh, 2005).

CONCLUSION

ASEAN leaders had agreed to form ASEAN Economic Community (AEC) for free movement of goods, capital and investment by 2015. However, there are many considerations for the implementation such as the barriers to trade, lack of trade facilitating infrastructure, high technology transport networks needed to provide the smooth transaction for all members in ASEAN (Karim & Ramlah, 2007). Besides, one of the major issues is the informational technology infrastructure and ICT readiness. In order to implement ASEAN Single Window, all governments must enhance the flow of information which related to trade through ICT. Malaysia is not ready to implement AEC in recent years with regard to information sharing, management and control and IT infrastructure readiness. It is because Malaysia itself has no sufficient ICT readiness and most of the members in ASEAN are not ready as well. When implemented AEC, it is not just about Malaysia but involve all ASEAN parties. When evaluate the whole societies, Malaysia and other ASEAN countries still need to work hard toward the objective of AEC.

In order to get ready for the development of AEC, Malaysia needs to put more effort to improve the ICT infrastructure, increase the IT education and set the better ICT policies. For

example, Increase the usage of internet, improve the Internet speed, consider the fee charged on internet, IT risk, and promote IT awareness.

REFERENCES

- Abidin, A. F. A., & Mansor, N. (2010). The application of e-commerce among Malaysian small medium enterprises. *European Journal of Scientific Research*, 41(4), 591-605.
- Alain, C. Y. L., Chong, C. K., Ooi, K. B., & Tan, G. W. H. (2010). The adoption of online banking in Malaysia: An empirical analysis. *International Journal of Business and Management Science*, 3(2), 169-193.
- ASEAN Working Group. (2010). *The ASEAN e-commerce database project*. Retrieved from <http://www.asean.org/images/2012/publications/ASEAN%20eCommerce%20Database%20Project.pdf>
- Cador, O., Melo, J. D., & Portugal, P. (2007). Rules of origin for preferential trading arrangements: Implications for the ASEAN free trade area of EU and US experience. *Journal of Economic Integration*, 22(2), 288-319.
- Chen, J., & Mcqueen, R. J. (2010). Knowledge transfer processes for different experience levels of knowledge recipients at an offshore technical support center. *Information Technology & People*, 23(1), 54-79.
- Christopher, W., & Timothy, P. T. (2011). *The European Union (EU) data privacy directive*. Retrieved from http://www.proskauerguide.com/law_topics/28/III
- CODEX. (2013). *Handling personal information*. Retrieved from <http://www.codex.uu.se/en/manniska.3.shtml>
- Diljit, S., & Tan, S. M. (2008). *An assessment of the information literacy levels of library and media teachers in the hulu Langat district*. Retrieved from http://dspace.fsktm.um.edu.my/bitstream/1812/295/1/8Tan%20Shyh%20Mee_My_AA.pdf
- Economist Intelligent Unit. (2010). *Digital Economic Ranking and Score 2010*. Retrieved from http://www935.ibm.com/services/us/gbs/bus/pdf/eiu_digital-economy-rankings-2010_final_web.pdf
- ESPO. (2012). *E-maritime: ESPO urges national administrations to integrate port community systems in single window*. Retrieved from http://www.espo.be/index.php?option=com_content&view=article&id=318:e-maritime-espo-urges-national-administrations-to-integrate-portcommunitysystems-in-single-windows&catid=34:espo-news&Itemid=109
- Europe Economics. (2011). *Guide for the procurement of standards based ICT elements of good practice, draft*. Retrieved from <http://cordis.europa.eu/fp7/ict/ssai/docs/ictprocurementworkshop-dec2011/draftguidelines-action23-21dec2011.pdf>
- European Commission. (2006). *User needs in ICT research for independent living, with a focus on health aspects*. Retrieved from http://ec.europa.eu/information_society/activities/health/docs/events/indep-living-nov2005/24-25nov-report-final-draft-june2006.pdf
- European Union. (2012). Regulation (EU) No 1025/2012 of the European parliament and of the council of 25 October 2012. *Official Journal of the European Union*, 316, 12-33.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- George, V., Maria, A. L., Nikitakos, N., & Nikolaos, M. (2011). Managing port e-services in a socio-technical context. *International Journal of Shipping and Transport Logistics*, 3(1), 27-56.
- Graff, J. (2009). e-Maritime: A framework for knowledge exchange and development of innovative marine information services. *Journal of Maritime Affairs*, 8(2), 173-201
- Green, D. J. (2008). The role of ASEAN economic community as a commitment to policy certainty. *ASEAN Economic Bulletin*, 25(2), 209-227
- Hanlon, S. O. (2012). The impact of health information technology on human rights. *International Journal of Information Communication Technologies and Human Development*, 4(2), 137-148.
- Howard, F., Kay, F., Omulf, J. R., & Maria, A. L. (2012). Service oriented computing and model driven development as enablers of port information system: an integrated view. *Journal of Maritime Affairs*, 22(4), 114-135.
- Hussin, F., & Saidin, N. (2012). Economic growth in ASEAN-4 countries: A panel data analysis. *International Journal of Economics and Finance*, 4(9), 119-129.
- Internet World Stats. (2012). *Internet usage in the European Union*. Retrieved from <http://www.internetworldstats.com/stats9.htm>
- Maftuh, B. (2011). *Status of ICT integration in education in Southeast Asian countries*. Retrieved from [http://www.criced.tsukuba.ac.jp/math/apec/apec2011/19-20/06Bunyamin Maftuh-paper.pdf](http://www.criced.tsukuba.ac.jp/math/apec/apec2011/19-20/06Bunyamin%20Maftuh-paper.pdf)
- Malaysia among the worst for internet connection speed. (2012, April 23). *Yahoo Newsroom*. Retrieved from <http://my.news.yahoo.com/malaysia-among-the-worst-for-internet-connection-speed.html>
- Malaysian Communications and Multimedia Commission. (2010). *Statistic brief number ten. Household use of the internet survey 2009*. Retrieved from <http://www1.skmm.gov.my/skmmgovmy/files/attachments/inlayHUIS2009.pdf>
- Malaysia implement single window for trade. (2010, October 05). *Asean Affairs*. Retrieved from http://www.aseanaffairs.com/malaysia_news/trade/malaysiaimplement_single_window_for_trade
- Mamat, A. R. (2010, May 10). Improving service delivery via online tools. *The New Straits Times*, pp. 21.
- MEVOTEX. (2013). *World's faster internet speed. Top 3 all East Asians*. Retrieved from <http://www.miricomunity.net/viewtopic.php?f=1&t=59449&start=0>
- Ndubisi, N. O., & Sinti, Q. (2006). Consumer attitudes, system's characteristics and internet banking adoption in Malaysia. *Management Research News*, 29(1), 16-27.
- Pakeh, Y. M. (2012). *Driving e-commerce growth*. Retrieved from <http://www.msmenewsnetwork.com/index.php/homepage/sme-features/sme-news/item/953-driving-e-commerce-growth>
- Poon, W. C. (2008). Users' adoption of e-banking services: The Malaysian perspective. *Journal of Business & Industrial Marketing*, 21(1), 59-69.
- Rajaainul. (2010). *Malaysia small medium enterprises*. Retrieved from <http://emeyes.wordpress.com/2010/10/31/the-application-of-e-commerce-among-malaysian-small-medium-enterprises/>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Samitt, K. (2012). The empirical investigation on the relationship of foreign trade, institutions and economic performance of the ASEAN nations. *Business and Economic Research*, 2(2), 119-135.
- SKEMA. (2009). *Inventory of port single windows and port community systems*. Retrieved from <http://www.efreightproject.eu/knowledge/DownloadFile.aspx?tableName=tblSubjectArticles&field=PDF%20Filename&idField=subject ArticleID&id=231>
- SKMM. (2011). Household use of the internet survey 2011. Retrieved from <http://www1.skmm.gov.my/Resources/Statistics/Household-Internet-Usage-Survey.aspx>
- Soh, W. (2011). *Ten years of single window implementation: Lessons learnt for the future*. Retrieved from http://www.unecce.org/fileadmin/DAM/trade/Trade_Facilitation_Forum/BkgrdDocs/TenYearsSingleWindow.pdf
- Sonja, G. L., & Rita, F. (2008). Consumer acceptance of internet banking: The influence of internet trust. *International Journal of Bank Marketing*, 26(7), 483-504.
- Thanya, K. (2012, October 29). ASEAN countries gear up for customs clearance integration. *ASIA Pacific future Gov*. Retrieved from <http://www.futuregov.asia/articles/2012/oct/29/asean-countries-gearing-single-window-system/>
- USAID. (2010). *The ASEAN Single Window*. Retrieved from [http://egateg.usaid.gov/sites/default/files/ASEAN%20Single%20Window%20\(ASW\)%20SOW.pdf](http://egateg.usaid.gov/sites/default/files/ASEAN%20Single%20Window%20(ASW)%20SOW.pdf)
- Yousafzai, S., Pallister, J., & Foxall, G. (2009). Multi dimensional role in trust in internet banking adoption. *The Service Industries Journal*, 29(5), 591-605.

Factors Influencing The Use of Renewable Electricity Consumption in Malaysia: Cointegration and Causality Approaches

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Abstract

The main objective of this paper is to investigate the factors affecting renewable electricity consumption in Malaysia using annual data over the period 1980- 2012. To achieve the objective, the autoregressive distributed lag (ARDL) bounds testing and the vector error-correction model (VECM) Granger causality test are employed. The result from ARDL indicates that economic growth and foreign direct investment (FDI) are the major drivers for renewable electricity adoption as opposed to CO₂ emissions and trade openness. Furthermore, the VECM Granger causality test reveals the existence of a unidirectional causality relationship running from GDP to renewable electricity consumption. Some important policy implications are suggested.

Keywords: Renewable electricity consumption, GDP, ARDL bounds testing, VECM Granger causality test

INTRODUCTION

In recent decades, the issue of global warming has become a worldwide concern. According to scientists, the burning of fossil fuels particularly coal to generate electricity is the main human activity that has caused climate change. However, the good news is, the problem of global warming can be mitigated by switching to renewable energy sources such as wind and solar power. As a way to reduce CO₂ emissions that have led to climate change, many countries have started to look for alternative energy sources rather than depending solely on fossil fuels for electricity production. For Malaysia, the gradual adoption of renewable energy to replace the use of non-renewable sources particularly in power sector is crucial due to two very important reasons. First, the power plants in Malaysia have been relying on fossil-based energy sources such as coal and oil for electricity production that contributes to the emissions of greenhouse gases. According to Klugman (2011), Malaysia has recorded the third highest annual growth rate of 4.7% for CO₂ emissions in the world from 1970 to 2008. Second, although Malaysia is a country that is blessed with abundance of natural resources including oil and natural gas, there is an increased concern over the reserves of these resources as the demand for non-renewable energy sources keeps rising over the years. For example, Malaysia's average annual growth rate for total energy demand was recorded as 6.6% over the period from 1980 to 2010 (Kardooni, Yusof, & Kari, 2016). Indeed, various policy measures such as the Five Fuel Diversification in 1999 and Renewable Energy Act in 2011 have been developed to promote the use of renewable energy in Malaysia. The most recent initiative in promoting green technology can be seen in the 11th Malaysia Plan (2016-2020) where 'pursuing green growth for sustainability and resilience' has been included as one of the strategic thrusts of the Plan. However, the contribution of renewables for electricity generation over the years still remains low in Malaysia. This situation leads to a question regarding the reasons behind low renewable electricity consumption in Malaysia.

The main objective of this study is to examine the factors that affecting the renewable electricity consumption in Malaysia. To be more specific, this study attempts to examine the short- and long-run relationship among renewable electricity consumption, economic growth, CO₂ emissions, foreign direct investment and trade openness in Malaysia. The results of the study are expected to serve as a reference for policy makers to design energy, environmental

and economic policies that can eventually contribute to higher adoption of renewable electricity in Malaysia. Moreover, the contributions of this study to the literature are as follow. First, we consider renewable electricity consumption as the dependent variable, instead of renewable energy consumption as adopted in most of the existing studies. It is because the burning of fossil fuels particularly coal to generate electricity has been identified as the main human activity that has led to climate change according to the scientists. In Malaysia, the power plants have been depending on fossil-based energy sources such as coal and oil for electricity production. In terms of CO₂ emissions from electricity production, it is predicted that the pollution intensity of CO₂ to increase by almost threefold from 1999 to 2020 (Basri, Ramli, & Aliyu, 2015). Second, most of current literature about renewable energy development emphasize on developed countries such as Sovacool (2009) for United States and Popp, Hascic, and Medhi (2011) for OECD countries. On the contrary, our study focuses on the factors affecting renewable electricity consumption in an emerging economy. Third, compared to past studies on renewable energy consumption in Malaysia that provide mostly current situation of renewables development, this study attempts to extend the literature by examining the determinants for renewable electricity adoption in the country which is of great importance to the policymakers.

The rest of the paper is organized as follows. Section 2 presents the literature review. Section 3 describes the methodology used. Section 4 provides a discussion on the empirical results obtained while Section 5 concludes the paper with the inclusion of policy implications.

LITERATURE REVIEW

An abundant of researches have analyzed the energy-growth nexus for different countries or regions using different econometric methods to show whether energy consumption has an impact on economic growth, and vice versa (Al-Iriani, 2006; Belloumi, 2009; Borozan, 2013; Dagher & Yacoubian, 2012; Ghali & El-Sakka, 2004; Hossien, 2012; Lee, Chang, & Chen, 2008). The more recent studies on the link between energy consumption and economic growth have noticed the decomposition of energy variable into renewable and nonrenewable energy sources (Al-mulali, 2011; Apergis & Payne, 2010; Kum, Ocal, & Aslan, 2012; Payne & Taylor, 2008; Yang, 2000). Among these studies, some have been focusing on factors affecting renewable energy consumption or production. The researches on investigating the determinants for renewable energy can be further grouped into single country or a panel of countries, various econometric techniques, developed or developing countries, and different types of renewable energy.

By utilizing a dynamic system-GMM panel model, Omri and Nguyen (2014) discover that CO₂ emissions and trade openness do play an important role in contributing to higher renewable energy consumption in 64 countries for the period 1990 to 2011. However, a rise in oil price is found to have a negative impact on renewable energy consumption in the middle-income countries as well as global panel. Sebri and Ben-Salha (2014) apply ARDL bounds testing approach to cointegration and vector error correction model reveal a long run equilibrium relationship among economic growth, renewable energy consumption, trade openness and carbon dioxide emissions and a bidirectional causality between renewable energy consumption and economic growth in BRICS countries. In addition, a unidirectional causality is found to run from output to renewable energy in the case of OECD countries in the study by Ben Jebli, Youssef, and Ozturk (2016). This study attempts to examine the causal relationship among various variables such as CO₂ emissions, GDP, trade openness and renewable energy consumption for a sample of 25 OECD countries from 1980 to 2010. Similarly, Apergis and Payne (2010) also examine the energy-growth nexus in OECD countries over the period of 1985-2005 using heterogeneous techniques. The results suggest that there is a bi-directional causality between economic growth and renewable energy consumption. In addition, the outcomes of a study by Sadorsky (2009) show that income and pollution have a long run positive effect on per capita renewable energy consumption in G7 countries using panel cointegration techniques. However, increase in oil price is found to have impacted renewable energy consumption negatively. A more recent study by Saidi and Ben Mbarek (2016) employing a dataset for nine developed countries over the period 1990 to 2013 claim that there is a bidirectional causal relationship between renewable energy consumption and real GDP per capita.

A study by Ben Jebli and Ben Youssef (2015) reveals that there is a unidirectional causality relationship running from GDP, carbon emissions, nonrenewable energy and trade openness to renewable energy in Tunisia. Using FMOLS, DOLS and ARDL, Rafiq and Alam (2010) investigate the factors influencing the consumption of renewable energy in six emerging economies, namely Brazil, China, India, Indonesia, Philippines and Turkey. The results indicate that GDP and CO₂ emissions affect renewable energy consumption in Brazil, China, India and Indonesia. For Philippines and Turkey, income is the only influencer for renewable energy adoption. Sovacool (2009) reveals that the share of fossil fuels plays an important role in explaining the consumption of renewable energy in the United States. Most recently, Lin, Omoju, and Okonkwo (2016) employ the Johansen cointegration technique and vector error correction model to identify the determinants of the share of renewable electricity in total electricity consumption in China for the years 1980-2011. The results indicate that economic growth and financial development tend to encourage renewable electricity consumption. However, foreign direct investment, traditional energy sources and trade openness reduce the consumption on renewable energy. A unidirectional causality is also found running from financial development to renewable electricity consumption. The results imply that the government policies should gear towards the use of renewable energy sources to ensure reduced CO₂ emissions and sustainable economic growth in China.

In the context of Malaysia, none of the existing literature has studied the factors affecting renewable energy consumption in the country. Much of the literature about Malaysia has been focusing on presenting the descriptive analysis and surveys, which show a review on the current situation of renewable energy adoption. For example, Petinrin and Shaaban (2015) attempt to find out the most prospective renewable energy sources in Malaysia. They conclude that biomass and solar energy are the most potential types of renewable energy in the country. The study also looks into the effectiveness of the existing renewable strategies implemented in Malaysia. Similarly, Mekhilef et al. (2014) give a detailed description on Malaysian energy policies and renewable energy programs in their study.

The study further concludes that enhanced collaboration between the public and private sectors is needed to fully utilize the renewable energy sources. In addition, Bujang, Bern, and Brumm (2016) also provide a discussion on the renewable energy initiatives in Malaysia. The study further suggests that more aggressive efforts need to be taken to develop the potential of renewable resources in order to reduce the consumption of fossil fuel. Basri, Ramli, and Aliyu (2015) go a step further by discussing both energy policies and potential renewable energy sources in their study. The study also stresses the importance of strategies such as inclusion of renewable energy into energy mix, adoption of more effective energy policies and power expansion plan to achieve sustainability in Malaysia. Shekarchian et al. (2011) provide an overview on the pattern of electricity production and total pollutant emission in the country for the period 1976-2008. In the study, data on electricity production and total pollutant emissions for the said period are collected for both power plants using fossil fuel and renewables. The results suggest that the use of renewable energy sources should be increased in order to reduce pollution in Malaysia.

METHODOLOGY

The study uses annual time series data for the period from 1980 to 2012 in Malaysia. The data is derived from International Energy Statistics and World Development Indicators (WDI). The dependent variable in the model refers to renewable electricity consumption which is measured using renewable electricity net consumption in billion kWh. Meanwhile the explanatory variables included are economic growth, carbon dioxide (CO₂) emissions, trade openness, FDI which are denoted by GDP per capita (US\$), CO₂ emissions in metric tons per capita, share of import and export in GDP, ratio of foreign investment to GDP respectively. In order to reduce the variation and induce stationarity in the variance-covariance matrix, the natural logarithmic form (ln) is applied to all the variables.

The analysis is started by determining the order of integration of the variables using unit root test based on Augmented Dickey Fuller (ADF), Phillips and Perron (PP) test, then follow by Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. After deciding the order of integration, the

existence of long run relationship between the variables is tested. The autoregressive distributed lag (ARDL) method (Pesaran et al., 2001) is proposed due to its effective applications for small sample sizes compared to Johansen (1988) and Engle and Granger (1987) tests. ARDL is also applicable irrespective of the variables are integrated of order zero or one or mutually cointegrated as long as not order two. Moreover, Banerjee et al. (1998) claimed that ARDL does not convert the short run coefficients into residuals. In essence, ARDL procedure involves the estimation of unrestricted error correction model (UECM) in first difference form, augmented with one period lagged of all variables in the model. The UECM model is shown as follows:

$$\begin{aligned} \Delta \ln REC_t = & \alpha_0 + \alpha_1 DU_t + \beta_1 \ln REC_{t-1} + \beta_2 \ln GDP_{t-1} + \beta_3 \ln CO2_{t-1} + \beta_4 \ln TRADE_{t-1} + \beta_5 \ln FDI_{t-1} \\ & + \beta_6 \ln FUEL_{t-1} + \sum_{i=1}^p \beta_i \Delta \ln REC_{t-i} + \sum_{j=0}^q \beta_j \Delta \ln GDP_{t-j} + \sum_{k=0}^r \beta_k \Delta \ln CO2_{t-k} \\ & + \sum_{l=0}^s \beta_l \Delta \ln TRADE_{t-l} + \sum_{m=0}^t \beta_m \Delta \ln FDI_{t-m} + \sum_{n=0}^u \beta_n \Delta \ln FUEL_{t-n} + \mu_t \end{aligned}$$

where Δ is the first difference operator and μ_t is error term. The optimal lag length is selected based on Akaike's Information Criterion (AIC). The F-statistics derived from Wald tests is used to determine the joint significance of the coefficients of the lagged level of the variables (Pesaran et al., 2001). The null hypothesis of no cointegration is established as $H_0: \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 = 0$. The upper bound critical value (UCB) assumes that all the regressors are I(1) while I(0) for lower bound critical value (LCB). Given that the sample size of this study is relatively small (T=33), the rejection of null hypothesis refers to the critical value simulated by Narayan (2005). It was proved that the cointegration existed between the variables if F-statistics is greater than UCB. Otherwise the null hypothesis cannot be rejected if F-statistics is lower than LCB which indicates that the variables are not cointegrated. According to Bardsen (1989), the long run coefficients are estimated using the ratio of coefficients of each independent variables to dependent variable's coefficient respectively. On the other hand, the lagged in error correction term added in the model to determine the short run adjustment rate towards the long run equilibrium rate.

This is followed by Granger causality test to investigate the causal relationship between the variables in short run. If the variables are not cointegrated, the vector autoregressive (VAR) in first difference form is employed. In contrast, if the cointegration is found between the variables, the study estimate the direction of causality using vector error correction models (VECM).

$$\begin{aligned} \Delta \ln REC_t = & v_1 + \sum_{i=1}^k \gamma_{1i} \Delta \ln REC_{t-i} + \sum_{i=0}^k \delta_{1i} \Delta \ln GDP_{t-i} + \sum_{i=0}^k \theta_{1i} \Delta \ln CO2_{t-i} + \sum_{i=0}^k \sigma_{1i} \Delta \ln TRADE_{t-i} \\ & + \sum_{i=0}^k \lambda_{1i} \Delta \ln FDI_{t-i} + \sum_{i=0}^k \tau_{1i} \Delta \ln FUEL_{t-i} + \zeta_{1t} \end{aligned}$$

where Δ is the first difference operator, k is the optimal lag order based on AIC and ζ_{1t} is error term.

RESULTS

Unit Root Test

Table 1 presents the results of the ADF, PP and KPSS unit root tests. Both ADF and PP tests reveal that all variables are non-stationarity at level except for FDI. The variables turn into stationary at the first difference. Meanwhile, all the variables are found to be stationary at level at 1% significance level. As there is no integration of order two, we confirm that ARDL bound test is suitably employed to determine the long run cointegration between GDP, CO₂ emissions, trade and FDI with renewable electricity consumption (REC) in Malaysia.

Table 1: Unit root test

	ADF		PP		KPSS	
	Level	Difference	Level	Difference	Level	Difference
REC	-3.1289(1)	-5.4275(1)***	-2.6822	-5.445***	0.1385***	0.1921***
GDP	-1.6703(0)	-4.5996(0)***	-1.8701	-4.5996***	0.1067***	0.0713***
CO ₂	-1.5755(0)	-6.1939(0)***	-1.6366	-6.1677***	0.1338***	0.0743***
TRADE	0.3093(3)	-3.3423(2)*	0.0902	-3.5929**	0.1770***	0.2252
FDI	-4.855(0)***	-5.1463(6)***	-4.8405***	-18.681***	0.0882***	0.5

Notes: Both intercept and deterministic trend are included in the test equation for the variable in level and first difference. The ADF and PP with t-Statistic while LM-Statistic for KPSS. The optimal lag length in ADF equation is reported in () and based on SIC. ***, ** and * denote significance at 1%, 5% and 10%, respectively.

ARDL Bound Test

Table 2 presents the results of the bounds test based on REC and its determinants. The ARDL (2, 4, 4, 2, 4) model is selected to fit the data of value added per capita in service sector. The selection of optimal lags is one based on SIC and HQ tests. The computed F-statistic of 11.485 in ARDL bound test is greater than the upper critical bound value of 6.368 at the 1% level based on Pesaran et al. (2001) and Narayan (2005). The rejection of null hypothesis of no cointegration suggests that the existence of steady-state long run relationship among GDP, CO₂ emissions, trade, FDI and renewable electricity consumption in Malaysia. This is in line with the studies conducted by Sardorsky (2009) and Sebri and Ben-Salha (2014) who reveal a long run relationship among the variables.

The robustness of the model is confirmed by the diagnostic tests such as Breusch-Godfrey serial correlation Lagrange multiplier (LM), autoregressive conditional heteroskedasticity (ARCH), normality test and Ramsey RESET. The Breusch-Godfrey serial correlation LM test indicates that the model is free from serial correlation problem. There is no heteroskedasticity problem found from ARCH test. Then, Jarque-Bera test shows that the error term of model is normally distributed. In addition, Ramsey RESET test indicates that there is no functional form misspecification. Furthermore, plots of cumulative sum (CUSUM) and CUSUM of squares tests in Figure 1 point out that no misspecification and structural instability of long-run and short-run estimated parameters appeared in the sample period. This implies that the estimated parameters of the model produce a reliable estimation.

Table 2: ARDL bound test

Model	F-statistic	Conclusion
$REC = f(GDP, CO_2, TRADE, FDI)$	11.485***	Cointegrated
Optimal lag	[2,4, 4, 2, 4]	
Critical value	I(0)	I(1)
1% significance level	4.590	6.368
5% significance level	3.276	4.630
10% significance level	2.696	3.898

Critical values: case III: unrestricted intercept and no trend (k=4, T=35).

Notes: Diagnostic test

Normality test: 0.6333 (0.7285)

Breusch-Godfrey LM test: 2.8857 (0.1646)

Heteroskedasticity test: 2.0626 (0.1474)

Ramsey RESET: 0.2576 (0.8041)

() refers to p-values.

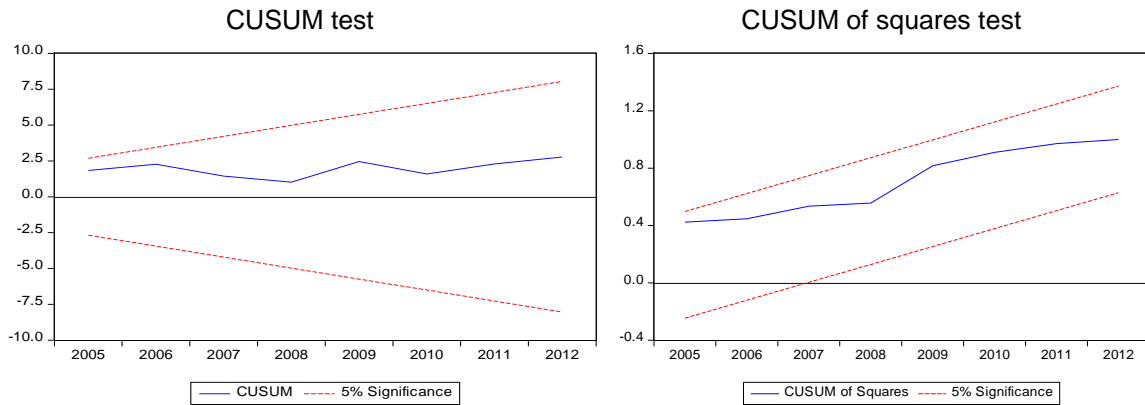


Figure 1: Plot of cumulative sum (CUSUM) and CUSUM of squares tests for the equation of renewable electricity consumption

Table 3 indicates the results of long-run elasticities of explanatory variables on renewable electricity consumption. Interestingly, all the explanatory variables are found to be significant in explaining the renewable electricity consumption in the long run in Malaysia. It is evident that GDP possesses a positive and significant coefficient throughout the long run at 5% significance level, indicating that 1% increases of GDP would increase the renewable electricity consumption by 10.295%. The result is within our expectation as higher economic growth would allow the economy to have more resources to promote the use of greener energy sources that include renewable electricity. In the meantime, better economic performance enables people in the country to have more income to spend on environmental protection and to demand more of renewable energy. The positive impact of GDP on renewable electricity consumption is verified by previous studies such as Marques and Fuinhas (2011) and Rafiq and Alam (2010). In addition, the finding further implies the importance of economic growth in boosting renewable electricity consumption by increasing its ability to develop technologies related to renewable electricity in Malaysia.

Besides, an additional percentage increases in FDI also significantly raises renewable electricity consumption by 0.777%. This suggests that technological transfer through FDI has successfully enhanced the consumption of renewable electricity. Our finding agrees with the popular belief that FDI is essential in improving renewable electricity adoption. Nonetheless, the result does not support the findings of previous studies such as Peterson (2007) who finds no evidence of a positive relationship between FDI and renewable energy consumption.

Both CO₂ emissions and trade openness are found to be negatively related to renewable electricity consumption in the long run. For CO₂ emissions, its one percentage change would significantly decrease renewable electricity consumption by 6.318%. This indicates that the deterioration of environmental quality tend to reduce renewable electricity adoption in Malaysia as suggested by Marques, Fuinhas, and Manso (2010). However, our finding is not in line with Omri and Nguyen (2014) and Sadorsky (2009) who claim that a rise in CO₂ emissions is the major driver for renewable electricity consumption. In the case of Malaysia, it is obvious that the level of CO₂ emissions at this moment is not sufficient to encourage a switch from nonrenewable energy sources to renewable ones. Instead, the current level of CO₂ emissions tends to encourage the burning of fossil-based fuels. The result can also imply that awareness among the public on the importance of utilizing renewable electricity is still lacking in the country.

On the other hand, the renewable electricity consumption is diminished by 0.991% as one percent increase in trading. The result indicates that foreign trade is not able to encourage the exchange of renewable technologies in electricity generation via technological transfer and it does not promote the adoption of renewable electricity in Malaysia. This finding is in line with the result reported by Lin, Omoju, and Okonkwo (2016). However, it contradicts with conclusions documented in literature such as Ben Jebli and Ben Youssef (2015) and Omri and Nguyen (2014) who claim that trade openness leads to an increase in the use of renewable energy.

Table 3: Long-run coefficient of renewable electricity consumption

Variable	Coefficient	Standard Error
C	-73.839**	23.668
GDP	10.295**	3.1098
CO ₂	-6.318**	2.2289
TRADE	-0.991**	0.3996
FDI	0.777**	0.2553

Notes: ***, ** and * denote significance at 1%, 5% and 10%, respectively

VECM Granger Causality test

The results of Granger causality as shown in Table 4 indicates that GDP does Granger-cause renewable electricity consumption in a unidirectional way at 1% significance level. This result confirms the importance of economic development of Malaysia in promoting renewable electricity consumption. Similar to findings obtained by Furuoka (2017) and Kula (2014), a unidirectional causality is also found from GDP to renewable electricity consumption. But our finding differs from studies by Farhani and Shahbaz (2014) and Al-mulali, Fereidouni, and Lee (2014) who found no causality and bidirectional relationship between economic growth and renewable electricity adoption respectively.

Besides, the existence of unidirectional causal relationship is found from GDP to CO₂ emissions at 10% significance level indicating that economic growth does contribute to the deterioration of environmental quality in Malaysia. It is consistent with the findings of Shafiei and Salim (2014) who also discover a unidirectional causality from GDP to CO₂ emissions in the case of OECD countries. Our result, however, is contradictory with the finding by Menyah and Wolde-Rufael (2010) who suggest that there is a bidirectional relationship between the two variables.

In addition, there is a unidirectional causal relationship between CO₂ emissions and FDI at 5% significance level. The result indicates that the environmental degradation might affect FDI in Malaysia. This might further implies that Malaysia has become a pollution haven for developed countries in particular to move their dirty industries to. In other words, our finding is consistent with the pollution haven hypothesis.³⁵

Table 4: VECM granger causality

Dependent variables	D(REC)	D(GDP)	D(CO ₂)	D(TRADE)	D(FDI)
D(REC)	-	7.6281***	1.7184	0.0311	0.0107
D(GDP)	0.2067	-	0.8488	1.3353	0.4768
D(CO ₂)	0.3258	3.8105*	-	1.7646	0.0216
D(TRADE)	0.6403	0.5038	0.5811	-	0.2489
D(FDI)	1.1533	0.6052	3.8472**	0.0777	-

Notes: ***, ** and * denote significance at 1%, 5% and 10%, respectively

CONCLUSION AND POLICY IMPLICATION

Identifying the determinants for renewable electricity consumption is important for Malaysia to design appropriate policies and strategies that can help to combat environmental problems. In this study, we analyze the drivers and barriers to the adoption of renewable electricity in Malaysia using annual data from 1980 to 2012. To be more specific, our study intends to investigate the short- and long-run relationship among renewable electricity

³⁵ According to pollution haven hypothesis, carbon-intensive industries have the tendency to move from countries with stricter environmental laws to those nations with lower environmental standards.

consumption, economic growth, CO₂ emissions, foreign direct investment and trade openness using autoregressive distributed lag (ARDL) bounds testing cointegration approach and VECM Granger causality test.

Results obtained from autoregressive distributed lag (ARDL) bounds testing cointegration approach reveal that economic growth and FDI are the main drivers for renewable electricity consumption in Malaysia. This implies that renewable electricity consumption could be further enhanced via an increase in GDP and FDI. On the other hand, CO₂ emissions and trade openness are discovered to have a negative effect on renewable electricity consumption in the long-run, indicating that the two variables tend to hinder the adoption of renewable electricity. Furthermore, a unidirectional causality relationship is found running from GDP to renewable electricity consumption, suggesting that conservation hypothesis is valid in the case of Malaysia. It is also confirmed that a unidirectional Granger causality is running from economic growth to CO₂ emissions, but not vice versa. This implies that a reduction in CO₂ emissions could only be achieved by giving up economic growth. In addition, there is a unidirectional causal relationship running from CO₂ emissions to FDI. The higher CO₂ emissions mean higher FDI, further suggesting the possibility that Malaysia has become a pollution haven for developed countries to dump their polluting industries.

Several important policy implications can be drawn based on the results obtained. It seems that people's awareness towards the use of renewable electricity is getting higher in Malaysia as the economy grows and environmental degradation worsens at the same time. In relation to this, the policy makers should continue to implement sound fiscal and monetary policies that can ensure robust growth while encouraging the development of renewable energy in the country. We also find that FDI has a positive impact on renewable electricity consumption. This result is indicative of the fact that FDI can be utilized as a tool to promote the use of renewables. While attracting more FDI, the Malaysian government needs to ensure that only those foreign investors who develop and adopt renewable energy are welcome to the country. As trade openness hinders the adoption of renewable electricity, it is suggested that the policy makers have to ensure that trade between Malaysia and trading partners involves the transfer or use of technologies related to renewables. In this context, for example, the government can encourage the use of renewables among local exporters by providing them incentives such as tax exemption.

REFERENCES

- Al-Iriani, M. A. (2006). Energy-GDP relationship revisited: an example from GCC countries using panel causality. *Energy Policy*, 34, 3342-3350.
- Al-mulali, U., Fereidouni, H. G., & Lee, J. Y. M. (2014). Electricity consumption from renewable and non-renewable sources and economic growth: evidence from Latin American countries.
- Al-mulali, O. (2011). Oil consumption, CO₂ emission and economic growth in MENA countries. *Energy*, 36, 6165-6171. *Renewable and Sustainable Energy Review*, 30, 290-298.
- Apergis, N., & Payne, J. E. (2010). Renewable energy consumption and economic growth: evidence from a panel of OECD countries. *Energy Policy*, 38, 656-660.
- Banerjee, A., Dolado, J., & Mestre, R. (1998). Error-correction mechanism tests for cointegration in a single-equation framework. *Journal of time series analysis*, 19(3), 267-283.
- Bårdsen, G. (1989). Estimation of long run coefficients in error correction models. *Oxford Bulletin of Economics and Statistics*, 51(3), 345-350.
- Basri, N. A., Ramli, A. T., & Aliyu, A. S. (2015). Malaysia energy strategy towards sustainability: A panoramic overview of the benefits and challenges. *Renewable and Sustainable Energy Reviews*, 42, 1094-1105.

- Belloumi, M. (2009). Energy consumption and GDP in Tunisia: cointegration and causality analysis. *Energy Policy*, 37, 2745-2753.
- Ben Jebli, M., & Ben Youssef, S. (2015). The environmental Kuznets curve, economic growth, renewable and non-renewable energy, and trade in Tunisia. *Renewable and Sustainable Energy Reviews*, 47, 173-185.
- Ben Jebli, M., Ben Youssef, S., & Ozturk, I. (2015). Testing environmental Kuznets curve hypothesis: The role of renewable and non-renewable energy consumption and trade in OECD countries. *Ecological Indicators*, 60, 824-831.
- Borožan, D. (2013). Exploring the relationship between energy consumption and GDP: evidence from Croatia. *Energy Policy*, 59, 373-381.
- Bujang, A. S., Bern, C. J., & Brumm, T. J. (2016). Summary of energy demand and renewable energy policies in Malaysia. *Renewable and Sustainable Energy Reviews*, 53, 1459-1467.
- Dagher, I., & Yacoubian, T. (2012). The causal relationship between energy consumption and economic growth in Lebanon. *Energy Policy*, 50, 795-801.
- Engle, R. F., & Granger, C. W. (1987). Cointegration and error correction: Representation, estimation, and testing. *Econometrica* 55(2), 251-276.
- Farhani, S., & Shahbaz, M. (2014). What role of renewable and non-renewable electricity consumption and output is needed to initially mitigate CO₂ emissions in MENA region? *Renewable and Sustainable Energy Reviews*, 40, 80-90.
- Furuoka, F. (2017). Renewable electricity consumption and economic development: New findings from the Baltic countries. *Renewable and Sustainable Energy Reviews*, 71, 450-463.
- Ghali, K.H., El-Sakka, M.I.T. (2004). Energy use and output growth in Canada: a multivariate cointegration analysis. *Energy Economics*, 26, 225-238.
- Hosseini, A., Yazdan, G. F., & Ehsan, A. G. (2012). The relationship between energy consumption, energy prices and economic growth: case study (OPEC countries). *OPEC Energy Reviews*, 36(3), 272-286.
- Johansen, S. (1988). Statistical analysis of cointegration vectors. *Journal of economic dynamics and control*, 12(2-3), 231-254.
- Kardooni, R., Yusof, S., & Kari, F. (2016). Renewable energy technology acceptance in Peninsular Malaysia. *Energy Policy*, 88, 1-10.
- Klugman, J. (2011). *Sustainability and equity: A better future for all (Human Development Report)*. New York, USA: UNDP
- Kula, F. (2014). The long-run relationship between renewable electricity consumption and GDP: evidence from panel data. *Energy Sources, Part B: Economics, Planning, and Policy*, 9(2), 156-160.
- Kum, H., Ocal, O., & Aslan, A. (2012). The relationship among natural gas energy consumption, capital and economic growth: bootstrap-corrected causality tests from G-7 countries. *Renewable and Sustainable Energy Reviews*, 16, 2361-2365.
- Kwiatkowski, D., Phillips, P. C., Schmidt, P., & Shin, Y. (1992). Testing the null hypothesis of stationarity against the alternative of a unit root: How sure are we that economic time series have a unit root?. *Journal of econometrics*, 54(1-3), 159-178.

- Lee, C. C., Chang, C. P., & Chen, P. F. (2008). Energy-income causality in OECD countries revisited: The key role of capital stock. *Energy Economics*, 30, 2359-2373.
- Lin, B., Omoju, O. E., & Okonkwo, J. U. (2016). Factors influencing renewable electricity consumption in China. *Renewable and Sustainable Energy Reviews*, 55, 687-696.
- Marques, A. C., & Fuinhas, J. A. (2011). Drivers promoting renewable energy: A dynamic panel approach. *Renewable and Sustainable Energy Reviews*, 15(3), 1601-1608.
- Marques, A. C., Fuinhas, J. A., & Manso, J. P. (2010). Motivations driving renewable energy in European countries: A panel data approach. *Energy policy*, 38(11), 6877-6885.
- Mekhilef, S., Barimani, M., Safari, A., & Salam, Z. (2014). Malaysia's renewable energy policies and program with green aspects. *Renewable and Sustainable Energy Reviews*, 40, 497-504.
- Menyah, K., & Wolde-Rufael, Y. (2010). CO2 emissions, nuclear energy, renewable energy and economic growth in the US. *Energy Policy*, 38, 2911-2915.
- Narayan, P. K. (2005). The saving and investment nexus for China: evidence from cointegration tests. *Applied Economics*, 37(17), 1979-1990.
- Omri, A., & Nguyen, D. K. (2014). On the determinants of renewable energy consumption: International evidence. *Energy*, 72, 554-560.
- Payne, J. E., & Taylor, J. P. (2008). Nuclear energy consumption and economic growth in the U.S: an empirical note. *Energy Sources*, 5, 301-307.
- Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289-326.
- Peterson, S. (2007). Greenhouse gas mitigation in developing countries through technology transfer?: a survey of empirical evidence. *Mitigation and Adaptation Strategies for Global Change*, 13(3), 283-305.
- Petinrin, J. O., & Shaaban, M. (2015). Renewable energy for continuous energy sustainability in Malaysia. *Renewable and Sustainable Energy Reviews*, 50, 967-981.
- Popp, D., Hascic, I., Medhi, N. (2011). Technology and the diffusion of renewable energy. *Energy Economics*, 55, 648-662.
- Rafiq, S., & Alam, K. (2010). *Identifying the determinants of renewable energy consumption in leading renewable energy investor emerging countries*, presented at the 39th Australian Conference of Economists, Sydney, 2010.
- Sadorsky, P. (2009). Renewable energy consumption, CO₂ emissions and oil prices in the G7 countries. *Energy Economics*, 31, 456-462.
- Saidi, K., & Mbarek, M. B. (2016). Nuclear energy, renewable energy, CO₂ emissions, and economic growth for nine developed countries: Evidence from panel Granger causality tests. *Progress in Nuclear Energy*, 88, 364-374.
- Sebri, M., & Ben-Salha, O. (2014). On the causal dynamics between economic growth, renewable energy consumption, CO₂ emissions and trade openness: fresh evidence from BRICS countries. *Renewable and Sustainable Energy Reviews*, 39, 14-23.
- Shafie, S., & Salim, R. A. (2014). Nonrenewable and renewable energy consumption and CO₂ emissions in OECD countries: a comparative analysis. *Energy Policy*, 66, 547-556.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Shekarchian, M., Moghavvemi, M., Mahlia, T. M. I., & Mazandarani, A. (2011). A review on the pattern of electricity generation and emission in Malaysia from 1976 to 2008. *Renewable and Sustainable Energy Reviews*, 15(6), 2629-2642.
- Sovacool, B. (2009). Rejecting renewables: the socio-technical impediments to renewable electricity in the United States. *Energy Policy*, 37, 4500-4513.
- Yang, H. Y. (2000). Coal consumption and economic growth in Taiwan. *Energy Sources*, 22, 9-15.

The Local Economic Impact of A University: A Qualitative Study Using Focus Group

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Abstract

Universities often create significant impacts to its local community. It is imperative to evaluate and acknowledge the economic impacts generated by university towards its local residents as these are deemed as affecting their bread and butter. The purpose of this research is to investigate the views and perceptions of Kampar residents towards the impacts of Universiti Tunku Abdul Rahman (UTAR) on residential property and rental, job opportunity and expenditure in the local community. A qualitative research using focus groups method has been adopted in this research. The findings of this research and the literatures supported the importance to recognize the economic impacts of UTAR towards the Kampar residents. Among the findings, property and rental and expenditure are the most significant impacts to the local residents. The originality of the study is to address discover the institutional impacts of a university in terms of economic impacts on residential property and rental, job opportunity and expenditure in Kampar. The results of this research can contribute to the body of knowledge that helps researchers to understand the institutional impacts of university on economic aspects in the local community. The findings will enhance the knowledge base for further studies of the economic aspect in Kampar area. Besides, the local authority and the management of the university will also be benefited by using these findings to improve their existing policies and strategies for their respective future development planning in Kampar.

Keywords: Property and Rental, Job Opportunity, Expenditure, Focus Groups, UTAR.

INTRODUCTION

Higher education institutions such as universities and colleges play an important role in affecting both economic and social aspects of the local community. They affect their local economy through employment, direct spending on products and services and through indirect ways such as properties development. The presence of Universiti Tunku Abdul Rahman in Kampar, Perak since 2007 had generated significant impacts to the local and regional economies. Therefore, it is essential to evaluate and acknowledge the economic impacts generated by a university towards its local community. The researchers had initiated a case study in order to estimate the institutional impacts of Universiti Tunku Abdul Rahman on its local economy in terms of the influence on property value and rental, job opportunity and household expenditure. Little is known about the perception of local residents towards the institutional impacts of the University. This research objective is to investigate the views and perceptions of residents in old town towards the impacts of UTAR on residential property and rental, job opportunity and expenditure in the local community.

Background of Kampar

Kampar is a small town in the south of Perak state. It was a tin mining town that reached the height of the tin mining industry. However, Kampar seems to have lost its luster after the collapse of the industry in the early 1980 (Foong, 2015). Kampar managed to reclaim its glory when it gradually emerged as a bustling educational hub by housing Tunku Abdul Rahman University College (TARUC) in 1998, Universiti Tunku Abdul Rahman (UTAR) in 2007 and Westlake International School (WIS) in 2015 (Foong, 2015) and growing its popularity as a favourite tourist destination. Commercial, industrial sectors and the construction of residential and commercial properties are the main driving forces of Kampar's economy. Businesses in the Kampar old town comprises of local retailers such as coffee shops, goldsmiths, Traditional Chinese Medicine stalls and etc. However Kampar new town more focuses on residential

developments and some commerce servicing the growing education industry in Kampar. For example, there are three hypermarkets (Tesco, Eonsave and Giant), a three-star hotel (Grand Kampar Hotel) and many fast food restaurants such as McDonalds, KFC and Subway were established to cater the growing number of students and local residents in Kampar (Mahyidin, 2011). The transportation services available in Kampar are local town bus service, long distance, intercity express buses, taxis and Electric Train Service provided by Keratapi Tanah Melayu (KTM).

Background of UTAR

Universiti Tunku Abdul Rahman (UTAR) is a non-profit, comprehensive, private university in Malaysia that was founded by Tun Dr. Ling Liong Sik under UTAR Education Foundation in year 2002 (UTAR, n.d). UTAR commenced its operation with the first batch of 411 students, and growth to more than 26,000 students in 2017 spreading over Sungai Long and Kampar, Perak campuses (UTAR, n.d.). UTAR Kampar campus welcomed its first batch of students in May 2007. It draws students from all over Malaysia and the rest of the world to study at its Kampar campus. The growing number of students, faculties and staffs has increased to total population of Kampar and changed the social and economics of the local community.

Research Significance

The study focuses on the assessment of UTAR impact on the Kampar community. The research will evaluate UTAR's influence on life residents by qualitative measures as described by participants. The research conducted may give insight as to how UTAR and the Kampar community interact while providing a base for further studies of the economic and social aspects in Kampar area.

There are three significant contributions of the research study:

1. Measure the local impact of a higher education institution.
2. Provide detail information on how a higher education institution actively engages in their localities.
3. Furnish implication on how this role might be encouraged and enhanced so that institutional engagement is more systematic and effective.

LITERATURE REVIEW

Property Value and Rental

Property is a necessity and an essential product that serves basic needs of shelter and security. Property value and rental are affected by various environmental and social factors, apart from intrinsic factors like type of property and building area (Abidoye & Chan, 2016). In general, external factors including location-proximity to city centre, availability of public transport which is reliable and easily accessible, and recreational parks, establishment of an institute of higher education like a university or collage, are perceived as accelerating value and rental of properties surrounding it.

It was discovered that the immediate areas of influence are those properties located within a radius of one kilometre from the campus (Anamaria & Melchior, 2007). The impact of a university on land and property value depend the proximity of the assets to the university. This notion is supported by findings of the study of Ankali (2007) that the setting up of a polytechnic led to influx of a large number of people into the town which caused moderate increase in rental value of residential property market sub-sector. This situation infers that higher level of population causes higher demand on property and leads to appreciation of housing and commercial property prices. Consequently, it is anticipated by the public and investors that the existence of a sizeable university like University Tunku Abdul Rahman (UTAR) Kampar campus with a population exceeding sixteen thousand students and staffs will have substantial positive impact on property value and rental accordingly.

Job opportunity

Studies have shown that universities create a lot of job opportunities to the local community. Universities are the largest single employers providing varieties of job opportunities pay above average. Recently, there is substantial employment growth in education sector

(universities) when there is downward trend in employment in other economic sectors. University has supported local businesses and unemployed residents to upgrade their skills during the recent Recession years. Rural colleges and universities gave the unemployed a second chance (Herrmann, 2009).

Small towns thrive off of their local businesses, and having a university in a rural town can generate positive effects on businesses in the area. First and foremost, a university in a rural area relies on local businesses for their supplies, goods, services, and resources in order to operate. At large, more business means more jobs for community members and students attending the university. Often there are times in rural areas where it can be hard to find work for both the students and the locals, but when universities obtain services from local businesses it can result in a cause and effect correlation. Without the contribution of the university and the employees, it could be assumed that the local businesses would not do as well, resulting in fewer income and employees (Hoffman & Hill, 2009)

Similar findings are found in this research. As predicted in the earlier studies, the establishment of private higher education institutions in Kampar brings varieties of permanent jobs opportunities to the residents and non-resident in Kampar town. There is a substantial growth in employment that is aligned with the growth of number of students studying in the private higher education institutions in Kampar. Respondents from the focus group had conformity in agreeing that the number of students is increasing in Kampar since the establishments of these institutions. These institutions provided more permanent job opportunities to academics, officers and guards to cater the increasing demand for higher education in Kampar town. Subsequently, there is an influx of people from different origin appeared in Kampar town since the establishments of higher education institutions in Kampar town since 2008.

Household Expenditure

The studies of economic impact are useful tools many universities use to study their effect within their local and/or regional economies. While the economic impacts of a higher education institution are mixed and far-reaching, those impacts can be considered as either effects on, research and development, knowledge creation, or as effects of the direct and indirect expenses flowing into the neighboring economy (Stokes & Coomes, 1998). The existence of the universities and colleges has influence the expenditure style and pattern among the households of the local community.

RESEARCH METHODOLOGY

The current study investigated the resident's view about the institutional impacts of UTAR on Kampar by using a focus group design. Focus group can be used as a qualitative research method to gain information from a selected group of individuals, normally 5 to 7 persons, about their perception and views on a predetermined topic (Stewart and Shamdasani, 1990). This method involves organized and moderated discussions with the presence of the researcher as a moderator and it is particularly suitable for gathering information from various perspectives about a topic. Many researchers employ focus group method as a data collection technique for qualitative study. It is considered as a qualitative research as it focuses on collecting and analyzing words, expression and observations to gauge reality and facts. In the focus group process, a qualitative data gathering technique called group interview is conducted by a moderator and can be used at any point of time in a research program depend on the need of the research (Kruegger, 1988).

This focus group participants consisted of 5 residents selected from Kampar area. Initially, the researchers have developed 6 open-ended questions to stimulate participants' discussions related to the institutional impacts of UTAR on the local community. The questions developed are as follows:

1. Could you please introduce yourself (Name, occupation, years of living in old town)?
What is your impression towards the Kampar?
2. What do you understand about UTAR?

3. What is the impact of UTAR on residential property and rental?
4. What is the impact of UTAR on job opportunity?
5. What is the impact of UTAR on household expenditure?
6. What other impacts of UTAR towards the local community?

DATA ANALYSIS

The researchers facilitated the groups during the focus group session and discussions were recorded by using voice recorder.

The following steps were undertaken in analyzing data collected by the focus group method:

1. Transferred the voice recording files from the recorder to computer.
2. Listened to the voice recording and transcribed the content of the voice recording into word document.
3. Double checked the data and edited the content of the transcript.

Further, the edited content was categorized in to three themes. The focus group data analysis method pioneered by Stewart and Shamdasani (1990) was adapted for coding and categorizing data collected from focus group discussion. The task of coding the transcript required the researchers going through the transcripts in detail, line by line and paragraph by paragraph, in an attempt to look for meaningful statements and codes the reflects the facts according to the topics discussed. The researchers then compared the various codes in an effort to discover similarities and differences for grouping purpose. The codes with high congruence were sorted out and group into various categories. Finally the categories formed were further summarized into 3 themes, as follows:

Themes		
Residential Property and Rental	Job Opportunity	Household Expenditure
The property market value has increased substantially.	Inflow trend of local talents back to Kampar.	The expenses on food have increased.
The land in Kampar is very limited.	Former students currently work with UTAR.	GST and service charge.

FINDING AND DISCUSSION

Residential Property and Rental

This was a hot topic of focus group discussion where Kampar residents had actively presented their views. The residents had described their perception of the market value of residential property and rental in Kampar after the inception of UTAR Kampar campus. Almost all the residents agreed that the market value of residential property and rental keep on increasing year by year.

One of the residents commented that the housing value in Kampar is much higher as compare to the past. Furthermore, the land area near to UTAR is quite limited. Unlike some area further from UTAR like Malim Nawar or Mambang Di Awan, where ample land is available for the development of new housing area. However, one resident highlighted that the market value of residential property and rental in Kampar has to depend on the location. Not all are expensive.

There is a person who has bought a block of shop houses for warehousing and other business purposes, but not for the rent. The market value of the shops at Jalan Idris is more than RM500,000 per unit. As compare the property value between Jalan Gopeng and Jalan Idris, obviously Jalan Idris is much higher than Jalan Gopeng. The market value has increase substantially. Rental also not cheap, about RM1,000 to RM2,000 per month. The market value is expected to increase further. People are expecting high price even though the original price is far much lower. Another example is the terrace house in Wah Loong, which is now increased to

about RM100,000. The original price is ranged between RM20,000-RM30,000 about 30 years ago.

It is worth to note that there are many shop lots in the old town were left empty, no reconstruction or renovation. These have reflected that the old town are less popular among businesses. Furthermore, vehicles are not allowed to be parked at the roadside of the main road, Jalan Gopeng. Other than that, Jalan Gopeng is part of the North-South trunk road, or joint-city main road for all the transports. Yet it was still unable to attract new business after so many years. Jalan Idris has many active businesses, but people have to pay for parking fee. So, less people are going there for shopping. Instead, some businesses have moved to the new town which is nearer to UTAR and free of parking charge. In fact, due to students reside in areas near to UTAR, almost all shop lots in Kampar new town are occupied with active businesses. The property value and rental have experienced substantial increment in the past decade. In most cases, the house price in Kampar new town has increased by more than double.

Job Opportunity

The establishments of higher education institutions also pulled relevant businesses to Kampar town to cater the students' needs. For instance, there are three hypermarkets: Tesco, Giant and Eonsave; whereby these hypermarkets employed lots of workers. Besides, the food business in Kampar town is booming. Previously, majority of the foods served are hawker foods that cater to the local Chinese residents. The establishment of the higher education institutions has changed the entire preferences on food. Respondents from the focus group mentioned that there were increasing food providers that provide fast food, western food, Japanese food and "mamak" food. More franchises businesses, hotels and international school are set up as compared to before. These new set ups provided plenty of working opportunities to public and students (part-time jobs and as interns). Many local businesses take advantage of having university students close by. Internships allow students to receive "real-world" knowledge and experience working in a firm and provide employers with individuals who are highly motivated and knowledgeable in their fields of study to assist in improving the firm's performance. Besides, there are increasing numbers of shops that were providing laundry services, hair salon services, selling stationery, printing and photostat services. The respondents confirmed about these set ups and informed that many investors were keen to invest in these businesses because of the high demand from students. These new start-ups provided increasing job opportunities for residents and non-residents in Kampar town.

Not only are that, many housing developments seen in Kampar town. The respondents from the focus group mentioned that many developers started to build more houses and shop lots since the establishment of the private higher education institutions to cater to locals, students and investors' needs. Hence, many contractors engaged with local workers and foreign workers for housing projects. These workers were hired by project basis. Normally, these workers were hired as concrete workers, driveway builders, plumbers, dry wall installers, painters, brick mason, carpenters and floor installer. These workers normally were not permanent workers and were hired based on the job scope. Once the constructions end, they will move on to another project and will be station permanently in Kampar town.

The establishments of private higher education indeed bring a lot of positive effects to the surrounding areas especially in promoting local businesses and offering job opportunities to residents and non-residents. Hence, the booming of businesses can provide a better living for locals and provided a second chance to those unemployed to work in a small town, Kampar.

Household Expenditure

The perceptions of local residents towards their household expenditure on food, rental, clothes and etc. with the existence of the university were mixed.

The expenses on food have increased as a result of high demand from university students. Most of the restaurants located at Kampar new town are selling more expensive food as compared to the restaurants located in the old town. Students are perceived to have more pocket money given by their parents and willing to spend more for food. For examples, university students were keen to wait for long queue in order to have meal at a Japanese

franchising restaurant (Shushi King) and Sushi Mentai which offers higher price food. The expenses for food at fast food restaurants such as KFC, McDonalds, Domino's Pizza, Oldtown café and Starbucks café are also higher due to service charge and GST. However one of the respondents believes that the existence of UTAR does not bring much impact to his expenditure as an individual or household expenditure is subject to the individual living style and their buying behaviours. Ability to control and spend within individual's budget could avoid overspending problem.

Another respondent has observed a price increase in raw materials for food such as chicken, eggs, fish balls and vegetables. The hawkers and restaurants have no choice to increase their price to cover the high cost. Anyway, the rapidly growing of hypermarkets in Kampar such as Tesco, Eonsave and Giant had offered more options to the students and local community to shop for their daily needs. Customers can compare prices and get a cheaper product from these hypermarkets. Instead of buying more expensive materials from the Kampar market, consumer can get lower price vegetables from Eonsave. Some vegetables sellers from Kampar market even purchase their stocks from Eonsave and sell them in their own stall. Furthermore, Kampar residents also enjoy more reasonable price for seasonal items such as clothing's or food for Chinese New Year and schooling products such as uniforms and shoes if they shop at those highly competing hypermarkets. The existence of UTAR has also changed the style and pattern of household expenditure. For example, the expenses for entertainment may increase as more recreational and entertainment services such as sports center, gym, and cinema are available in Kampar. The local community will have more options to spend their time during weekends and spend more money for entertainment.

CONCLUSION

The finding of this study and the literature supported the importance of recognizing the institutional impacts of private higher education institutions towards residents in Kampar. The results of this study were similar with other reported studies and confirmed that some of institutional impacts of the universities are universal. Themes found from this research provided some evidences on the impacts of economic towards local community. The result of this study would help us to understand the perceptions of residents in Kampar on the impacts of higher education institutions on residential property and rental, job opportunity and expenditure. The findings support a base for further studies of other aspects such as social impacts on the residents in Kampar area.

Acknowledgement

The researchers would like to forward sincere thanks to the Kampar residents who have participated in this study for their valuable contribution.

REFERENCES

- Abidoye, R. B. & Chan, A. P. (2016). Critical determinants of residential property value: professionals' perspective. *Journal of Facilities Management*, 14(3), 283-300.
- Ankeli, A. I. (2007). An empirical study on the impact of tertiary institutions on residential property rental values in a developing nation (A Case of Federal Polytechnic, Ede, Osun State). *International Journal of Sciences, Engineering and Environmental Technology*, 2 (1), 194 – 199.
- Anamaria de Aragao, C.M. and Melchior, S.N. (2007). The impact of university campuses on disperse urban contexts: Case study of Brasillia, Brazil. *Lincoln Institute of Land Policy*.
- CVCP (Committee Of Vice-Chancellors And Principals) 1997: *The Impact of Universities and Colleges on the UK Economy*, London: CVCP.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- Foong, P. Y. (2015, May 6). Kampar now a bustling education hub. The Star Online. Retrieved from <http://www.thestar.com.my/metro/community/2015/05/06/town-comes-alive-kampar-now-a-bustling-education-hub/>
- Hefce (Higher Education Funding Council For England) 1998: Environment Report 98/61.
- Herrmann, M. (2009). Aiding locals and the unemployed. *University Business*, 12(5), 12.
- Hoffman, D. & Hill, K. (2009). The contribution of universities to regional economics. Productivity and Prosperity Project.
- Krueger, R.A. (1988). *Focus groups: A practical guide for applied research*. Sage Publications: California.
- Mahyidin, N. A. (2011). The conservation of old shophouses in Kampar and economics relation due to the new development of Bandar Baru Kampar (Doctoral dissertation, Universiti Teknologi MARA).
- O'Flaherty, B. (2005). *City economics*. Cambridge: Harvard University Press.
- Ohme, A. (2003). The economic impact of a university on its community and state: examining trends four years later. University of Delaware.
- Parsons, R.J., & Griffiths, A. (2003). A micro economic model to assess the economic impact of universities: A case example. *AIR Professional File*, 87, 1-18.
- Stewart, D.W. and Shamdasani, P.N. (1990). *Analysing focus group data*. Focus groups: Theory and practice. Sage Publications: Newbury Park.
- Stokes, K., & Coomes, P. (1998). The local economic impact of higher education: An overview of methods and practice. *AIR Professional File*, 67, 1-14.
- Universiti Tunku Abdul Rahman (UTAR). (n.d.). History of UTAR. Retrieved from http://www.utar.edu.my/econtent_sub.jsp?fcid=1&fcontentid=8323
- Universiti Tunku Abdul Rahman (UTAR). (n.d.). Welcome Message from the President. Retrieved from http://www.utar.edu.my/econtent_sub.jsp?fcid=1&fcontentid=618

Does Education Cause Terrorism?

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Abstract

This study investigates the education level on terrorism of 145 countries from the year 1984 to the year 2015. The analysis of this study applied the logit and probit model. As control variables, this study includes inflation, population, gross domestic product per capita, unemployment and education. Interestingly, the results suggest that education does contribute to reduce the terrorism risk. Moreover, this study concludes that education has a vital role in a country's policy actions to prevent terrorism as education can assist to foster conditions that hinders terrorists' deadly ideologies from spreading in a country.

Key words: Education, terrorism, logit, probit

INTRODUCTION

In 2017¹, there are several terrorist attacks that alerted the public again about the threat of terrorism, starting with the car and knife attack in Westminster on March 22, to the most recent van and knife attack in London on June 3. During the Westminster attack, 5 people were killed and 49 others injured when a man ploughed through pedestrians by using a rented car. A policeman was stabbed to death afterwards. On April 20, just 3 days France's first round of presidential election a police officer was shot and killed on the Champs Elysees in Paris. ISIL has claimed responsibility for the attack. Furthermore on May 22, there was a suicide bomb explosion at Manchester Arena during Ariana Grande's concert. ISIL claimed responsibility for the killing of 22 people and injuries of 119 others. This is the worst terrorist attack in Britain since 2005. The most recent terrorist attack was carried out on London Bridge in June 3, when three men used a van to run over people, and went on a stabbing spree in Borough Market after ditching the van. Throughout the process, 7 people were killed and 48 others injured. Nevertheless, this study includes the number of terrorism incidents from 1984 to 2015 for 145 countries.

Making use of the GTD dataset, Figure 1 records the number of terrorist incidents for the period 1984 to 2015 in 145 countries. Between 1984 and 2015, a total of 97,126 terrorism incidents took place. Initially, terrorism increased gradually in the 1980s up until 1992, then has fallen in the subsequent period, hitting rock bottom in 1998. One of the noteworthy terrorist attacks in 1980s is the Air India Flight 182 that happened in 1985. It was an Indian passenger plane Boeing 747-237B en route from Toronto, Canada to Delhi, India. The plane was bombed mid-air at an altitude of 31,000 feet and then crashed into the Atlantic Ocean, which killed 329 passengers on that plane. Most of the victims were Canadian citizens. This incident was the largest mass murder ever occurred in Canada's history and was the worst terrorist attack on a passenger plane before 9/11 (Bolan, 2017). Another major event on that period of time is the Pan Am Flight 103, also known as 'Lockerbie Bombing'.

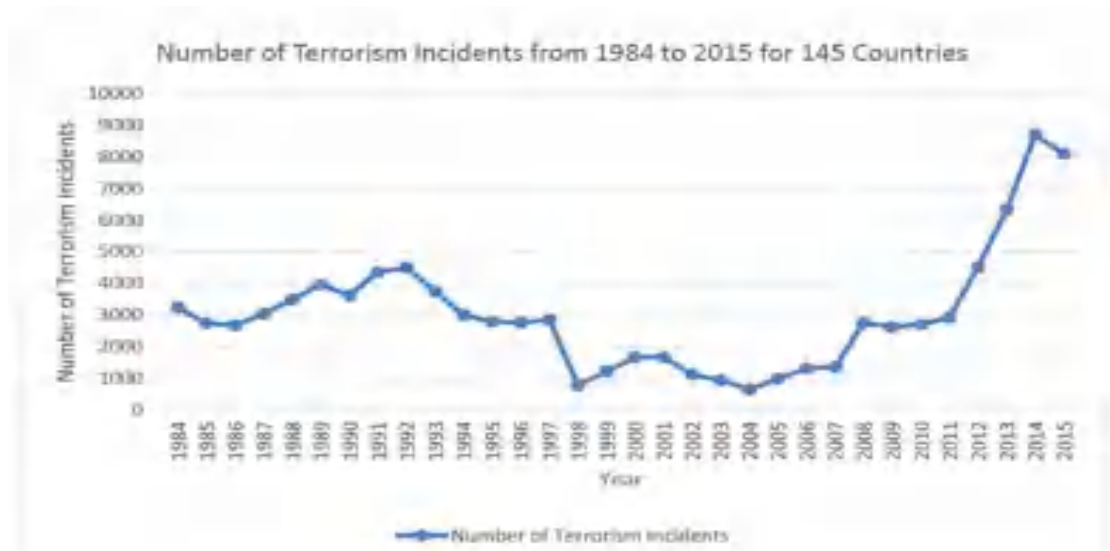


Figure 1.1: Number of Terrorism Incidents from 1984 to 2015 for 145 countries

This incident happened on December 21, 1988, which is also a bombing of a Boeing 747 jet. The Pan Am flight was flying from London Heathrow Airport to John F. Kennedy International Airport in New York. The explosion happened after the flight take off for 38 minutes, and killed 259 people on board along with 11 people on the ground while it crashed in Lockerbie, Scotland (Cabel News Network, 2016).

Throughout the 1990s, terrorism shows a downward trend but there is a wide perception amongst people that terrorism during that period is increasing instead. This may due to a sudden spate of terrorist incidents in a short time which creates the impression of an increasing trend, and it is likely that those incidents have a larger impact such as higher number of deaths associated with terrorist incidents (Bird, Blomberg and Hess, 2008). In the 1990s, there was one incident that was considered as the deadliest terrorist attack in United States before the 9/11 attack, which was known as the Oklahoma City bombing. The attack happened on April 19, 1995. It was the bombing of Alfred P. Murrah Federal Building, an office complex in Oklahoma. The explosion claimed the lives of 168 people, 19 of them are children, and 500 more people injured. Moreover, it caused damage to 324 buildings, burned 86 cars and destroyed the windowpanes of 258 buildings, resulting in a total of \$652 million damages (Cabel News Network, 2017). Besides from bombings, there is also other type of attacks that could lead to massive amount of damage. One of the most fatal terrorist attack in history is the 'Bentalha Massacre' in 1997, when 200 to 400 villagers of Bentalha were massacred by armed guerrillas. The assailants went from house to house, slaughtering men, women and children. This monstrous act was claimed by the Armed Islamic Group (Ghosh, 2013).

After a fall in 1998, terrorism incidence remains low at under 1000 incidents each year until 2005. Thereafter, the numbers of terrorist incidents suddenly increase at a faster pace. Although in 2001 terrorist incidents has declined but in that year happened the most deadly terrorist attack in history, which made the name of Osama bin Laden well known to the public. It was known as the September 11th attack in US, 19 men associated with the Islamic extremist group, Al-Qaeda hijacked four US passenger airliners and carried out suicide attacks. Two of the planes crashed into the twin towers of New York's World Trade Centre, the third plane flown into the Pentagon just outside Washington D.C., while the fourth crash landed in the Pennsylvania countryside. The attacks caused extensive death and damages, with nearly 3,000 people killed and more than 6,000 people injured. Both towers of the World Trade Centre subsequently collapsed and the western side of the Pentagon badly damaged. The economic loss in terms of property damage, loss of lives, loss of production of goods and services, and loss of stock market wealth, was about \$3 trillion in total. Regarding the motives behind the attacks, many politicians and commentators see poverty of the Middle East as one of the factors, nevertheless this claim is not supported by evidence as the attackers on 9/11 were sons of the middle and upper class (Bergen, 2006).

The 9/11 attacks shocked the whole world, changing global perspective on threat brought upon by terrorism and the ways to prevent it. Post 9/11 attacks, US and other countries around the world strengthened anti-terrorism laws and expanded intelligence agencies and enforcements to counter terrorists' attacks. Since the attacks, more than 140 countries have passed counterterrorism laws (Human Rights Watch, 2015). This may attribute to low statistics of terrorism incidents in the early 2000s. However, the number of terrorist incidents shows an increasing trend after 2004, from 645 incidents to 2760 incidents in 2008. Thereafter, the number of terrorist incidents maintain at almost 2000 incidents per year until in 2012, it suddenly hike sharply to 4515 incidents. The spike continues until it reaches its peak at 8701 incidents in 2014, which shows a shocking growth since 2001. Four terrorist groups, the Islamic State, Al-Qaeda, the Taliban and Boko Haram were responsible for the substantial increase in terrorism around the globe. In 2014, the Islamic State in Iraq and Boko Haram in Nigeria were accounted for the 51% of terrorist acts worldwide (Chalfant, 2015). One of the shocking event which ISIL held responsibility was the Paris attack on November 13, 2015 (Callimachi, 2015). It was the deadliest attack in France since World War II. A series of terrifying attacks, which involved suicide bombings at the State de France stadium, restaurants and bars, followed with shooting at Bataclan concert hall, killed 130 people and injured hundreds more (Foster, 2017).

Some of the researchers went after the question that, what makes a person becomes a terrorist? Thus, there are many researchers investigate the determinants of terrorism (Krueger and Maleckova, 2003; Brockhoff, Krieger and Merriecks, 2012; Bravo and Dias, 2006; Bhatia and Ghanem, 2017; Berrebi 2007; Testas 2004; Mesquita 2005; Yahaya, 2015; Richardson, 2011; Ali and Li, 2015; Maan, 2009; Goldstein, 2005). Moreover, the education has been explored in several empirical terrorism studies but the results are different among the researchers (Brockhoff, Krieger and Merriecks, 2012; Bravo and Dias, 2006; Bhatia and Ghanem, 2017; Berrebi, 2007; Testas, 2004; Mesquita, 2005; Krueger and Maleckova, 2003). Therefore, this study intends to examine the impact of education on terrorism. Although numerous literatures have attempted to explain on the causes of terrorism by considering the effect of education on terrorism, those studies fail to provide a consistent picture (Brockhoff, Krieger and Merriecks, 2012; Bravo and Dias, 2006; Bhatia and Ghanem, 2017; Berrebi, 2007; Testas, 2004; Mesquita, 2005; Krueger and Maleckova, 2003). One of the studies that examine the effect of education on terrorism is Brockhoff, Krieger and Merriecks (2012) which they found number of terrorist incidents is negatively associated with education. Similar results were supported by Bravo and Dias (2006) and Bhatia and Ghanem (2017). Surprisingly, a number of studies has said the opposite, which the education level and terrorism are positively related. In a study which set out to determine the linkage between education and terrorism, Berrebi (2007) indicated that higher education leads to higher participation in terror organizations. This view is further supported by Testas (2004) and Mesquita (2005). They found that education is a positive determinant of terrorism. Nevertheless, it is Krueger and Maleckova (2003) that draws our attention as their results indicate that education is not statistically significant determinant of terrorism on cross-country level. Collectively, the relationship between education and terrorism remain ambiguous.

The objective of the present study is to examine the effect of education on terrorism in 145 countries from the year 1984 to the year 2015. Using logit model, the results suggest that education can reduce terrorism. The paper is organized as follows. The literature on education and terrorism discuss in next section. Section 3 indicates the model and variables used in this study and section 4 presents the results. Last section includes conclusion.

LITERATURE REVIEW

A considerable amount of literature has examined the relationship between education and terrorism (Brockhoff, Krieger and Merriecks, 2012; Bravo and Dias, 2006; Bhatia and Ghanem, 2017; Berrebi, 2007; Testas, 2004; Mesquita, 2005; Krueger and Maleckova, 2003). Preliminary work on the relationship of education and crime is Becker (1968) whom suggests that those with higher education and higher income will have more to lose than others when they take part in criminal activities. He explained that such individuals supposedly will find the less risky choice as they will try to maximize their utility by choosing how to allocate their time between legal and illegal activities. Thus, have fewer reasons to join the terrorist organization.

This also indicates that higher education is not the factor to influence the activities of terrorism. More recent studies have reported that education is a significant predictor of terrorism but have negative relationship (Bravo and Dias, 2006; Brockhoff, Krieger and Merriecks, 2012; Bhatia and Ghanem, 2017). Bravo and Dias (2006) investigate on the determinants of terrorism by using OLS method to conduct a cross-country analysis on a data from 1997 to 2004, which they found negative relationship between education and number of terrorist attacks. This statement is supported by Brockhoff, Krieger and Merriecks (2012) that have attempted to explain on the role of education in terrorism for 133 countries between 1984 and 2007. They found that lower education level give rise to higher terrorism where the countries are having poor economic conditions; whilst higher education level lowers down terrorism in countries that have better economic conditions. In an analysis on 8 Arab countries, Bhatia and Ghanem (2017) reported that higher education decreases the probability of an individual supporting terrorism.

Conversely, a number of studies have found that education is positively associated with terrorism (Testas, 2004; Mesquita, 2005; Berrebi, 2007). Empirically, Testas (2004) examined the factors of terrorism in 37 Muslim countries. He found that education is a one of the determinant of terrorism that has positive relationship, which higher education leads to more terrorism in the sample countries. Mesquita (2005) argued in his model that individuals with lower education are most likely to participate in terrorism and terror organizations screen potential recruits based on their abilities. In other words, better educated individuals create better terrorists. In another major study, Berrebi (2007) found that higher educations are positively associated with terrorism. It has been stated that highly educated individuals would be particularly frustrated by the loss of economic opportunities. Thus, this might force them to participate in the terrorist organization and cause terrorism. There is sufficient evidence to suggest that education attainment should not be focus solely by the policy makers when they are trying to reduce terrorism. Interestingly, in a research of Krueger & Maleckova (2003), they found that education is not statistically significant determinant of terrorism on cross-country level. However, they found that on individual level most of the terrorists were better educated individuals. In others words, higher educated people are higher chance to join terrorist organizations. Compared to the lower educated, relatively higher educated individuals will be more suitable to participate in terrorist organizations due to terrorists are required to successfully fit into a foreign environment to carry out terrorism activities (Krueger and Maleckova, 2003).

METHODOLOGY

In this study, the terrorism models can be specified as follows,

$$TER = f(INF, POP, GDPPC, UNEMP, EDU) \quad (1)$$

where TER is terrorism dummy, INF is inflation, POP is population, GDPPC is gross domestic product per capita, UNEMP is unemployment, and EDU is education. For empirical analysis, terrorism model will be specified in a stochastic form as follows:

$$TER_{it} = \alpha_0 + \alpha_1 INF_{it} + \alpha_2 POP_{it} + \alpha_3 GDPPC_{it} + \alpha_4 UNEMP_{it} + \alpha_5 EDU_{it} + \varepsilon_{it} \quad (2)$$

where $i = 1, \dots, N$ refers to countries, $t = 1, \dots, T$ refers to period of time, and ε_{it} is the error term.

Since the dependent variable is binary, this study defines a logistic regression equation as follows:

$$\text{Logit}_{it} = L\left(\frac{P_{it}}{1-P_{it}}\right) = \beta_1 + \beta_2 INF_{it} + \beta_3 POP_{it} + \beta_4 GDPPC_{it} + \beta_5 UNEMP_{it} + \beta_6 EDU_{it} + \varepsilon_{it} \quad (3)$$

where Logit_{it} represents logit, P_{it} is the probability of terrorism happening, and $(1-P_{it})$ is the probability of no terrorism happening.

This study collects the terrorism data from global terrorism database (GTD). Moreover, inflation population, gross domestic product per capita, unemployment, and education were obtained from World Bank. In this study, the dependent variable is terrorism dummy. The terrorism dummy equals 1 when a new terrorism occurs while terrorism dummy variable equals zero when there is no terrorism occur. The inflation variable is measured by consumer price index. According to Nasir, Ali and Rehman (2011), they concluded that increase in inflation will decrease the purchasing power. This will decrease the utility and lead to violent behavior. Thus, the sign for inflation is therefore, expected to be positive.

The population variable is measured by total population. Some researchers include population in their study (Choi, 2015; Nasir, Ali and Rehman, 2011; Lugovskyy, 2015). According to Nasir, Ali and Rehman (2011), higher population increases terrorism. This is because large population increase the chances for terrorists to hide amongst people after carried out an attack. Besides, large population increase terrorism because it is difficult for government to provide security to citizens and thus increase the risk of terrorism (Choi, 2015). Therefore, the expected sign for population is positive. The economic growth variable is measured by economic condition of countries. According to Nasir, Ali and Rehman (2011), the lower in economic growth will increase terrorist activities. This is because decrease in economic growth will lead to decrease in income and in turn decrease in utility of citizens. This situation increases the risk of terrorism (Nasir, Ali and Rehman, 2011). Therefore, the expected sign for economic growth is negative.

Unemployment plays an important role in terrorism because unemployment induces poverty and leads to terrorism (Akwarra et al., 2013). Besides, increase in unemployment cause people to feel disappointed and angry, thus, this contributes to the risk of terrorism. Therefore, the expected sign for unemployment is positive. The education variable is measured by the ratio of total enrollment in tertiary education. Increase of the ratio of total enrollment will decrease the risk of terrorism because education will reduce the incentive of people to participate in illegal activities (Becker, 1968; Krueger and Maleckova, 2003). The expected sign for education is negative.

EMPIRICAL RESULTS

The descriptive analysis is reported in Table 1. Terrorism is available for 145 countries and provides 4640 observation over thirty two years. However, unemployment shows less information which has only 2703 observation and following by education with 2856 observation. Terrorism is the dummy variable where 1 equals to any terrorism incidents happened and 0 equals to no terrorism incidents happened from the origin countries. Besides that, there are 4034 observations for inflation rate with average 3.9% from the following countries. The GDPPC reports with average 4.2% and with the lower standard deviation of 0.067, while unemployment rate and education show that the range from minimum -2% to maximum 4% from the origin countries.

Table 1: Descriptive Analysis

Variable	Observation	Mean	Std. Dev	Min	Max
TER	4640	0.4739224	0.4993733	0	1
LINFLA	4034	3.921695	0.4574282	1.426314	10.10443
LPOPU	4625	15.83127	1.805544	11.07778	21.03897
LGPPC	4320	4.27237	0.0670717	3.375984	4.573554
LUNEM	2703	1.970488	0.7035069	-2.525729	4.043051
LEDU	2856	2.914928	1.242	-2.366697	4.785646

Notes: TERR = terrorism, LINFLA = Log inflation, LPOPU = log population, LGPPC = log gross domestic product per capita, LUNEM = log unemployment, LEDU = log education

Table 2: Correlation coefficient

Variable	TER	LINFLA	LPOPU	LGDPCC	LUNEM	
TER	1.0000					
LINFLA	0.1108	1.0000				
LPOPU	0.3924	0.0695	1.0000			
LGDPCC	-0.0543	-0.2018	0.0241	1.0000		
LUNEM	0.0929	0.0116	-0.0653	-0.0636	1.0000	
LEDU	-0.0548	-0.1704	-0.0072	-0.0679	0.0595	1.0000

Notes: TERR = terrorism, LINFLA = Log inflation, LPOPU = log population, LGDPCC = log gross domestic product per capita, LUNEM = log unemployment, LEDU = log education

Table 2 shows the correlation coefficient of the research. Correlation coefficient is the statistical measure of the degree which determine the changes in a value of one variable predict changes of another variable. If the correlation coefficient is positive, this indicates a positive correlation. On the other hand, if the correlation coefficient is negative, this indicates a negative correlation. Based on the result in Table 2, the independent variables show a weak correlation. When the correlation coefficient is less than 0.3 is considered as weak correlation. While the correlation coefficient fall between 0.3 and 0.5, it is moderately correlated and the correlation coefficient fall between 0.5 and 1 is considered as strong correlation. Since all the variables are weak correlation coefficient, this study concludes that there is no multicollinearity problem in the models.

Table 3 presents the results of logit and probit model. Using logit model, the Model 1 is the baseline model and Model 2 is the baseline model with education. The baseline model of the terrorism will include inflation, population, GDPCC, and unemployment. Nevertheless, the results of inflation, population, GDPCC, unemployment and education are significant with the expected sign in model 1 and model 2. In addition, this study includes probit model to robustness checking the logit model. Using probit model, the model 3 is the base model and model 4 is the base model with education. The results of probit model support the logit model. The results in Table 3 suggest that risk of terrorism is higher when inflation rate higher. These results are same as the previous researchers (Shahbaz and Shabbir, 2011; Nasir, Ali and Rehman, 2011). This suggests that increase in inflation leads to un-equalized distributes of resources and purchasing power reduce (Shahbaz and Shabbir, 2011). Therefore, this will increase the risk for the people to participate the terrorism activities. Alternative explanation concludes that higher inflation decrease purchasing power and leads to utility decrease (Nasir, Ali and Rehman, 2011). As a result, this will contribute to violent behavior.

In all the models, the results show that higher population increases the risk of terrorism, suggesting that large population is good for terrorism because people will provide assistance for terrorists to hide (Nasir, Ali and Rehman, 2011). The results are the same as Nasir, Ali and Rehman (2011) and Choi (2015). According to Choi (2015), government face difficulties to provide the security to the citizens in the highly populated countries, thus, this increases the risk of terrorism.

Table 3: Logit and probit estimation results

Variable	Logit Model		Probit Model
	Model 1	Model 2	Model 3
LINFLA	0.7594*** 0.2562*** (0.1613) (0.0983)	0.5085*** (0.1957)	0.3662*** (0.0762)
LPOPU	0.5589*** 0.3353***	0.5592***	0.3349***

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	(0.0297)	(0.0353)	(0.0167)	
	(0.0199)			
LGPPC	-1.5529*	-1.9750**	-0.8648*	-
1.1398**	(0.8490)	(0.9652)	(0.4978)	
	(0.5677)			
LUNEM	0.3643***	0.4420***	0.2227***	
0.2680***	(0.0717)	(0.0840)	(0.0417)	
	(0.0487)			
LEDU	-	-0.1759**	-	-
0.1087**		(0.0729)		
	(0.0422)			
Percent				
Correctly	69.43%	68.65%	69.63%	68.7%
Predicted				

Notes : The asterisks *, **, *** indicate rejection of the null hypothesis at 10%, 5% and 1% level of significance respectively, standard error in parentheses.

The results indicate that there is a negative relationship between economic growth (GDPPC) and terrorism in all the models. These results are same as previous researchers (Nasir, Ali and Rehman, 2011; Blomberg et al., 2004). Furthermore, this study finds that economic growth is the major variable to reduce terrorism risk. Decrease economic growth is almost as strong risk factor for the terrorism because decrease in economic growth reduces the income of citizens, thus, this reduces utility of citizens (Nasir, Ali and Rehman, 2011). As a result, decrease economic growth increases the risk of terrorism. Unemployment plays an important role in influencing terrorism. The results show that in all the models, unemployment and terrorism are positively related. This indicates that the risk of terrorism is higher when unemployment increases. According to Akwara et al. (2013), increase the unemployment in the countries induce poverty and raise the risk of terrorism. Besides, higher unemployment rate cause terrorism due to lack of job opportunities (Goldstein, 2005). Moreover, people that are unemployed face the higher cost of living standard. This induces people that are unemployed to express their anger and led to increase the risk of terrorism.

Lastly, the results in Table 3 suggest that the terrorism is lower when the education is higher. This suggest that individual with higher education will less likely involve in the criminal activities (Becker, 1968; Krueger and Maleckova, 2003). According to Becker (1968), they concluded that education reduce the incentive of individual to join the illegal activities. Besides, education generates more chance for individual to upgrade their status in order to get good jobs (Kaur and Da, 2015). In addition, education improve the individual's wisdom to make right decision. Thus, education does contribute to reduce the terrorism risk.

CONCLUSION

This study aims to investigate the impact of education on terrorism for 145 countries from 1984 until 2015. Moreover, empirical studies of terrorism with other variables such as unemployment, population, inflation and economic growth are included in this study. The results show that inflation, population and unemployment are positive relationship with terrorism while economic growth and education are negative relationship with terrorism. To face such a major threat like terrorism, effectively countering terrorism requires a comprehensive and strategic approach, relying on a broad range of policies and measures. It is believed that higher educated people has better reasoning skill and rational thinking thus making them less likely to be influenced by the propagandas spread by terrorists. Hence, higher education attainment can prevent a country from becoming a breeding ground for terrorists. To increase education

attainment in countries involved in terrorism, it is encouraged for government in recipient countries to broaden access of their citizens to higher education, which can be explained as increasing enrollment and completion while reducing drop-out rates in higher education. Educational development is one of the effective measures to achieve this. Government should increase investment in the country's education sector by supplementing more to the educational budget. This includes allocating more resources to education sector such as constructing and maintaining school buildings, ensuring teachers' quality by giving training and supervision, free text books and other school supplies, strengthen research-based institutions and furthermore. Besides that, government can offer more scholarships, grants and loans to encourage higher education attainment. Such programs will help students from low income families to be able to attend universities as the costs of higher education would have been less of an obstacle to them. Other than that, educational reform is also one of the effective measures to increase educational attainment.

Turning now to unemployment, the findings of this study also supports that unemployment is an important issue for policymakers to take into consideration when planning for policy to reduce terrorism. One of the common barriers for the unemployed workers is the lack of information about available jobs, and their inexperience in finding the relevant information (Taylor, 2016). Government should attempt to solve this problem by implementing policies that promote participation in labor force and help the workers to match their skills with jobs opportunities. Several programs can be offered such as employment services and job search assistance, job training, and employment subsidies.

REFERENCES

- Akwara, A. F., Akwara, N., Enwuchola, J., Adekunle, M., and Udaw, J. (2013). Unemployment and Poverty: Implications for National Security and Good Governance in Nigeria. *International Journal of Public Administration and Management Research (IJAMR)*, 2(1), 2346-7215.
- Ali, G., and Li, Z. (2015). Role of Economic Factors in Terrorism in Pakistan. *Quality and Quantity*. 50(5), 2237-2250.
- Ayegba, U. S. (2015). Unemployment and poverty as sources and consequences of insecurity in Nigeria: The Boko Haram insurgency revisited. *African Journal of Political Science and International Relations*, 9(3), 90-99.
- Becker, G. S. (1968). Crime and Punishment: An Economic Approach. *National Bureau of Economic Research*, 1-54.
- Benmelech, E., Berrebi, C., and Klor, E. F. (2012). Economic Conditions and the Quality of Suicide Terrorism. *The Journal of Politics*, 74, 1-16.
- Bergen, P. L. (2006). September 11 attack. *Encyclopaedia Britannica*. Retrieved from <https://www.britannica.com/event/September-11-attacks>
- Berrebi and Ostwald. (2011). Earthquakes, Hurricanes, and Terrorism: Do natural disasters incite terror? 149, 383-403.
- Berrebi, C. (2007). Evidence about the Link Between Education, Poverty and Terrorism among Palestinians. *Peace Economics, Peace Science and Public Policy*, 13(1), 1-38.
- Bhatia, K., and Ghanem, H. (2017). How do education and unemployment affect support for violent extremism? *Global Economy and Development*, 102, 1-40.
- Bird, G., Blomberg, S. B., and Hess, G. D. (2008). International Terrorism: Causes, Consequences and Cures. *The World Economy*, 31(2), 255-274.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Blomberg, S. B., Hess, G. D., and Orphanides, A. (2004). The Macroeconomic Consequences of Terrorism. *Journal of Monetary Economics*, 51(5), 1007-1032.
- Blomberg, S. B., Hess, G. D., and Weerapana, A. (2004). Economic Conditions and Terrorism. *European Journal of political economy*, 20(2), 463-478.
- Bolan, K. (2017). Air India Flight 182 Bombing. Retrieved from <http://www.thecanadianencyclopedia.ca/en/article/air-india-flight-182-bombing/>
- Bravo, A. B., and Dias, C. M. (2006). An Empirical Analysis Of Terrorism: Deprivation, Islamism And Geopolitical Factors. *Defence and Peace Economics*. 17(4), 329-341.
- Brockhoff, S., Krieger, T., and Meierrieks, D. (2012). Great Expectations and Hard Times - The (Nontrivial) Impact of Education on Domestic Terrorism. *Journal of Conflict Resolution*. 59(7), 1186-1215
- Brooks, C. (2017). Hit the Book: Employers Increasing Educational Requirements. *Business NewsDaily*. Retrieved from: <http://www.businessnewsdaily.com/7103-no-degree-no-job.html>
- Cabel News Network. (2016). Pan Am Flight 103 Fast Facts. *CNN Library*. Retrieved from: <http://edition.cnn.com/2013/09/26/world/pan-am-flight-103-fast-facts/index.html>
- Cabel News Network. (2017). Pan Am Flight 103 fast facts. Retrieved from *Oklahoma City Bombing Fast Facts*: <http://edition.cnn.com/2013/09/18/us/oklahoma-city-bombing-fast-facts/index.html>
- Callimachi, R. (2015). Islamic State of Iraq and Syria Claims Responsibility, Calling Paris Attacks 'First of the Storm' Retrieved Ju. Retrieved from <https://www.nytimes.com/2015/11/15/world/europe/isis-claims-responsibility-for-paris-attacks-calling-them-miracles.html>
- Chalfant, M. (2015). Study: Global Terrorism Increased by 80 Percent in 2014. Retrieved from <http://freebeacon.com/national-security/study-global-terrorism-increased-by-80-percent-in-2014/>
- Choi, S.-W. (2014). Economic growth and terrorism domestic, international, and suicide. *Oxford Economic Papers*, 157-181.
- Foster, A. (2017). Terror Attacks Timeline: From Paris and Brussels terror to most recent attacks in Europe. Retrieved from <http://www.express.co.uk/news/world/693421/Terror-attacks-timeline-France-Brussels-Europe-ISIS-killings-Germany-dates-terrorism>
- Ghosh, P. (2013). The Madonna of Bentalha: The Iconic Image From Algerian Civil War. *International Business Times*. Retrieved from <http://www.ibtimes.com/madonna-bentalha-iconic-image-algerian-civil-war-1024782>
- Goldstein, K. B. (2005). Unemployment, Inequality and Terrorism: Another look at the relationship between economic and terrorism. *Undergraduate Economic Review*, 1(1), 1-21.
- Human Rights Watch . (2015). Global: 140 Countries Pass Counterterror Laws since 9/11. Retrieved from: <https://www.hrw.org/news/2012/06/29/global-140-countries-pass-counterterror-laws-9/11>
- Kaur, S., and Da, W. C. (2015). Higher education: Reducing terrorism. *High Education Newsletter*, 6, 1-8.
- Krueger, A. B., and Maleckova, J. (2003). Education, Poverty and Terrorism: Is There a Causal Connection? *Journal of Economic Perspectives*, 17, 119-144.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Lugovskyy, J. C. (2015). The economic determinants of terrorism. *International Journal of the Academic Business World*, 9, 31-42.
- Maan, J. (2009). Human development, peace, corruption, and Terrorism in the Arab World. *Al - Hussein Bin Talal University*.
- Mesquita, E. B. (2005). The Quality of Terror. *American Journal of Political Science*. 49(3), 515.
- Nasir, M., Ali, A., and Rehman, F. U. (2011). Determinants of terrorism: a panel data analysis of selected South Asian countries. *The Singapore Economic Review*. 56, 175-187.
- Pemberton, B., and Sandeman, G. (2017). 183 Innocent Victims Slaughtered in 15 Month-wave of Isis Attacks as Evil Jihadis Try to Destroy Western Way of Life. Retrieved from <https://www.thesun.co.uk/news/2443298/jihadi-isis-attacks-western-world/>
- Richardson, C. (2011). Relative Deprivation Theory in Terrorism: A study of Higher Education and Unemployment as Predictors of Terrorism. *New York University*.
- Roberts, B. W. (2009). The Macroeconomic Impacts of the 9/11 Attack: Evidence from Real-Time Forecasting. *Journal of Peace Economics, Peace Science and Public Policy*, 15(2), 2-16.
- Saha, S., and Yap, G. (2014). The moderation effect of political instability and terrorism on tourism development: A cross-country panel analysis. *Journal of Travel Research*, 53(4), 509-521.
- Sandler, T., and Enders, W. (2008). Economic Consequences of Terrorism in Developed and Developing Countries: An Overview Terrorism, *Economic Development, and Political Openness*. 17-47.
- Shahbaz, M. (2013). Linkages between inflation, economic growth and terrorism in Pakistan. *Economic Modelling*, 32, 496-506.
- Shahbaz, M., and Shabbir, S. M. (2011). Is high in inflation responsible for rise in terrorism in Pakistan? Munich Personal Repec. Retrieved from: https://mpra.ub.uni-muenchen.de/31236/1/MPRA_paper_31236.pdf
- Testas, A. (2004). Determinants Of Terrorism In The Muslim World: An Empirical Cross-Sectional Analysis. *Terrorism and Political Violence*. 16(2), 253-273.
- Yahaya, A. (2015). Analysis of the Economics of Terrorism in Nigeria: Boko Haram and Movement for Emancipation of the Niger Delta in Perspective(Master's thesis, Eastern Mediterranean University). *Institute of Graduate Studies and Research*. 1-89.

Housing Price and Interest Rate in Malaysia: A Nonlinear ARDL Analysis

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Abstract

The purpose of this study is to examine the effect of interest rate on housing price index in Malaysia. A nonlinear Autoregressive Distributed Lags (NARDL) model has been applied for the period 1980Q1-1998Q1 and 1998Q2-2017Q1 to uncover the short run and long run effect of interest rate on Malaysia's housing price index. Throughout the period of 1980Q1-1998Q1, the model of NARDL estimation indicated a significant long run positive relationship of interest rate increases to housing price index, and an insignificant long run negative relationship of interest rate decreases to housing price index. For the period of 1998Q2-2017Q1, the interest rate increases and the interest rate decreases are insignificant to influence the housing price index. This suggests that the role plays by the interest rate to explain the movement towards the housing price index in Malaysia is getting less influence than before

Keywords: Housing price index; money market rate; gross domestic product (GDP); consumer price index; nonlinear Autoregressive Distributed Lag (NARDL)

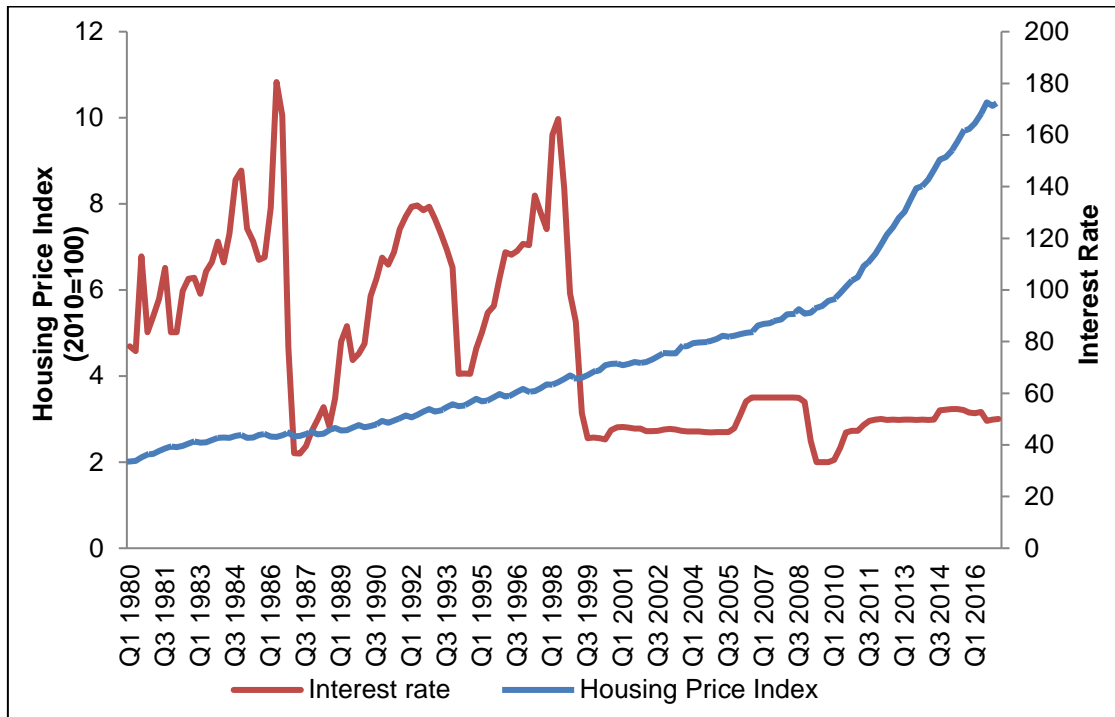
INTRODUCTION

The news of high prices and oversupply of the properties spread on the social media in Malaysia recently. After the news released, it puts the pressure on the owner, developer, investor and the government. Many of the researchers in Malaysia warned that the problem will be get worse in year 2018. Anyway, what makes this happen? Bank Negara Malaysia (BNM) had unpredictability reduced the overnight policy rate (OPR) by 25 basis points in year 2016, it reduced the cost of the borrowing for the consumers and companies to take cheaper loan and purchase the properties. As a results, the housing price were still growing.

Over the past three decades, Housing price index (HPI) increases unstopably until today and we believe it will continue growing in the next 5 years (See Figure 1). In previous studies, majority of the researchers found a negative finding between the interest rate and housing price (Levin & Pryce, 2009 and Olanipekun & Adegoke, 2015). In the case of Malaysia, interest rate decreased sharply by 40% in 1st quarter 1986 and 38% in 1st quarter 1998 respectively, however, the housing price index at that period did not adjust much. In contrast, a small reduced by 2.8% of interest rate in year 2008, made the housing price index bid up by 3% compared to previous year. This strange phenomenon makes us curious about price adjustment from interest rate. If the decreased in the interest rate will cause the housing price increase, did changes in interest rate caused housing prices respond symmetrically or asymmetrically?

Most of the empirical evidence indicates that interest rate increases would reduce the housing prices. In response to a shock to the interest rate, housing prices show an exaggerated decline in an economy (Brady, 2011). Besides, Kim and Min (2011) found evidence of the existence of housing price bubbles decreased with interest rate in Korea. In addition, Ligita, Rita and Arjan (2016) indicates that interest rate and availability of bank loans were established as the factors that have the most significant impact on housing price level. In the environment of low interest rates, foreign demands have continuously flooded into many economies, persistently pushing up the housing price (Tai et al., 2017). On the other hand, Song, Jou and Tripe (2014), increase in interest rate may not be effective in reducing the real housing prices as interest rate positively and significantly affects the real housing prices.

Figure 1: Housing Price Index and Interest Rate in Malaysia from 1980Q1 to 2017Q1



Source: Bank Negara Malaysia, 2017

Most research to date has focused on estimating the relationship between housing price and interest rate symmetrically as mentioned above. Most importantly, the non-linear impact of interest rate on housing price in Malaysia has not been thoroughly studied. This paper examines the asymmetric relationship between housing price and interest rate using nonlinear ARDL approach.

LITERATURE REVIEW

There have significant amount of study has focused on examining the relation between housing prices and household income for various countries. These studies not only looking at their relations in one direction but also examining their causal interactions by employing different methods. These include Chen *et al.* (2007) used a co-integration and VECM approach to analysis for the long-run relationship between house prices and income levels in Taiwan. The results showed that slow surge in income may just sustain the long run trend in housing prices. The deviation between housing prices and income were caused by money supply. Holly *et al.* (2010) applied the panel-data approach to examine the relationship between housing prices and income in the U.S and they found positive relationship between real housing prices and income. Moreover, Apergis *et al.* (2015) found a bidirectional relationship between housing prices and real income per capita for short and long run horizons in 351 U.S metropolitan. According to Chen and Patel (1998), Gallin (2006), McQuinn and O'Reilly (2008), Holmes and Grimes (2008), Kim and Bhattacharya (2009) and Abbott and De Vita (2012 & 2013) have examined short run causality or long run relationship between housing prices and income or included some other variables in different countries. Mohsen and Seyed (2017) found that household income changes have asymmetric effects on housing prices in most of the states in U.S whereby 18 states have short run impact asymmetry and 21 states have significant long run asymmetry by using nonlinear ARDL modelling method.

While the above studies have examined the relation between housing prices and household income for several countries. However, some of the studies focus on the link between housing prices and interest rates for different countries. McQuinn and O'Reilly (2008), Ibrahim and Law (2014), and Tang and Tan (2015) showed a negative relationship between interest rates and housing prices in long-term. Coşkun (2015) found that real interest rate has a

substantial influence on the demand for housing in Turkey. Besides that, Panagiotidis and Printzis (2015) proven that the relationship between interest rates and housing prices varies in the short run as compared with long run. In conventional economic theory, the relationship between interest rates and housing prices should be negative relationship, but several research has found an opposite relationship. For instance, Öztürk and Fitöz (2009) found a positive relationship between housing prices and interest rates in Turkey. Tak *et.al.* (2003) found that there has a significant difference between the effect of interest rate on housing prices in Hong Kong whereby interest rate and housing prices have positive relationship in inflationary pre-1997 period and negative relationship in deflationary post- 1997 period. According to Tse (1996a), he recommended that the housing prices and real interest rate have negative relationship. Besides that, Tse (1996b) suggested that the intense rise in housing prices in 1991 was due to an expectation of increasing inflation coupled with declining interest rates in Hong Kong. Furthermore, Tse (1996c) concluded that the interest rate had direct effect on housing prices through the connected with exchange rate system in Hong Kong from 1984 to 1994. On the other hand, Tang and Tan (2015) illustrated that a decreasing real interest rate tends to increase housing prices in Kuala Lumpur but not applicable for others five states in Peninsular Malaysia by using quarterly data from 2001 to 2013. This study also found that there have one-way causation from the direction of real interest rate to real Malaysia House Price Indexes.

On the other hand, some of the studies focus the effects of inflation on housing prices. Katrakilidis and Trachanas (2012) examined the asymmetric impact of income and inflation on housing prices in Greek and the outcomes indicated that positive changes in consumer prices have a smaller impact on house prices than negative changes, whereas house prices respond more quickly to an increasing inflation rate than to a falling inflation rate in the short run. Zhu (2004) showed the strong and long-lasting link between inflation as well as housing price. Geok and Hooi (2016) found that house prices respond to both energy and consumer prices symmetrically in the long-run for aggregate and four major types of houses while asymmetrically in the short-run. Grimes *et al.* (2004) also found that house prices adjustment response asymmetrically to consumer price changes.

Some studies have also included other control variables to evaluate the relationship on housing prices. For instance, the explanatory variables are interest rates, inflation, housing credit, money supply, construction costs, employment, stock market index and economic activity. Égert and Mihaljek (2007) studied the housing prices in 8 Central and Eastern European (CEE) and 19 OECD countries by employing panel DOLS methods. This study found that GDP per capita and housing prices have robust positive relationship whereas housing prices and real interest rates have strong relationship in both OECD and CEE countries. Housing prices tend to rise double as fast for a corresponding decline in real interest rates in CEE compared to housing prices in OECD countries. Adams and Füss (2010) examined the short and long-term dynamics of economic activity, construction costs and long-term interest rates on housing prices in 15 countries by employing panel cointegration techniques. Based on the results, an increase in long-term interest rates has a negative effect on housing prices while construction costs and economic activity have a positive effect. On the other hand, Apergis and Rezitis (2003) examined the impacts of certain macroeconomic factors on housing prices in Greece by using error correction vector autoregressive (ECVAR) model. The macroeconomic factors involved are money supply, employment, inflation and the mortgage interest rate. They found that all the variables under consideration affect housing prices especially the mortgage interest rate having the biggest explanatory power by employing variance decomposition analysis. Finally, Brissimis and Vlassopoulos (2008) studied the association between housing prices and mortgage lending. The results suggested that there has a bi-directional dependence in the short-run whereas the causation run from mortgage lending rate to house prices in the long-run does not applicable for this study.

METHODOLOGY

Most of the existing literature on housing prices is predominantly in a linear framework, and an important question that has not been addressed is whether housing prices exhibit nonlinearity. The Nonlinear ARDL cointegration approach (NARDL) is as asymmetric extension to the ARDL to capture both long-run and short-run asymmetries in a variable of interest. We

adopt this modelling approach for our purpose. Following Schorderet (2003) and Shin *et.al.* (2011), we specify the following asymmetric long-run equation of housing price:

$$\ln HP_t = \alpha_0 + \alpha_1 \ln Y_t + \alpha_2 \ln CPI_t + \alpha_3 MMR_t^+ + \alpha_4 MMR_t^- + e_t \quad (1)$$

where HP_t is housing price, Y_t is real GDP to capture the aggregate demand, CPI_t is consumer price index and MMR_t is money market rate which is used to proxy interest rate. $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ are long run parameters to be estimated and it is white-noise error term.

The α_1 indicates the income elasticity of housing prices which expected to be positive sign. The higher the GDP will lead to the increase in housing prices. The α_2 indicates the price elasticity of housing prices which expected to be positive sign. This means the CPI expansion (contraction) would lead to increase (decrease) in housing prices. The relation between the housing price and interest rate increase is α_3 which is expected to be negative. And the α_4 captures the long run relation between housing price and interest rate decrease. Since they are expected to move in the same direction, is α_4 expected to be negative. The MMR_t^+ and MMR_t^- represent the partial sums of positive and negative changes in MMR_t which can be derived as follow:

$$MMR_t^+ = \sum_{i=1}^t \Delta MMR_i^+ = \sum_{i=1}^t \max(\Delta MMR_i, 0)$$

(2)

$$\text{and } MMR_t^- = \sum_{i=1}^t \Delta MMR_i^- = \sum_{i=1}^t \min(\Delta MMR_i, 0)$$

(3)

As discussed previously, the impact of interest rate on housing price may be asymmetric. This hypothesis can be tested by evaluating α_3 and α_4 in (1) as it capture the effect of positive and negative change in interest rate on housing price, respectively. There is no asymmetry found between interest rate and housing price if $\alpha_3 = \alpha_4$, however if $\alpha_3 \neq \alpha_4$ then it concluded the presence of nonlinear relation. Thus, equation (1) reflects asymmetric long-run interest rate pass through to the housing price.

Rewrite the equation (1) to an ARDL setting based on the Pesaran and Shin (1999) and Pagan (2001). The below equation can be specified as:

$$\ln HP_t = \alpha_0 + \beta_0 \ln HP_{t-1} + \beta_1 \ln HP_{t-1} + \beta_2 \ln HP_{t-1} + \beta_3 MMR_t^+ + \beta_4 MMR_t^- + \sum_{i=1}^p \phi_i \Delta \ln HP_{t-i} + \sum_{i=0}^q \gamma_i \Delta \ln Y_{t-i} + \sum_{i=0}^q \gamma_i \Delta \ln CPI_{t-i} + \sum_{i=0}^s (\theta_i^+ \Delta MMR_{t-i}^+ + \theta_i^- \Delta MMR_{t-i}^-) + u_t$$

(4)

The long run impacts of interest rate increase and interest rate reduction on the housing price are represented by $\alpha_3 = -\beta_3/\beta_0$ and $\alpha_4 = -\beta_4/\beta_0$, respectively. On the other hand, $\sum_{i=0}^s \theta_i$

$$\sum_{i=0}^s \theta_i^-$$

measures the short-run influences of interest rate increases on housing price while

measures the short-run influences of interest rate decreases on housing price. Hence, in addition to the asymmetric long run relation, the asymmetric short-run influences of interest rate change on housing price are also captured in equation (4).

DATA AND EMPIRICAL RESULT

From the Figure 1, one can comment that there might be a structural break in these series. By using the Chow breakpoint test (Chow,1960), the results suggest that the structural break point occurred at the first quarter of 1998q1. Therefore, we divided the data into 2 separate periods 1980Q1-1998q1 (pre-crisis) and 1998q2 to 2017q1 (post-crisis) to effectively capture the effects on housing price. We consider housing price index (HPI) as a proxy of housing price with based 2010, Consumer Price Index (CPI) of the proxy of price level with based in year 2010, real Gross Domestic Product (Y) as a proxy of economics growth and money market rate (MMR) as a proxy of interest rate in our model. All the data are collected from the IMF's International Financial Statistics. All data are transformed into natural logarithm series prior the analysis except MMR.

Unit Root Test

NARDL approach does not require the variable to have the same order of integration which means the cointegration is applicable irrespective of whether the variables are I(0) or I(1), however the presence of I(2) variables will the computed F-Statistic for testing cointegration invalid. Given that bound test procedure can not include I(2) variables, ADF and PP unit root tests are used to determine the stationary of the variables. The results are reported in Table 1.

Table 1: ADF and PP unit root tests

Variable	Level		First difference	
	Intercept and trend		Intercept and trend	
	ADF	PP	ADF	PP
1980Q1-1998Q1				
LHPI	-2.721(4)*	-3.528(22)*	-3.799(4)**	-8.562(27)***
LY	-2.365(0)	-1.928(3)	-5.485(0)***	-5.482(1)***
LCPI	-2.218(0)	-2.355(4)	-5.923(0)***	-6.063(2)***
MMR	-2.222(2)	-2.518(4)	-6.924(1)***	-6.139(17)***
1998Q2-2017Q1				
LHPI	-0.509(0)	-0.56(2)	-7.845(0)***	-7.839 (1)***
LY	-3.096(2)	-1.781(0)	-5.923(2)***	-4.772(5)***
LCPI	-2.773(1)	-2.231(4)	-7.316(0) ***	-7.419(11)***
MMR	-10.494(1)***	-5.431(3)***	-5.321(0)***	-5.839(5)***

Note: the numbers in parentheses are the lag order in the ADF test. The lag parameters are selected based on the SIC. Truncation lags are used for the Newey–West correction of the PP test in parentheses. ***, **, * indicates significance at the 1%, 5% and 10% level. Critical values are from Mackinnon (1991).

In the test we include both constant and trend terms and employ the SIC for the optimal lag order in the ADF test equation. In the first sample (1980Q1-1998Q1), both ADF and PP test show that real GDP, CPI and interest rate are integrated of order 1 and only housing price is stationarity in level. However, in the second sample (1998Q2-2017Q1), both ADF and PP test show that housing price, real GDP and CPI are integrated of order 1 and interest rate is

stationarity in level. Since both test show that none of the variables is I(2), we proceed to the bounds testing procedure.

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Next we estimate the equation (4) using the standard OLS estimation method. The maximum lag order considered is 4. The Panel A in Table 3 shows the final specification of the NARDL model by trimming insignificant lags. Based on the estimated NARDL, we perform a test for the presence of cointegration among the variables using a bound testing approach and the result presented in Table 2.

Table 2: Bounds Test for Non-linear Cointegration

Model specification	F-statistic		Conclusion	
LHPI = f(Ly, LCPI, MMR ⁺ , MMR ⁻)				
1980Q1-1998Q1	7.8932		cointegration	
1998Q2-2017Q1	7.8103		cointegration	
	K=4, n=65		K=4, n=70	
Narayan (2005) critical value	Lower bound I(0)	Upper bound I(1)	Lower bound I(0)	Upper bound I(1)
1%	4.188	5.694	4.098	5.57
5%	3.068	4.274	3.022	4.256
10%	2.574	3.682	2.552	3.648

Notes: critical values are from Narayan (2005), given the small sample size.

The bound test concluded that the four variables (housing price, GDP, CPI and interest rate) co-move in the long run in both periods. The F-statistics 7.8932 and 7.8103 from two different time period exceed the critical upper bound. With this finding, we are in position to assess the housing price dynamics and its relation to the real GDP, CPI and positive and negative changes in interest rate.

The estimations are also examined through all diagnostic tests and the results are reported in Panel D in Table 3. The diagnostic test included Jarque-Bera statistics for normality, the LM statistics for autocorrelation up to order 2, and the ARCH statistics for heteroskedasticity up to order 2. In addition, Figure 2 graphs the CUSUM and CUSUMSQ statistics of the model in two different periods to test the structural stability of the model. All the results shows that the model passes all the diagnostic tests which suggesting our model are normal distribution, absence of autocorrelation and heteroskedasticity and parameter stability in two different periods.

From the results in Panel A in Tables 3, we compute the cointegration and long run equations for both periods. The long run relation is shown in Panel B. The long run coefficients of real income are positive and significant at 5 percent significance level, as should be expected in the pre-crisis. They suggest that a 1 percent increase in real income is related to increase the expected housing price by roughly 0.4 percent. However, it is insignificant after 1998Q1. The long run coefficients of CPI are positive and significant at 1 percent significance level, as should be expected in the pre-crisis. They suggest that a 1 percent increase in CPI is related to increase the expected housing price by roughly 0.8 percent. However, it is insignificant and negative related after 1998Q1 as one of the possible explanation is during weak economic

growth, it is more difficult for people to afford higher price, including interest rates since their incomes tend to also decrease. Home buyers might decide to delay their purchases in hopes of seeing price declines.

Table 3: Nonlinear ARDL estimation results

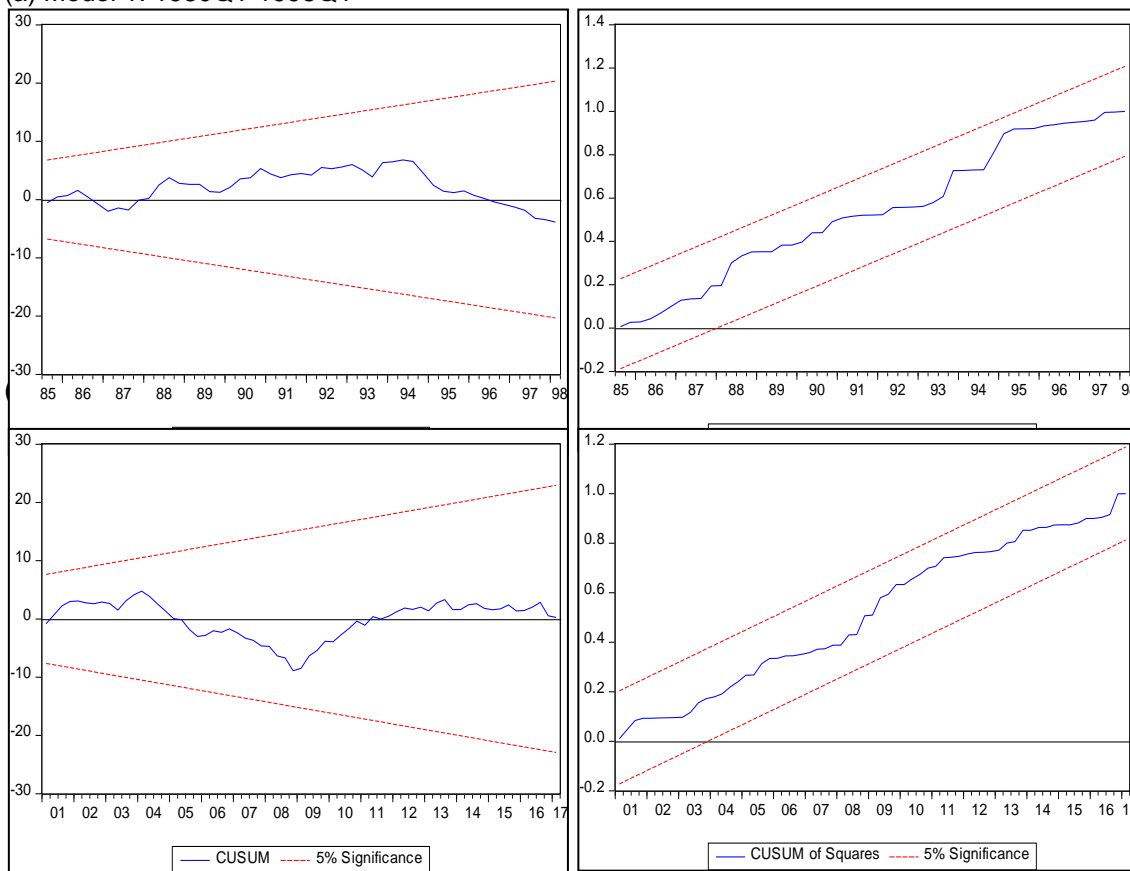
Panel A: Nonlinear ARDL				
Independent variable	1980Q1-1998Q1		1998Q2-2017Q1	
	coefficient	P-Value	coefficient	P-Value
C	-0.0550	0.2041	0.8090	0.0011
LHPI(-1)	-0.5387	0.0070	-0.0169	0.3748
LY(-1)	0.0197	0.0020	0.0201	0.3871
LCPI(-1)	0.4749	0.0149	-0.2364	0.0208
MMR ⁺ (-1)	0.0003	0.1570	0.0304	0.0001
MMR ⁻ (-1)	-0.0002	0.1648	-0.0081	0.0056
DHPI(-1)	-0.5701	0.0003		
DHPI(-2)	-0.7339	0.0000		
DHPI(-3)	-0.8663	0.0000		
DCPI	0.9295	0.0000		
DCPI(-1)	0.6167	0.0000		
DCPI(-2)	0.7116	0.0000		
DCPI(-3)	0.7398	0.0000		
Δ MMR ⁺			0.0390	0.0415
Δ MMR ⁺ (-1)			-0.0418	0.0320
Δ MMR ⁺ (-3)	-0.0018	0.0016		
Δ MMR ⁺ (-4)	-0.0013	0.0086		
Δ MMR ⁻			-0.0161	0.0178
Δ MMR ⁻ (-3)	0.0014	0.0001		
Panel B: Long run relation				
Constant	-0.1022	0.0469	47.7900	0.4165
LY	0.0365	0.0163	1.1859	0.5990
LCPI	0.8816	0.0000	-13.967	0.4781
MMR ⁺	0.0006	0.0885	1.7959	0.3593
MMR ⁻	-0.0004	0.2604	-0.4784	0.4295
Panel C: Asymmetric Test				
$\alpha_3 = \alpha_4$	0.00104	0.0007	2.2743	0.3705
Panel D: Diagnostic Checking				

R-squared	0.9904		0.3839	
JB	3.5717	0.1677	0.2595	0.8783
LM(1)	0.4492	0.5027	1.9976	0.1624
LM(2)	0.5083	0.7756	1.8232	0.1699
ARCH(1)	0.0155	0.9011	0.8163	0.3693
ARCH(2)	0.3870	0.8241	0.4434	0.6437

Note: The superscripts “+” and “-” denote positive and negative partial sums, respectively. JB is Jarque-Bera test for error normality. LM(.) is the LM test for error autocorrelation up to the lag order given in the parenthesis, and ARCH(.) is the ARCH test for autoregressive conditional heteroskedasticity up to the lag order given in the parenthesis.

Figure 2: CUSUM and CUSUM of Squares

(a) Model 1: 1980Q1-1998Q1



In the asymmetric long run relation between the housing price and interest rate with increase in interest rate being significantly related to the housing price while the reduction in interest rate is not. This concludes that the interest rate pass-through to housing price is not complete. Our estimates suggest that a 10 percent increase in the interest rate is associated with the increase in the expected housing price in 0.006 percent. It is due to higher interest rates can negatively impact volume of home sales, but housing prices move according to the relative supply and demand and have generally increased in declining sales markets. The effect is very small and it disappeared after 1998Q1. We believe that the interest rate pass through may have effect on housing price before the Asian Financial Crisis (AFC) as compared with after the AFC.

CONCLUSION

This study aims to investigate the asymmetric impact on interest rate towards the housing price index in Malaysia. The chow test shows that the structural break occurred in the first quarter of 1998. Thus, a nonlinear Autoregressive Distributed Lags (NARDL) model has been applied for the period 1980Q1-1998Q1 and 1998Q2-2017Q1. Based on the results obtained from NARDL estimation, before the 1998Q2, interest rate increase is stimulating the value of housing price index, and interest rate decrease is reducing the value of housing price index. This indicates that the demand for houses tend to increase, given the consumer perception on the interest rate may go further higher and adding the cost of borrowing and vice versa. Furthermore, the result of the estimation also revealed that inflation and economic growth are both significantly affecting the housing price index. This is because inflation will make the construction cost to increase. Furthermore, people also regard the real estate as an effective inflation hedging tool and investment which may contribute to the increasing of housing price index. On the other hand, a growing economy indicating more jobs is available in a country for people to work and increase their affordability for demanding house and contribute to the increasing of housing price index.

After the Asian financial crisis, which is represented during the period of 1998Q2-2017Q1, the housing price index in Malaysia has been increasing progressively, given a relative lower interest rate set in the market. Hence, the results obtained from NARDL estimation indicated that interest rate increase and decrease are insignificant to influence the housing price index. This, however, indicates that the effort of money authorities to keep the credit at reasonable cost for complementing government's objective to fostering the national socio-economic have been causing the interest rate losing its control over the housing price index in Malaysia. On the other hand, inflation and economic growth are both insignificantly affecting the housing price index. The results shown that the real estate is no longer considered as an investment or inflation hedging tool for people to given that cost of living keep on increasing. Moreover, a weak economic growth in a country after the crisis is also making more people difficult in demanding houses.

In conclusion, this paper revealed that interest rate actually past through asymmetrically on housing price in Malaysia before the AFC rather that after the AFC. Thus, money authorities should consider the asymmetry past through effect of interest rate on housing price when implementing a policy. Otherwise, a bubble in the housing market may be resulted due to inappropriate policies implementation as indicated after the AFC.

REFERENCES

- Abbott, A. & De Vita, G. (2012). Pairwise Convergence of district-level house prices in London, *Urban Studies*, 49,721-740.
- Abbott, A. & De Vita, G. (2013). Testing for long-run convergence across regional house prices in the UK: A pairwise approach. *Applied Economics*, 45, 1227-1238.
- Adams, Z., Füss, R. (2010). Macroeconomic determinants of international housing markets. *Journal of Housing Economics*, 19, 38–50.
- Apergis, Nicholas, Beatrice D. Simo-Kengne, Rangan Gupta & Tsang yao Chang. (2015). The Dynamic Relationship Between House Prices and Output: Evidence from US Metropolitan Areas. *International Journal of Strategic Property Management*, 19(4): 336–345.
- Apergis. N., Rezitis, A. (2003). Housing prices and macroeconomic factors: prospects within the European Monetary Union. *Applied Economic Letters*, 10, 799–804.
- Brady R., R. (2011). Measuring the Diffusion of Housing Prices across Space and Over Time. *Journal of Applied Econometrics*. 26(2), 213-231.

- Brissimis, S N., Vlassopoulos, T. (2008). The interaction between mortgage financing and housing prices in Greece. *The Journal of Real Estate Finance and Economics*, 39,146–164.
- Chen, M. & K. Patel. (1998). House Price Dynamics and Granger Causality: An Analysis of Taipei New Dwelling Market. *Journal of Asian Real Estate Society*, 1(1), 101-126.
- Chen, Ming-Chi, I-Chun Tsai & Chin-Oh Chang. (2007). House Prices and Household Income: Do They Move Apart? Evidence from Taiwan. *Habitat International*, 31 (2): 243–256.
- Chow, G.C. (1960). Tests of equality between sets of coefficients in two linear regressions”, *Econometrica*, 28 (3), 591-605.
- Coşkun, Yener. (2015). Türkiye’de Konut Finansmanı: Sorunlar ve Çözüm Önerileri, Yayın No: 310. İstanbul.
- Égert, B., Mihaljek, D. (2007). Determinants of house prices in central and eastern Europe. *Comparative Economic Studies*, 49, 367–388.
- Gallin, J. (2006). The Long-Run Relationship between House Prices and Income: Evidence from Local Housing Markets. *Real Estate Economics*, 34, 417-438.
- Geok P. Y & Hooi H. L (2016). Asymmetric inflation hedge properties of housing in Malaysia: New evidence from nonlinear ARDL approach. *Habitat international*, 62, 11-12.
- Grimes, A., Aitken, A., & Kerr, S. (2004). House price efficiency: Expectations, sales, symmetry. *Motu Economic and Public Policy Research. Working Paper*,1-37.
- Holmes, M. J. & Grimes, A. (2008). Is there long-run convergence among regional house prices in the UK? *Urban Studies*, 45, 1531-1544.
- Holly, Sean, M. Hashem Pesaran & Takashi Yamagata. (2010). A Spatiotemporal Model of House Prices in the USA. *Journal of Econometrics*, 158 (1): 160–173.
- Ibrahim, Mansor H. & Siong Hook Law. (2014). House Prices and Bank Credits in Malaysia: An Aggregate and Disaggregate Analysis. *Habitat International*, 42: 111–120.
- Kau J. B., & Keenan D. (1980). The Theory of Housing and Interest Rates. *The Journal of Financial and Quantitative Analysis*, 15(4), 833-847.
- Katrakilidis, C., & Trachanas, E. (2012). What drives housing price dynamics in Greece: New evidence from asymmetric ARDL cointegration. *Economic Modelling*, 29, 1064-1069.
- Kim B. H., & Min H.G. (2011). Household lending, interest rates and housing price bubbles in Korea: Regime switching model and Kalman filter approach. *Economic Modeling*, 28, 1415-1423.
- Kim, S. & R. Bhattacharya. (2009). Regional Housing Prices in the USA: An Empirical Investigation of Nonlinearity. *Journal of Real Estate Finance and Economics*, Vol. 38, pp. 443-460.
- Levin E.J. & Pryce G. (2009). What Determines the Responsiveness of Housing Supply? The Role of Real Interest Rates and Cyclical Asymmetries. *Housing Studies*, 24(6), 713-736.
- Ligita G., Rita R. & Arjan S. (2016). Assessment of the impact of macroeconomic factors on housing price level: Lithuanian case. *Intellectual Economics*, 10(2), 122-127.
- McQuinn, K. & G. O’Reilly. (2008). Assessing the Role of Income and Interest Rates in Determining House Prices. *Economic Modeling*, 25, 377-390.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- McQuinn, Kieran & Gerard O'Reilly. (2008). Assessing the Role of Income and Interest Rates in Determining House Prices. *Economic Modelling*, 25 (3): 377–390.
- Mohsen Bahmani-Oskooee & Seyed Hesam Ghodsi. (2017). Asymmetric Causality and Asymmetric Cointegration between Income and House Prices in the United States of America. *International Real Estate Review*, 20 (2), 127 – 165.
- Olanipekun T. A., & Adegoke O. J.(2015). Effects of Interest Rate on Housing Prices in Lagos Metropolis. *American Journal of Business, Economics and Management*. 3(6), 384-394.
- Öztürk, Nurettin & Esra Fitöz. (2009). Türkiye'de konut piyasasının belirleyicileri: ampirik bir uygulama. *Zonguldak Karaelmas, University Journal of Social Sciences*, 5 (10): 21–46.
- Panagiotidis, Theodore & Panagiotis Printzis. (2015). On the Macroeconomic Determinants of the Housing Market in Greece: A VECM Approach. *Canadian Social Science*, 11(88): 119–130.
- Song S, Jou J.B. & Tripe D. (2014). Can interest rates really control house prices? Effectiveness and implications for macroprudential policy. *Journal of Banking & Finance*, 47, 15-18.
- Tang, Tuck Cheong & Pei Pei Tan. (2015). Real Interest Rate and House Prices in Malaysia: An Empirical Study. *Economics Bulletin*, 35 (1): 270–275.
- Tai M. Y., Hu S. W., Chao C. C., & Wang V. (2017). Foreign Buyers and Housing Price Dynamics, *International Review of Economics & Finance*, 2017, ISSN 1059-0560, Retrieved from <http://dx.doi.org/10.1016/j.iref.2017.03.013>.
- Tak Yun Joe Wong, Chi Man Eddie Hui & William Seabrooke. (2003). The impact of interest rates upon housing prices: An empirical study of Hong Kong's market. *Property Management*, 21(2), 153-170.
- Tse, R.Y.C. (1996a). Mortgage default risk and lending policy – A study of mortgage lending in Hong Kong. *Australian Land Economic Review*, 2(1), 12-17.
- Tse, R.Y.C. (1996b). Housing return and the determinants of capitalization rates with reference to Hong Kong. *Journal of Property research*, 3(2), 115-29.
- Tse, R.Y.C. (1996c). Relationship between Hong Kong house prices and mortgage flows under deposit-rate ceiling and linked exchange rate. *Journal of Property Finance*, 7(4), 54-63
- Tse C. B., Rodgers T., & Niklewski J. (2014). The 2007 financial crisis and the UK residential housing market: Did the relationship between interest rates and house prices change? *Economic Modelling*, 37, 518-530.
- Zhu Haibin, (2004). What drives housing price dynamics: cross – country evidence”, *BIS Quarterly Review*, March 2004, 65-78.
- Zou G.L.& Chau K.W (2015). Determinants and Sustainability of House Prices: The Case of Shanghai, China. *Sustainability*, 7(4), 4524-4548.

Role of Globalization in Trade-Growth Nexus: A Dynamic Panel Analysis

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Abstract

International trade is a catalyst of growth especially for developing countries since many decades ago. However, impacts of trade to growth are still ambiguous due to roles of institutional factors, which under-emphasized as endogenous factors in past modelling. One of important institutional factors escapes research attention is degree of globalization. At one side, the world embraces waves of global economic integration and mass scale trade pacts like Belt and Road Initiative, Asian Economic Communities, Regional Comprehensive Economic Partnership and Trans Pacific Partnership Agreement. On the other side, Brexit and Donald Trump's protectionism approach to "Make America Great" give contrasting thought on benefit of globalization to growth and trade. Thus, this paper aims to determine the impact of globalization factors to trade-growth nexus. Indexes on economic globalization, social globalization, political globalization and financial openness are proxies for degree of globalization. Trade and growth data are sourced from World Bank and globalization indexes are obtained from KOF Index Globalization from 1986 to 2016 for 30 countries. System Generalized Method of Moments (SGMM) is applied but statics panel models such as Pool OLS, Fixed Effect Model (FEM) and Random Effect Model (REM) are performed to ensure robustness. The results will give indication to policy maker to engage trade and market openness policy.

Keywords: Trade, growth, globalization and dynamic panel

INTRODUCTION

After the World War II, globalization waves gathered pace. The 'fall' of the Soviet Union and Berlin Wall paved way for greater global capitalism where multinational corporations began establishing around the world. International trade increased from US\$4.88 billion in 1970 to US\$44.58 billion in 2015 (World Bank database), which is more than 800% increase since 1970, that's about 45 years only. However, two recent events have shocked the world and prompt us to rethink the role of globalization to economic growth. Those events are the Brexit and Donald Trump's United States Presidential election victory. On 23rd June 2016 referendum, "leave European Union" won with a simple majority of 51.9%. Possible reasons are "take control" sentiment and immigrant issue (New York Times 2016). Whilst in the United States, Donald Trump promised to protect and make "America Great Again" with anti-globalization measures. He won over Hillary Clinton who is relatively more globalization friendly. Trump's immediate actions included withdrawing the Trans-Pacific Partnership Agreement (TPPA), restricting immigrants and the threat of tax punitive to get United States' offshore investment back home. Some take Brexit and Trump's victory as sentiment of reversed globalization and proxy for negative impact of globalization to domestic economy.

Globalization brings both good and bad impacts. Yet, several crises in some developing as well as developed countries are examples of bad impacts that still haunt policy makers nowadays. Contagious effect from Asian Financial Crisis 1997/98, subprime crisis stated in United States and Greece's economic problems showed the world the vulnerability of a linked economy. Globalization is like a strategy in a famous ancient Chinese warfare of "Red Cliff Battle" of the era of Three Kingdoms. Cao Coa's strategy to chain his ships successfully enhanced stability and reduce seasickness to his troops. Yet, when opponents attacked with fire, all his chained ships were burn easily. Globalization can chained economies together but

when crisis (fire) broke off in either one of its member, all other members can be easily effected. Furthermore, chaining the big and small economies together may help the later to grow faster but still far from enough to achieve global economic convergence as envisioned in globalization.

LITERATURE REVIEW

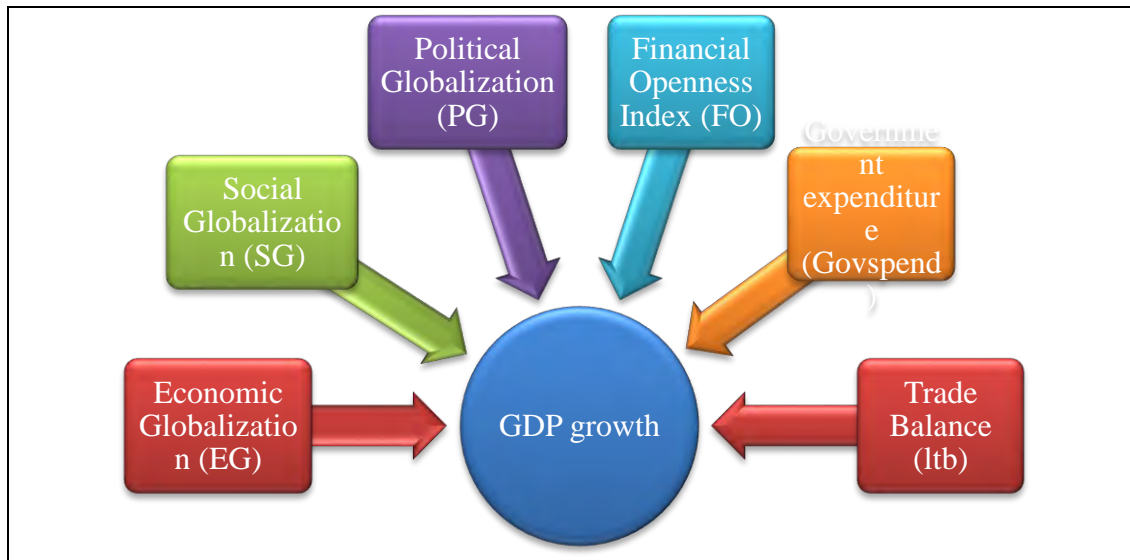
Researches on international trade and growth either per se or collectively rarely involved the impact of globalization. Analysis on determinant of growth commonly focuses on export, consumption, trade openness, investments, natural resources and debt (Alex 2013; Farooq, Hazoor, Safdar, and Rasheed 2013; Parash 2015; and Shafaqat 2012). Research from Ugwuegbe and Uruakpa (2013) revealed that both export of oil and non-oil affected positively economic growth in Nigeria. Ramayandi (2003) found government spending had an adverse impact in Indonesia from 1969 to 1999. International trade, especially on trade balance often also been linked to exchange rate as in Marshall-Lerner hypothesis. Har, et al (2014) and Sek & Har (2014) has studied this hypothesis in Malaysia context.

On role of globalization, Cuneyt's (2015) research on 74 developing countries between 1981 and 2011 found positive impact of economic globalization on the GDP growth. Stannia, Alla, and Asmara (2015) also carried out a study to investigate the influence of globalization on GDP's performance in six developing countries in ASEAN during the years 2006 to 2012. The result also showed that economic globalization affected positively the economic growth of selected countries. Dreher (2005) developed and analyzed whether the overall globalization index which included three dimensions: economic globalization, social globalization as well as political globalization affect economic growth by using panel data for 123 countries between the periods 1970 and 2000. He claimed that economic globalization indeed promoted growth in the selected countries. Ying, Chang, and Lee (2014) examined the effect of globalization on ASEAN countries' economic growth during the years 1970 to 2008 by using panel fully-modified OLS and divided the globalization index (captured from KOF Index) into three sub-categories included economic globalization, social globalization and political globalization. The consequence indicated that economic globalization affected positively on economic growth of the selected countries. Wei (2015) analyzed the financial liberalization affect the economic growth of seventeen countries in Asian between 1980 and 2010 indicated that inflow of foreign direct investment, one of the de facto financial openness measurements, had influenced positively on economic growth while the other three measurements included inflows and outflows of portfolio investment as well as foreign direct investment outflows affected negatively the economic growth. Quinn & Toyoda (2008) found capital account liberalization has linear positive relationship with growth for the periods 1955 to 2004 for both developed and emerging markets. Besides, Bekaert, Harvey, and Lundblad (2005) indicated that liberalizing domestic markets can stimulate annual real growth by one percent increase over a five-year period.

CONCEPTUAL FRAMEWORK

Most of the researchers normally analyze the impact of factors such as FDI, consumption, export and investment on the economic growth. However, the institutional factors such as economic globalization, social globalization, political globalization and financial openness may also affect the economic growth. Furthermore, Daron, Simon and James (2005) define the economic institutions include the entry barriers influencing economic performance. Hence, lack of study examines impact of globalization in economy, social, political and financial openness as institutional factors on economic growth. The objective of this research project is to determine the impact of six independent variables on the GDP growth. The four of those independent variables represent globalization, namely economic globalization, social globalization, political globalization and financial openness. The other two independent variables are government expenditure and trade balance.

Figure 1: Proposed Theoretical Framework



RESEARCH METHODOLOGY

Variables and Data

GDP growth, government expenditure and trade balance data are obtained from World Bank. All four globalization indexes data are sourced from KOF Index Globalization. All variables are on a yearly basis. The sample period is from 1986 to 2013 and consists of 32 countries. The countries are Australia, Bangladesh, Belgium, Bhutan, Burkina Faso, Burundi, Cameroon, Canada, China, Denmark, Egypt Arab Republic, Finland, France, Germany, Greece, Iceland, India, Indonesia, Italy, Japan, Jordan, Malaysia, Nepal, New Zealand, Philippines, Portugal, Singapore, South Africa, Swaziland, Thailand, United Kingdom and United States. The countries are chosen based on the completeness of data.

Research Models

Static panel models are estimated first, followed by dynamic panel models. This research suspected endogeneity in dependent variable, hence justifying the use of dynamic panel models. Results from all static and dynamic panels are presented together with diagnostic tests to ensure robustness. For static panel models, Pool OLS, Fixed Effect Model (FEM) and Random Effect Model (REM) are tested. POLS pool the data and estimate using OLS regression. The equation form as:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + u_{it}$$

At the basis level, POLS explains the parameter of independent variables (Xs). In this research, the dependent variable (Y) that we tested is GDP growth and the independent variables (X) that we test are economic globalization (X1), social globalization (X2), political globalization (X3), financial openness index (X4), government expenditure (X5) and trade balance (X6). The symbol of β_0 is defined as constant and u_{it} is mean of error term. The symbol of it defines that panel data that we run in this research. The reason that we doing pooling OLS is due to the economic theory that can hold for individual and it is efficient and powerful.

To the consideration of "individuality" of each country is important. Therefore, the intercept varies for every single country and slope coefficients are constant across countries. This is known as a flexible effect model (FEM) because it is time invariant. The estimated models are rewritten as:

$$Y_{it} = \beta_1 X_{it} + \alpha_i + u_{it}$$

Where α_i ($i=1\dots n$) is the unknown intercept for each entity (n entity-specific intercepts). The Y_{it} is the dependent variable; X_{it} is the independent variables, where i is entity and t are time (yearly basis). β_1 is the coefficient of the equation.

There is another approach to overcome the problems that overwhelmed in both time dimensions and cross-section which is known as Random Effects Model (REM). The basic concept of REM is treating intercept term, β_0 as a random variable which expressed as:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + U_{it} + W_{it}$$

The error term W_{it} consists two elements which are cross-section error component, ϵ_i and the combination of cross-section and time series error component, μ_{it} . The assumptions made by ECM are as below:

$$\begin{aligned} \epsilon_i &\sim N(0, \sigma^2) \\ \mu_{it} &\sim N(0, \sigma^2) \\ E(\epsilon_i \mu_{it}) &= 0 \quad E(\epsilon_i \epsilon_j) = 0 \quad (i \neq j) \\ E(\mu_{it} \mu_{is}) &= E(\mu_{it} \mu_{it}) = E(\mu_{it} \mu_{is}) = 0 \quad (i \neq j; t \neq s). \end{aligned}$$

Both the error components have followed the assumptions of Classical Linear Regression model where the errors are zero mean and constant variance. In fact, the individual error components are uncorrelated among each other and same across both time-series and cross-section units.

Panel Correction Standard Errors (PCSE) estimates on the linear cross-sectional time-series models where the parameters are estimated by either OLS or Prais-Winsten regression. When computing the standard errors and the variance – covariance estimates, PCSE assumes that the disturbances are, by default, heteroskedastic and contemporaneously correlated across the panel. The PCSE are obtained as the square roots of the diagonal elements of the matrix as follow:

$$con(b) = (X'X)^{-1} X'(\phi \otimes |T)X(X'X)^{-1}$$

Where ϕ is an $N \times N$ matrix with the (i,j) th element estimated by:

$$(\sum_{t=1}^T e_{it} e_{jt}) / T$$

Where e_i and e_j are the residuals for panel i and j respectively that can be coordinated by periods. Where T is represented as the quantity of observations per panel, while $T_{ij} = T$ which mean that the panels are balanced.

To select the best model between POLS, FEM, REM and PCSE, we have run the test such as Breusch and Pagan Lagrangian Multiplier Test for REM and Hausman Test. A method to choose the best model between the model of POLS and REM is Breusch and Pagan Lagrangian Multiplier Test (BP test). BP test is developed in 1979 by Trevor Breusch and Adrian Pagan. The rejection of H_0 while the p-value is lesser than the level of significant (α) at 1%, 5% or 10%, means that REM is more preferred. A more formal method to choose is based on the Hausman test. Hausman test is an official test use to determine the relevant model between FEM and REM in which developed by Jerry Hausman in 1978. The rejection of H_0 means that REM is not suitable but, FEM is better off where case statistical inferences will be conditional on the ϵ_i in the sample.

Dynamic panel models used are Difference Generalized Method of Moment (Difference GMM) and System Generalized Method of Moment (System GMM). The dynamic test is used to study the relationship of dynamic economic between the independent variables and dependent variable in the panel data. There are 6 situations that both general estimators designed (David, R., 2006):

1. "Small T, large N" panels, meaning that is short time period and large observations;
2. There is a linear relationship;
3. There is a single left- hand-side variable which is dynamic;

4. The independent variables that are not strictly exogenous, which means correlated with the past and potentially current realizations of the error;
5. Fixed individual effect; and
6. Heteroscedasticity and autocorrelation within individuals, but not across them.

Arellano - Bond estimation starts by transforming the regressors, usually by differencing and uses the Generalized Method of Moments, and known as "difference GMM". The forward orthogonal deviations transform is sometimes performed instead of differencing. An additional assumption, that first differences of instrumenting variables are uncorrelated with the fixed effects (David, R., 2006).

Diagnostic tests are performed to ensure results are not spurious. The Breusch- Pagan test is used to detect the problem of heteroscedasticity. Heteroscedasticity test is used to test for the variance of error terms whether it is constant across observations. Heteroscedasticity problem will cause the model do not have a constant variance and to have error terms (Gujarati & Porter, 2009). The assumption of OLS make that $V(\epsilon_j) = \sigma^2$ for all j . That means, the variance of the error term is constant. While the error terms do not have constant variance, they are said to be heteroscedastic. The decision rule of heteroscedasticity is as H_0 is rejected, the p-value is lesser than the level of significant (α), otherwise, do not reject H_0 . Once, the null hypothesis is rejected mean that the problem of heteroscedasticity exists. Cross-sectional dependence appears where the error term of this model is mis-specification. A cross-sectional dependence is caused by the presence of common factors, which are unobserved (the effect of these components are felt through the disturbance term) but they are unrelated with the included regressor is consistent if there is inefficient as well as the standard error is biased (Rafael & Vasillis 2006). Rejection of H_0 means the problem of cross-sectional dependence exists. Autocorrelation is also known as serial correlation, which to explain the correlation between the observations and the similarity of variables over different periods of time. Autocorrelation calculates as a function of mean and variance. Autocorrelation problem usually happens in time series data while the error terms of the data are correlated if the covariance is not equal to zero (Con $(u_i, u_j) \neq 0$, for $i \neq j$). Rejection of H_0 means the residuals have autocorrelation. Time effect is used to detect the significant of joint variables for all year. The H_0 will be rejected when p-value is below than the significant level, otherwise, fails to reject H_0 . While H_0 is rejected, mean that the problem of time effect exists.

The simple OLS estimator for simple static panel is consistent as N or T approach to infinity only when all explanatory variables are exogenous and are uncorrelated with the individual specific effects: $Cor(\epsilon_i, x_i) = 0$. However, due to the fact that the OLS estimator ignores the error components structure of the model, it is not efficient. This is because many economic relationships are dynamic in nature, thus allow the researcher to better understand the dynamics of adjustment. Static panel cannot capture such dynamic nature. Nickell (1981) showed that within estimator or fixed effect (FE) estimator is inconsistent for large N and small T , hence making static having dynamic panel bias or Nickel bias. If lagged dependent variables also appear as explanatory variables, strict exogeneity of the regressors no longer holds. The initial values of a dynamic process raise another problem. It turns out that with a random effect formulation, the interpretation of a model depends on the assumption of initial observation (Anderson & Hsiao, 1982). The static panel data technique based on either pooling or fixed effects, makes no attempt to accommodate heterogeneous dynamic adjustment around the long-run equilibrium relationship (Pesaran and Smith, 1995; Pesaran, Shin & Smith 1999). Thus, two versions of dynamic panel models of generalized method of moments (GMM) are performed in addition to the static panel models. As for dynamic panel models, The Arellano – Bond test for autocorrelation has a null hypothesis of no autocorrelation and is applied to the differenced residuals. The Sargan and Hansen test is performed to test the validity of instrumental variables and the over-identifying restrictions problems. The null hypothesis is that the instrumental variables are uncorrelated to some set of residual, thus they are acceptable and healthy instruments.

DATA ANALYSIS

This research performed four static models and two dynamic models to ensure robustness and best explain the relationship between growth and globalization indexes, trade balance and government expenditure (fiscal policy). The models are Pooled Ordinary Least Squares (POLS), Fixed Effect Model (FEM), Random Effect Model (REM). The regression result shows in Table 1.

Table 1: Results Summary

Model	(1)	(2)	(3)	(4)	(5)	(6)
Variables (S.E.)	POS	FEM	REM	PCSE	DGMM	SGMM
EG	0.0742*** (0.0129)	0.0457** (0.0240)	0.0824*** (0.0198)	0.0722*** (0.0130)	-0.8949 (1.0282)	-0.0614 (0.1258)
SG	-0.0713*** (0.0121)	-0.0936*** (0.0205)	-0.7912*** (0.0180)	-0.0733*** (0.0117)	0.5871 (0.7609)	-0.1498** (0.0611)
PG	-0.0243*** (0.0071)	0.0409*** (0.0136)	0.0093 (0.0109)	-0.0226** (0.0102)	-0.1640 (0.1794)	-0.0055 (0.0462)
FO	0.4693*** (0.1084)	0.5018*** (0.1434)	0.4598*** (0.1338)	0.4615*** (0.1247)	6.1300 (5.4467)	1.6743*** (0.6285)
GS	-0.2065*** (0.0265)	-0.4216*** (0.0554)	-0.3162*** (0.0448)	-0.1920*** (0.0339)	-1.2357 (0.9684)	-0.2348 (0.1555)
TB	-1.0334** (0.4385)	-4.5834*** (0.7324)	-3.3690*** (0.6356)	-0.9088* (0.4910)	22.1539 (21.7305)	-3.1564** (1.5408)
I.Growth					0.2465** (0.0129)	0.3650*** (0.0708)
Constant	7.9092*** (0.6757)	8.8871*** (1.1795)	6.9003*** (0.9980)	8.0619*** (0.7273)	-	9.1890 (5.8530)
R ²	0.1792	0.1043	0.1434	0.2540	-	-
Adj R ²	0.1737	-	-	-	-	-
Wald Chi ²	-	-	102.97	34259.98	28.21	53.94
Prob> Chi ²	-	-	0.0000	0.0000	0.0000	0.0000
No. of obs.	896	896	896	896	832	864
No. of group	-	32	32	32	32	32
No. of Instruments					14	22

Note: ***, ** and * denote as significant at 1%, 5% and 10% respectively; EG = Economic Globalization, SG = Social Globalization, PG = Political Globalization, FO = Financial Openness Index, GS = Government Expenditure, TB = Trade Balance. Time effect for FEM is performed but not reported. All eleven years from 1991 to 2013 are significant at either 5% or 1% level.

All dependent variables in all static panel models are consistently significant and having the same sign except Political Globalization not significant in REM and having positive sign in FEM. Economic globalization and Financial Openness have positive relationship with growth. Meanwhile, Social Globalization and Political Globalization have negative impact. Thus, static models imply globalization should be handled with care by maintaining the power of nation-state in governing social and political aspects of the nation. Breusch and Pagan Lagrangian Multiplier Test (LM) result in Table 2 rejected the null hypothesis, thus preferring the REM against POLS. Hausman test uses to examine whether REM is preferable or FEM. Result of the Hausman test (Table 3) rejected the null hypothesis, thus preferring the FEM against REM.

To test whether the error terms do have a constant variance in the fixed effect regression model, Modified Wald test is performed. Chi Squared result of 783.93 significantly rejected the null hypothesis, thus heteroscedasticity exists. Pesaran's cross-sectional dependence (CD) test is used to test whether the variables are correlated. Result rejected the null hypothesis, thus residuals are correlated. To detect autocorrelation problem, Wooldridge test is performed. F-test result of 17.692 significantly rejected the null hypothesis, thus residuals have autocorrelation. Time effect is mainly to examine whether the dummies for all years are equal to zero. F-test result of 4.79 significantly rejected the null hypothesis, thus implying that

time fixed- effects are needed. Thus, FEM is estimated with time-effect. Diagnostic tests show that problems of heteroscedasticity, cross-sectional, autocorrelation and time fixed-effect exist. Therefore, Panels Corrected Standard Errors (PCSEs) is performed. In PCSE model, both government expenditure and trade balance are negative and significant.

Table 2: The estimated results of LM test

	Var	sd = sqrt (Var)
growth	13.67356	3.697778
e	8.485654	2.913015
u	2.659311	1.630739
Test : Var (u) = 0	Chibar2 (01) = 484.71	Prob > chibar2 = 0.0000

Table 3: The result of Hausman test

	-----Coefficients-----			
	(b) fixed	(B) .	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
EG	.487003	.824439	-.0337436	.0135072
SG	-.936361	-.0791963	-.0144398	.0098647
PG	.408834	.0093248	.0315587	.0085392
FO	.5018906	.4597851	.0421055	.0516816
govspend	-.4216483	-.3162136	-.1054347	.0326111
ltb	-4.58348	-3.368952	-1.214529	.3656351

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg
 chi2 (6) = (b - B)' [(V_b - V_B)^ (-1)] (b - B) = 32.22
 Prob > chi2 = 0.0000

In Different GMM model (DGMM), all independent variables are surprisingly not significant except lag of dependent variable (l.Growth). Perhaps, problem of weak instrument in DGMM may have causes such results. Hence, System GMM (SGMM) is performed by utilizing both different and level equations of the GMM. There are two reasons for preferring GMM. Firstly, the OLS and fixed-effect estimators present considerable bias and, although the system GMM estimator display relatively low bias (Marcelo, S., 2009). Besides that, System GMM estimator has a higher efficiency. This is because System GMM is the combination of Difference GMM and Level GMM and it able to solve the weakness of Difference GMM (Youssef, El-sheikh, & Abonazel ; 2014). Arellano- Bond Test results in Table 5 shows AR (1) which is consistent with DGMM and SGMM requirements. Sargan test results in Table 5 that reject the null hypothesis for both DGMM and SGMM imply variables are correlated to residuals, thus both GMM models are acceptable. Result from Difference-Hansen Test for selection between DGMM and SGMM failed to reject null hypothesis (Chi squared test, p value = 0.6734) supporting SGMM is more preferred than DGMM.

Table 4: Arellano- Bond Test Results

Difference GMM	AR(1) in first differences: z = -2.83 Pr > z = 0.005 AR(2) in first differences: z = -0.27 Pr > z = 0.785
System GMM	AR(1) in first differences: z = -3.84 Pr > z = 0.000 AR(2) in first differences: z = -1.45 Pr > z = 0.147

Table 5: Sargan Test Results

Difference GMM	chi2(7) = 16.98 Prob > chi2 = 0.018
System GMM	chi2(14) = 44.41 Prob > chi2 = 0.000

The SGMM model is showing that the variables of social globalization (SG) and trade balance (TB), which are significant at the level of significant of 0.05. There is negatively affected, which means that an additional 1% increase in any single variable, the value of GDP

growth will decrease according to the coefficient on the particular variable. Besides, both variables of financial openness index (FO) and past growth (l.growth) are significant at the level of significant of 0.01 and there is positive affect.

CONCLUSION AND DISCUSSION

There are three independent variables have significant impact on GDP growth in the 32 selected countries over the period 1986 to 2013, according to the SGMM model result. There are financial openness, social globalization and trade balance. Financial openness influence the GDP performance in a significant and positive way while social globalization and trade balance have a significant negative impact on the GDP growth over the periods. On the other hand, there are also three independent variables, namely economic globalization, political globalization as well as government expenditure have no statistically significant relationship to growth. Financial openness refers to the extent that a government intervenes in the bank and financial industry. A higher value of financial openness index indicates that the financial industry is more independent from the intervention of government regulation compare to lower index value. A significant and positive result from SGMM implies that government should reduce interference in the financial sector through direct and indirect ownership, openness to foreign competition as well as an allocation of credit. Reducing government intervention able to improve banking efficiency and lead to economic growth indirectly. Empirical evidence showed that trade deficit statistically to promote growth (negative TB result) which is not consistent with theoretical expectation. Nonetheless, in reality, United States and Malaysia pre-crisis 1997/98 era showed trade deficit and economic growth can exist together. Since trade balance has a negative relationship on the economic growth, more in-depth research should be conducted while the policy makers should emphasis the quality of trade rather than quantity. Results also indicate past growth, has a positive influence on current growth. A good performance of the previous GDP can attract the investors because they expect that their assets value will increase due to the economic growth. Social globalization has the dimensions include cultural proximity, personal contacts as well as information flows. SGMM result shows that social globalization affects adversely GDP growth in the selected countries during the periods at 5% significant level. Thus, it is the time that a country to create a dynamic local cultural identity like Japan has a strong nationalism with localized cultural identity. The policy makers of a country should also establish the policies to regulate foreign population, especially is the unskilled labors. In addition, a country must take action such as China's close monitoring of information flows to reduce the information flow out too much from the country. This is because the privacy of a country can become insecure due to too much information flow out and this may lead to lack confident to economy indirectly.

Other variables are not significant in dynamic panel model of SGMM but significant in static model of PCSE. Hence, results from PCSE can be used as guide for policy making. There are two dimensions that economic globalization has includes restraint to trade and capital and actual economic flows. Hidden import barriers and capital controls are included in sub-index of restraint to trade and capital while data on portfolio investment, FDI, as well as trade are taken account into actual economic flows sub-index. Based on the PCSE model result, economic globalization influences positively GDP growth in the selected countries over the period at 1% significant level. Thence, a country should reduce the tax imposed on the foreign investors who invest in the country. The tax can be a corporate tax and tax imposed on the profit that earned from financial assets such as securities, stocks, government bond as well as corporate bond. Political globalization is determined by the number of international organizations that a country joined and the number of agreements and pacts signed between two or more countries. According to PCSE model result, political globalization has a great influence on the economic growth at 5% level of significance. Therefore, a country is suggested to involve itself into more international agreements (like Asia-Pacific Economic Cooperation (APEC) and Trans-Pacific Partnership Agreement (TPPA)) and international organizations (like G20 and BRICS) to improve its level of political globalization as well as to stimulate economic growth since political globalization affects positively GDP growth in the country. Last but not least, current expenditures in purchasing of goods and services and most expenditure on national defense are included in government expenditure. Government expenditure affects adversely the economic growth at 1% significant level, according to PCSE model result. Thus, a government

should maintain a balance in spending on both infrastructures and national defense. Government should not focus on spending in either infrastructures development or national defense because a country unable to protect itself well against threats and harms from external factors such wars if it is only focused on developing more infrastructures while a country will not generate any return by using the revenue that they earn if the country spends too much money on the national defense.

In a conclusion, this paper examines the impact of globalization (economic, social, political and financial) factors, government expenditure and trade balance on the GDP growth. The result shows that the financial openness is a significant positive impact on the GDP growth. The social globalization, political globalization, government expenditure and trade balance have significant negative impact on the GDP growth based on combine of SGMM and PCSE models. However, the economic globalization, financial openness and past growth have significant positive impacts on the economic growth.

REFERENCES

- Alex, R. K. (2013). The factors affecting gross domestic product (GDP) in developing countries: The case of Tanzania. *European Journal of Business and Management*, 5. Retrieved from www.iiste.org/Journals/index.php/EJBM/article/download/4476/4544
- Anderson, T. W. & Hsiao, C. (1982). Formulation and estimation of dynamic models using panel data. *Journal of Econometrics*. Vol. 18(1), 47-82.
- Bekaert, G., Harvey, C. R. & Lundblad, C. (2005). Does financial liberalization spur growth?. *Journal of Financial Economics*. Vol. 77: 3–55.
- Cuneyt, K. (2015). Effect of globalization on economic growth: Panel data analysis for developing countries. *Economic Insights - Trends and Challenges*, Retrieved from <http://www.upg-bulletin-se.ro/archive/2015-1/1.Kilic.pdf>
- Daron, A., Simon, J. & James, A. R. (2005). Institutions as a Fundamental Cause of Long-Run Growth. *Handbook of Economic Growth 1A*: 386-472.
- David, M. D. (2003). Testing for Serial Correlation in Linear Panel- Data Models. Retrieved on 28 August 2017 from <https://pdfs.semanticscholar.org/234b/a1d60c957df28805d0431df7dcb5ef75747b.pdf>
- Dreher, Axel (2006): Does Globalization Affect Growth? Evidence from a new Index of Globalization. *Applied Economics*. Vol. 38(10): 1091-1110.
- Farooq, M.U., Hazoor, M.S, Safdar, H.T and Rasheed, M.K. (2013). Key Factors Affecting GDP in Pakistan Over the period 1975-2011. *Journal of Economics and Sustainable Development*. Vol. 4(1): 142-149.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.). Boston: McGraw-Hill.
- Har Wai Mun, Lee Teck Heang, Chew Kah Mun & Goh Huei Shan. (2014). Validity of Marshal Lerner Hypothesis: An Empirical Study on Malaysia-United States Trade Balance. *Asian Research Journal of Business Management*. Vol. 1 (3): 18 – 26.
- New York Times. (2016). Brexit, Explained: 7 Questions About What It Means and Why It Matters. Retrieved on 20 March 2017 from <https://www.nytimes.com/2016/06/21/world/europe/brexit-britain-eu-explained.html>.
- Nickell, S. (1981). Biases in dynamic models with fixed effects. *Econometrica*. Vol. 49(6): 1417 – 1426.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Parash, U. (2015). Factors affecting economic growth in developing countries. Retrieved from <http://business.uni.edu/web/pages/departments/PDFs/Upreti.pdf>
- Pesaran, M. H., Shin, Y. and Smith, R. (1999). Pooled mean group estimator of dynamic heterogeneous panels. *Journal of the American Statistical Association*, Vol 94, pp. 621-634.
- Pesaran, M. H. & Smith, R. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*. Vol. 66 (1), 79 – 113.
- Quinn, D. P. & Toyoda (2008). Does Capital Account Liberalization Lead to Growth?. *The Review of Financial Studies*. Vol.21 (3): 1403 – 1449.
- Rafael, E. D. H & Vasillis, S. (2006). Testing for cross-sectional dependence in panel-data models. *The Stata Journal*. Vol. 6(4), 482-492
- Ramayandi, A. (2003). Government Size in Indonesia: Some Lessons for the Local Authorities. Working Paper in Economics and Development Studies. No. 200302.
- Sek Siok Kun & Har Wai Mun. (2014). Testing for Marshall-Lerner condition: Bilateral trades between Malaysia and trading partners. *Journal of Advanced Management Science*. Vol. 2 (1): 23 – 28.
- Shafaqat, M. (2012). Effect on different factors on gross domestic product: A comparative study of Pakistan and Bangladesh. Retrieved from <http://aocrj.org/wp-content/uploads/2013/04/AOCRJ-V11I1P2-Effect-of-Different-Factors-on-Gross-Domestic-Product.pdf>
- Stannia, C. S., Alla, A., & Sri, M. (2015). The impact of globalization on economic growth in ASEAN. *International Journal of Administrative Science & Organization*, 22. Retrieved from <http://journal.ui.ac.id/index.php/jbb/article/viewFile/5696/3627>
- Ugwuegbe, S. U. & Uruakpa P. C. (2013). The impact of export trading on economic growth on economic growth in Nigeria. *International Journal of Economics, Business and Finance*, 1. Retrieved from http://www.ijebf.com/IJEBF_Vol.%201,%20No.%2010,%20November%202013/THE%20IMPACT%20OF.pdf
- Wei, H. (2015). Does financial openness affect economic growth in asian economies? A case study in selected Asian economies, 1980-2010. Retrieved from http://academicworks.cuny.edu/cgi/viewcontent.cgi?article=1637&context=gc_etds
- Ying, Y. H., Chang, K., & Lee, C. H. (2014). The impact of globalization on economic growth. *Romanian Journal of Economic Forecasting*. Vol. 17: 25 – 34.

Is Belt and Road Relevant to Malaysia's Trade and Investment in Reversed Globalization Wave?

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Abstract

Contrasting phenomena took place recently. Building infrastructures to promote international trade under Belt and Road Initiative (BRI) are China's way of rejuvenation towards prosperous, strong, culturally advanced and harmonious country. In contrast, Donald Trump's chooses protectionism to "Make America Great Again". ASEAN countries going towards ASEAN Economic Community (AEC) but Britain choose to exit European Union. These contrasting phenomena prompt four research questions. Firstly, is there a reversed globalization wave? Secondly, how can BRI position itself with Trans-Pacific Partnership Agreement (TPPA) and AEC? Third and fourth, what benefits can BRI bring to China and Malaysia respectively? Analysis of Globalization Indexes from ETH Zurich's KOF Swiss Economic Institute reveals reversed economic globalization trend after 2000 for United States, Canada, Australia and major European countries. Asian countries are globalizing rapidly since 1986 while South African countries see stable globalization trend. Therefore, BRI plays important role to lead ASEAN's globalization. In economic sphere, China's funds and expertise in construction of mega infrastructure projects could be beneficial to developing ASEAN. In return, ASEAN economies offer better regional-trade condition to China's products through joint productions in ASEAN countries like Malaysia. This is especially for products like halal goods where vast Middle East markets recognized Malaysia's halal certification but not China, agricultural-based industry and petroleum based-industry where Malaysia and other ASEAN countries are abundant. More specifically for Malaysia, BRI plays two important roles, namely trade creation among BRI participating countries and import substitution investment from China..

Keywords: Belt and Road Initiative, ASEAN Economic Community, Malaysia, China, Trade, FDI

INTRODUCTION

After the World War II, globalization waves gathered pace. Fall of Soviet Union and Berlin Wall paved ways for greater global capitalism where multinational corporations established around the world. International trades increased from US\$4.88 billion in 1970 to US\$44.58 billion in 2015 (World Bank database), which is more than 800% in about 45 years. Malaysia total trade also shows increases from RM14.37 billion in 1970 to RM452.70 billion in 2015, which is a remarkable 3050% or 30 times! Figure 1 also shows increment in trade accelerated after 1990, implying the impact of globalization and continuously advancement in logistic sector. However, two recent events shocked the world. They are Brexit and Donald Trump's United States Presidential election victory. On 23rd June 2016 referendum, "leave European Union" won with a simple majority of 51.9%. Possible reasons are "take control" sentiment and immigrant issue (New York Times 2016). In United States, Donald Trump's promised to protect and make America "Great Again" with anti-globalization measures. He won over Hillary Clinton who is relatively more globalization friendly. Trump's immediate actions include cancelled Trans-Pacific Partnership Agreement (TPPA), restricted immigrants and threatened of tax punitive to get United States' offshore investment back home. Some take Brexit and Trump's victory as sentiment of reversed globalization. This sentiment will have impacts on Belt and Road Initiative (BRI) as well as China and Malaysia's international trade and economic landscape.

LITERATURE REVIEW

Literature reviews show economic globalization brings inconclusive results especially to developing countries, in which BRI can take them as precautionary lessons. Cuneyt (2015), Stannia, Alla, and Asmara (2015), Dreher (2005) and Ying, Chang, and Lee (2014) supported positive benefit from globalization to growth. Rodrik (1997) has warned that globalization can divide groups of society, thus causing social disintegration. Among other negative effects of globalization to development are inequalities (Dreher 2008), inverted U curve relationship for poverty (Agenor 2004) and environmental Kuznets curve on pollution (Shahbaza, Mallickb, Mahalickc, & Loganathand 2015). Besides literatures on globalization, there are also previous research on trade and foreign direct investment. International trade often been linked to exchange rate as in Marshall-Lerner hypothesis. Har, et al (2014) and Sek&Har (2014) has studied this hypothesis in Malaysia context. Mundel (1957), Markusen (1983) and Helpman (1984) propounded that the relationship between FDI and exports can be substitutes or complements. However, the effect on imports cannot be predicted. There have an empirical results show that a positive effect on exports within a couple years while the effect on imports is increased slightly than effect on exports were. Furthermore, there is an argument stated there is an uncertainty relationship between FDI and exports or vice-versa (Petri and Plummer, 1998). Since FDI is a complement or substitute of trade, if the balance of payment (BOP) is trade surplus, it represents there is a substitution for imports. In contrary, when there is complementary of FDI, the BOP will be trade deficit. Some of the studies such as Frank and Freeman(1978), Cushman(1988) and Blonigen(2001) indicated results proven that it is a substitute relationship on FDI and trade. However, an agreement stated by Onwuka&Zoral (2012) indicated there is exists of the relationship between FDI and trade as complement. However, there is no literature to analyze and/or discuss the inter-connectedness relationship between globalization, trade and investment, especially in the context of Belt and Road and Malaysia. Hence, will BRI globalize our economies and open up our trade? How will BRI benefit other countries and therefore Malaysia? All these are important research problem to be discussed.

CONCEPTUAL FRAMEWORK

There are four main issues. Firstly, is there a reversed globalization wave (issue #1)? It is important to determine the direction of current globalization trend because the role and potential impact of BRI may be different. BRI under globalization trend may face fewer obstacles but will it make big impact? If whole world is de-globalizing, BRI may have difficulties gaining worldwide support and ended up only as bilateral trade with China for few participating countries. Secondly, how can BRI position itself to link the world economies into its trade routes (issue #2)? BRI has to be different and stand out from other international trade initiative like TPPA and be compatible with Asian Economic Communities (AEC). Third and fourth, what benefits can BRI bring to Malaysia (issue #3)? Belt and Road has to be relevant especially to Malaysian economy in current trends. On Malaysia aspect, concern will be focused on the compatibility of BRI to our long term economic plan, especially the Transformasi Nasional 2050 (better known as TN50) and our preparation to face the 4th Industrial Revolution and Asian Economic Communities (AEC) challenges. These three issues form the research framework as illustrated in Figure 1. However, this paper only focuses on the last issue of BRI's relevancy to Malaysian economy.

Figure 1: Research Framework



ANALYSIS

The idea of a new “Silk Road economic belt” launched by President Xi during his tour of the Central Asian republics in October 2013, will mainly take shape along railway lines connecting several cities in western China to Europe via Central Asia, Iran, Turkey, the Balkans, and the Caucasus across the 11,000-kilometre long Eurasian continent. The Chinese authorities see this transportation infrastructure as a first step toward the creation of a Eurasian “economic corridor,” allowing for the development of the landlocked Central Asian economies and their future integration with both European and Asian markets (Roland 2015 & Swaine 2015).

Compatibility with AEC

ASEAN members need to enhance and maintain their centrality in East Asian regional economic cooperation in order to attract prosperous foreign direct investment into the countries and enhance ASEAN’s role globally. In line with this, there will be many challenges will occur including internal divisions and of course a good infrastructure and facilities are desperately needed for uncompetitive members which is more poorer compare to other members. During the 27th ASEAN Summit in Kuala Lumpur held in 2016 has implement ASEAN Economic Community (AEC) Blueprint 2025 to help ASEAN into a more dynamic and constantly evolving in economies as well as domestic and external environments. AEC Blueprint 2025 able to eliminating tariffs and facilitating trade; advancing the services trade liberalization agenda; liberalizing and facilitating investment; streamlining and harmonizing capital market regulatory frameworks and platforms; facilitating skilled labor mobility; promoting the development of regional frameworks in competition policy, consumer protection and intellectual property rights; promoting connectivity; narrowing the development gap; and strengthening ASEAN’s relationship with its external parties. Thus, one of the major focuses for ASEAN members is the barriers and the building infrastructure connectivity. Concentration may not only on the movement of goods and capital freely but also a synergizing policy coordination and improved mechanisms.

China’s Belt and Road Initiative (also known as One Belt, One Road or OBOR) is one of the foreign and economic policies to strengthen China’s economic leadership through a vast program of infrastructure building throughout China’s neighboring regions. The regional development aspect of BRI is perhaps one of China’s most important economic policy objectives. However, if the Chinese Government fails to connect its domestic projects with overseas components, BRI will be little different from other domestic infrastructure programs, greatly diminishing its economic and strategic value. From this view, ASEAN should participate more in the developing regional or global economic governance, with the aim of integrating with the Chinese economy and other big powers through China's Belt and Road Initiative. With all this interactions, it may foresee to assist ASEAN to become more strong and powerful in economy and a louder voice in global economic forums. China and ASEAN shall become a great partner to cooperate with each other. To realize this, it is very significant for China to resolve all conflicts and contradictions with ASEAN through a policy consultation, coordination and collaboration. The synergy between BRI and the AEC Blueprint 2025 can be at two level forms. One is national level and another in regional level form. At the national level, China wants to use BRI to migrate whole production facilities to deal with the excess capacity production problem. China has the potential to transfer some of its high-quality production capacity to South-east Asian countries, especially Cambodia, Laos, Myanmar and Vietnam (Zhao 2016). Thus, China not only solves the excess capacity problem but also meets the demand for more investment and technology in South-east Asia. In return, China also wants to import more of their manufactured products which also can make BRI more sustainable.

Within the regional level, BRI is also compatible with ASEAN’s vision in this connectivity. To promote regional and cross-continental connectivity, some plans like Initiative for ASEAN Integration Work Plan and the Master Plan on ASEAN Connectivity were used to close the development gaps. Another example like Lancang-Mekong Cooperation framework is also used to improve the connectivity for lagging countries. China and ASEAN believe that the Asian Infrastructure Investment Bank and Maritime Silk Road Fund under the BRI framework will play a big role in developing ASEAN connectivity. At the current level, BRI-AEC development projects seems to be well developed, however ASEAN members may take full

advantage on China's initiative under the BRI. At some point, the connections of the new infrastructure would tie South-East Asian nations individually to China, rather than connecting China with ASEAN as a whole. It might arouse a threat to ASEAN connectivity, which a key principle in the strength of the organization. This means ASEAN unity might erode and undermine its conceptual principles. This would recommend ASEAN members to have a more collective position and view on how to handle the BRI initiative.

China and ASEAN can achieve mutual or "win-win" partnership through BRI-AEC platform. China's funds and expertise in construction of mega infrastructure projects could be beneficial to developing ASEAN. In return, ASEAN economies offer better regional-trade condition to China's products through joint productions in ASEAN countries like Malaysia. This is especially for products like halal goods where vast Middle East markets recognized Malaysia's and Indonesia's halal certification but not China, agricultural-based industry and petroleum based-industry where Malaysia and other ASEAN countries are abundant. Having a strategic policy consultation, coordination and collaboration between China and AEC is very vital to synergize between BRI initiatives and AEC visions even it can bring many difficulties and challenges during the period. It believed can create a new momentum to realizing the goals of the AEC Blueprint 2025 and to strategically improving China-ASEAN relations by moving into these directions.

Is Belt and Road relevant to Malaysian economy?

Globalization brings both good and bad impacts. Several crises in some developing as well as developed countries are examples. Contagious effect from Asian Financial Crisis 1997/98, subprime crisis stated in United States and Greece's economic problems showed the world the vulnerability of a linked economy. Globalization is like a strategy in a famous ancient warfare of "Red Cliff Battle" of the era of Three Kingdoms. Cao Coa's strategy to chain his ships successfully enhanced stability and reduce seasickness to his troops. Yet, when opponents attacked with fire, all his chained ships were burn easily. Globalization can chained economies together but when crisis (fire) broke off in either one of its member, all other members can be easily effected. Furthermore, chaining the big and small economies together may help the later to grow faster but still far from enough to achieve global economic convergence as envisioned in globalization. Therefore, global institutions like World Trade Organization, International Monetary Fund and World Bank should re-plan, reshape and restructure capital and trade movement even by necessary restrictive measures. This is to enable gain from globalization outweigh cost of open up the economy. The same applies to BRI. It should be structured in a flexible ways to prevent contagious fire but enable trickling down benefit to help smaller economies grow faster and stronger.

China Filling Up the Void of Western De-globalization

In economic sphere, China's funds and expertise in construction of mega infrastructure projects could be beneficial to developing ASEAN. Basic economic theory briefly assumes "saving equal investment" and then, investments generate growth. In reality, intermediaries play important roles to turn saving into investments and growth. Besides financial market, infrastructure development is another main intermediary. Three Directors from McKinsey, Garemo, Matzinger, and Palter (2015) echoed important of infrastructure mega project to cities, states and individual livelihoods with few glaring examples. They are Panama Canal, which accounts for a significant share of the country's GDP; Dubai's international airport which is the world's busiest, accounting for 21 percent of Dubai's employment and 27 percent of its GDP; Hong Kong subway and MTR system, which has enabled the densely packed city to build beyond the downtown districts and North Sea Protection Works in Netherlands, which guards the low-lying country's landscape.

Back to Malaysia currently, few mega infrastructure and commercial projects has been at news spotlight, especially the East Coast Rail Link (ECRL), Melaka Gateway Project (MGP), Malaysia-China Kuantan Industrial Park (MCKIP) and Bandar Malaysia. Coincidentally, all these projects involve investment or construction from China. In the past decades, these roles would have been taken up by developed Western countries like United States, Germany, United Kingdom and France as well as Japan and South Korea. Few hundred years back after World War II witnessed United States taken the main role as "white-man burden" to "save" the less developed countries all over the world as they afraid of them falling into the hand of

communism. As crisis upon crisis hit the developed countries, each of them has their own backyard problems to clean up. Donald Trump starts blaming United States' offshore investments to low labour cost countries as cause to unemployment problem at home. He also sees TPPA and United States' trade as not benefiting themselves. United States is having huge debt and trade deficit. In contrast, China economy is continuously booming for decades long with huge trade surplus thanks to its superior cost competitiveness. These have accumulated lots of funds and foreign reserves to China, which in turn put back into United States through buying their government securities.

Perhaps, China sees more benefit to invest themselves into Belt and Road Initiative to sustain their long term economic growth and fills the "white-man burden" void left over by those developed countries who seem embarking on reversed globalization (as indicated in the Globalization Index in Figure 3). In addition, the globalization model propagated by the Western developed economies are not flawless either. Asian crisis 1997/98, contagious effect from crisis in developed economies and statistical trend in Figure 8 do not give much support regarding benefit from current globalization and trade integration model of the West. Therefore, heavy involvements and investments from China around Asian countries are not surprising as it was done before by the West lead by United States.

Malaysia as ASEAN-China Gateway

Rational behavior theory always assumes no party is willing to do business at a loss. "White-man burden" is not a pure charity that came from United States with no condition or expected return attached. Hence, it is for the BRI participating countries to bargain for a mutually beneficial cooperation condition. ASEAN economies offer better regional-trade condition to China's products through joint productions in ASEAN countries like Malaysia. In another words, China direct export to ASEAN countries may subject to higher tax as compare to products made in one of ASEAN countries, subjected to meeting the minimum local content criteria. These advantages are tapped by big corporations like Toyota and Honda in both Thailand and Indonesia. Their investments are welcome because they generate employment, domestic output, revenue and positive spill over effects.

Malaysia can be ASEAN gateway for China while new mega infrastructures can transform Malaysia into global assembly hub cum international gateway. This is especially for products like halal goods where vast Middle East markets recognized Malaysia's halal certification but not China, agricultural-based industry and petroleum based-industry where Malaysia and other ASEAN countries are abundant. Export from Western side of Malaysia (especially India and Europe) can go to Port Klang and transport through ECRL to Kuantan Port for export to Eastern side of Malaysia (like Japan, Korea and China) and well as Indonesia and Australasia countries. More specifically for Malaysia, BRI plays two important roles, namely (i) trade creation among BRI participating countries and (ii) import substitution investment from China to fully make Malaysia as ASEAN-China gateway of international trade.

Trade Creation among BRI Countries

The Belt and Road Forum for International Cooperation (BRF) was held on 14th to 15th May 2017 at Beijing. Xinhua News Agency (2017) reported twenty-nine foreign heads of state and government (including Malaysia) attended the forum. Other delegates included officials, entrepreneurs, financiers and media from over 130 countries and regions, which cover more than two thirds of the world's population and 90% of the world's total GDP. Besides China, only Indonesia, Vietnam and Philippines are among the head of state and government that attend the BRF that are Malaysia's Top 20 destinations for export and import as in Table 1. China is Malaysia second largest (in term of trade value) export destination but largest import destination. The optimistic point of view will see Malaysia getting more trades with countries that support BRI. Among those BRI big export destinations are Russia, Spain, Italy, Turkey, Pakistan, Uzbekistan, Kazakhstan, Kenya, Ethiopia, Argentina and Chile, covering gateways for South Asia, Central Asia, Europe, Africa and Latin America markets.

Based on Table 1, Malaysia's trades heavily come from five countries, namely Singapore, China, United States, Japan and Thailand. Those Top 5 trade partners collectively contributed 51% of total export and 53% of total import. Top 20 trading partners already consist of 88% and 89% of our total export and import respectively. Therefore, BRI give Malaysia not

only trade expansion (especially export) opportunities with existing partners but also trade creation and trade dispersion with other countries. Overly concentrated our trade with only five to twenty countries is not healthy.

Table 1: Top 20 Malaysia's Export and Import Destinations in 2016

Partner (Export)		Trade Value (US\$ bil)	(%)	Partner (Import)		Trade Value (US\$ bil)	(%)
1	Singapore	27.58	14.56	1	China*	34.31	20.38
2	China*	23.75	12.54	2	Singapore	17.45	10.37
3	USA	19.35	10.22	3	Japan	13.73	8.16
4	Japan	15.25	8.05	4	USA	13.42	7.97
5	Thailand	10.63	5.61	5	Thailand	10.21	6.06
6	China, Hong Kong SAR	9.07	4.79	6	Other Asia, nes	10.08	5.99
7	India	7.71	4.07	7	Rep. of Korea	8.84	5.25
8	Indonesia*	6.67	3.52	8	Indonesia*	7.09	4.21
9	Australia	6.45	3.40	9	Germany	5.73	3.40
10	Viet Nam*	5.73	3.03	10	Viet Nam*	4.54	2.69
11	Rep. of Korea	5.49	2.90	11	India	4.01	2.38
12	Germany	5.37	2.84	12	Australia	3.76	2.23
13	Netherlands	5.29	2.79	13	China, Hong Kong SAR	3.05	1.81
14	Other Asia, nes	5.10	2.69	14	Saudi Arabia	2.56	1.52
15	Philippines*	3.29	1.74	15	United Arab Emirates	2.34	1.39
16	United Arab Emirates	3.03	1.60	16	France	2.29	1.36
17	United Kingdom	2.11	1.11	17	Brazil	2.04	1.21
18	Mexico	1.89	1.00	18	Switzerland	1.72	1.02
19	Turkey*	1.73	0.91	19	Netherlands	1.69	1.01
20	France	1.42	0.75	20	Philippines*	1.59	0.94
World (Total Export)		189.41	100.00	World (Total Import)		168.38	100.00

Note: "nes" means "areas not elsewhere specified"; "*" the twenty-nine foreign heads of state and government (plus China) attended the BRF. Data source from Comtrade.

In addition, collectively through Kuantan Port, Port Klang and Malacca Gateways deep sea port and ECRL, Malaysia can emulate Singapore as busy entrepot. ECRL projected to carry close to 53 million tonnes of cargo per year by 2040 (Kana & Kuar 2017: 14 – 15). This figure is criticized by renowned researchers as impossible given KTMB can only carries 6 million tonnes per year in its nationwide network currently. It represents nine fold increases. However, if we take Singapore shipping cargo (as in Table 2) as benchmark, vessel arrival reached 2.66 billion gross tonnes in 2016. Cargo throughput is 593.3 million tonnes. The projected 53 million tonnes is merely 2% of Singapore vessel arrival volume or 8.9% of Singapore cargo throughput volume. Therefore, the question (or its conclusion) should not be whether ECRL can achieve its targeted tonnages but can Kuantan Port attract international shipment to provide such tonnage for ECRL?

Table 2: Singapore's Maritime Statistics (2012 to 2016)

Year	Vessel Arrival Tonnage (billion GT)	Container Throughput (million TEUs)	Cargo Throughput (million tonnes)	Bunker Sale Volume (million tonnes)
2012	2.25	31.6	538.0	42.7
2013	2.33	32.6	560.9	42.7
2014	2.37	33.9	581.3	42.4
2015	2.50	30.9	575.8	45.2
2016	2.66	30.9	593.3	48.6

Source: Maritime and Port Authority of Singapore (2017)

World Shipping Council (2017) highlighted that liner exports are highly concentrated, with the top ten exporting nations accounting for nearly two-thirds of the total liner export value. Greater China (mainland China, Hong Kong and Taiwan) accounted for 28% of the value of liner exports and 30% of the global volume of containerized exports. In 2014, China export volume is 36.0 million TEU (Twenty Foot Equivalent Unit). In the same year, South Korea, Japan and Taiwan exports are 5.93 million TEU, 5.28 million TEU and 3.25 million TEU respectively as in Table 3. Each TEU is equivalent to about 2.44 tonnes container weight plus maximum 21.56 tonnes of load. Based on Table 2, shipments to Singapore port have an average 18 tonnes per TEU. Hence, China alone exported $36 \times 18 = 648$ tonnes of shipment, which is more than tenfold of ECRL target tonnage.

Table 3: Top 20 Exporters of Containerized Cargo: 2010, 2013 & 2014 (million TEU)

	Exporter	2014	2013	2010
1	China	36.0	34.2	31.3
2	United States	11.9	11.5	11.2
3	South Korea	5.93	5.79	5.20
4	Japan	5.28	5.20	5.74
5	Indonesia	4.00	3.59	3.00
6	Thailand	3.92	3.78	3.40
7	Germany	3.32	3.24	3.00
8	Taiwan, China	3.25	3.24	3.41
9	India	3.07	2.95	1.90
10	Vietnam	2.94	2.63	1.61
11	Brazil	2.88	2.74	2.30
12	Malaysia	2.60	2.50	2.50
13	Saudi Arabia	2.24	2.20	1.60
14	Italy	1.83	1.77	1.60
15	Turkey	1.82	1.66	1.60
16	Spain	1.72	1.61	--

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17	Canada	1.70	1.65	1.60
18	Singapore	1.57	1.48	1.60
19	Netherlands	1.54	1.35	1.60
20	Australia	1.45	1.43	--
World Total		127.60	122.35	

Source: World Shipping Council (2017)

Assembly hub, distribution centre and import substitution investment

Malaysia has long way transformed from agriculture and tin mining based economy to manufacturing and service economy. Among ASEAN countries, Malaysia has the most robust growth, political stability, good infrastructure and multi-language speaking residents. These factors together with Belt and Road Initiative (BRI) provide good platform for Malaysia to move a step further to create “super industry” (Har& Tan 2015). If we take economic analysis as human anatomy, public sector is like our blood vassals. It must not be too large or too small but must be efficient to enable blood (economic activities) to circulate to all over our body (whole economy/country). Debt is like drug. We may need it to ease some pain (example, economic downturn) or as booster (fiscal stimulus). Talent or “brain” is akin to vitamin needed to keep the whole body (economic) system growing healthily. We also need our internal organs (industries) to be as strong as possible (Har& Tan 2013a&2013b). BRI can play a part to help Malaysia economy to achieve a healthier body through making Malaysia as ASEAN assembly and distribution hub as well as import substitution investment based on Malaysia’s resources strength to create super industry.

Recently, few giant global names have chosen Malaysia as regional distribution hub partly due to Malaysia participation in AEC and BRI. Alibaba Group Holding Limited Alibaba Group announced setting up of a trading and logistics hub in Malaysia as part of its efforts to establish an electronic world trade platform that it hopes will help create “electronic Silk Road” (South China Morning Post 2017). The hub would be sited within KLIA Aeropolis, a 24,700-acre development led by airport operator Malaysia Airports Holdings Bhd (MAHB) that is expected to generate more than RM7 billion worth of domestic and foreign investments (Reuters 2017). IKEA, the world’s largest furniture retailer also chooses Malaysia as their ASEAN regional distribution and supply chain centre. In line with Greater Kuala Lumpur plan, the government also has announced Principal Hub incentive to attract more worlds’ largest MNCs regional operations investments. Thus, Malaysia participation in BRI and AEC will greatly elevate Malaysia’s attractiveness to be regional distributional hub. Having Kuantan Port and ECRL link to Port Klang, Kuantan Industrial Park can tap the benefit of BRI as assembly hub. Parts of the finished goods can be shipped to Malaysia, assembly at Kuantan or any other places in the country with at least meeting the minimum local content. Then, the finished assembly goods can be exported to other ASEAN countries to enjoy AEC members’ preferential tariffs.

Besides tapping BRI to make Malaysia as regional assembly and distribution hub, Malaysia should really re-look into its import component and embark on creating “super industries” through import substitution that based on its strength. One of the best examples is petroleum. Malaysia is oil producing country but surprisingly having a net deficit on petroleum-based trade with Singapore, which has no crude oil. Table 4 and Figure 2 show average trade balance of Malaysia’s four largest trade partner for most traded commodities based on Standard International Trade Classification, Revision 3 (SITC 3) code for year 2012 to 2016. It is rather weird that Malaysia has an average net deficit for SITC code 33 for “Petroleum, petrol products and related materials” with Singapore and United States despite Malaysia is oil producing countries but not Singapore. Therefore, should Malaysia invest in import-substitution for those imports of petroleum related goods from Singapore? BRI can bring funds (foreign direct investment) from China and expertise from Malaysia or all over the world. In addition, petroleum related sector is one of China’s strategic sectors.

Table 4: Average Net Trade Balance for 2012 to 2016 (US\$ million)

Description (SITCRev.3 code)	China	Singapore	Japan	USA
Petroleum, petrol products and related materials (33)	1384.76	(2227.43)	715.03	(253.55)
Office machines, and automatic data-processing machines (75)	985.50	623.69	10165.22	0.78
Telecommunications and sound recording and reproducing apparatus and equipments (76)	1856.36	350.46	447.65	583.99
Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof (including non-electrical counterparts, n.e.s., of electrical household-type equipment) (77)	(464.77)	542.28	409.87	1753.29

Source: Comtrade database

Further detail analysis on sub-categories of Category 33 of the SITC 3 for Malaysia-Singapore trades is shown in Table 5. Malaysia has a 100% net export of crude petroleum (code: 333) to Singapore, average value at US\$ 510.49 yearly for year 2012 to 2016. However, Malaysia has much bigger deficit of petroleum products (code: 334) amounted to average US\$ 2544.13 per year. Malaysia also has net deficit with Singapore for residual petrol product (code: 335). Export to import ratio for residual petrol product reached miserable level of 0.06 to 0.07 at 2013, 2014 and 2105. Further sub-categories statistics for residual petrol product show trade deficit for “petroleum jelly, wax, etc” (3351), “mineral tars and product” (3352) and “Petroleum bitumen, petroleum coke, etc” (3354). All these industrial goods made from crude petroleum should give Malaysia as oil producing country advantage as producer and perhaps as exporter in near future. FDI from China through BRI is mutually beneficial by overturning Malaysia trade deficit with non-oil producing Singapore and export potential to China (trade creation). China can secure petroleum related products for their economy.

Figure 2: Export and Import for 2012 to 2016 (US\$ million)

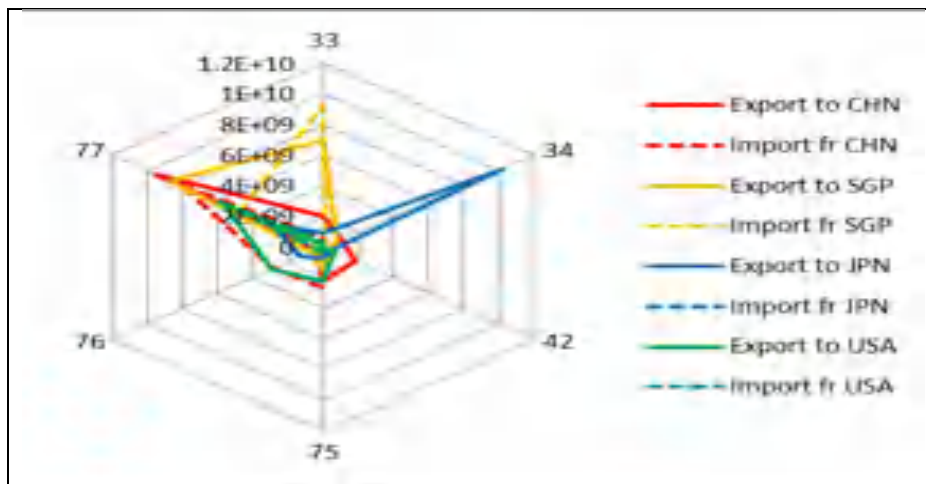


Table 5: Analysis of SITC Sub-components 33 for Singapore 2012 to 2016 (US\$ million)

(US\$ mil)	Year		2012	2013	2014	2015	2016	Average
333_ Petroleum oils & crude (3330 Crude petroleum)	Net		146.41	254.36	860.21	803.92	487.57	510.49
	Ratio		100% export	100% export	100% export	100% export	100% export	100% export
334_ Petroleum products	Net		(2,671.65)	(3,750.97)	(3,327.60)	(2,203.13)	(767.29)	(2,544.13)
	Ratio		0.74	0.67	0.71	0.67	0.85	0.73
335_ Residual petrol products	Net		(194.69)	(201.42)	(252.40)	(225.40)	(95.07)	(193.80)
	Ratio		0.15	0.06	0.06	0.07	0.22	0.11
3351_ Petroleum jelly, wax, etc	Net		(20.00)	(19.44)	(22.94)	(13.02)	(12.08)	(17.50)
	Ratio		0.03	0.04	0.07	0.17	0.13	0.09
3352_ Mineral tars and product	Net		(5.35)	(9.87)	(5.72)	(72.77)	7.56	(17.23)
	Ratio		0.84	0.40	0.63	0.13	1.48	0.70
3354_ Petroleum bitumen, petroleum coke, etc	Net		(169.33)	(172.11)	(223.74)	(139.61)	(90.55)	(159.07)
	Ratio		0.03	0.03	0.02	0.03	0.02	0.03

Source: Comtrade database; Note: "nes" means "areas not elsewhere specified", "Ratio" is "export divided by import"

CONCLUSION AND DISCUSSION

Contrasting phenomena took place recently. Building infrastructures to promote international trade under Belt and Road Initiative (BRI) are China's way of rejuvenation towards prosperous, strong, culturally advanced and harmonious country. In contrast, Donald Trump's chooses protectionism to "Make America Great Again". ASEAN countries going towards ASEAN

Economic Community (AEC) but Britain choose to exit European Union. These contrasting phenomena prompt four research questions. Firstly, is there a reversed globalization wave? Secondly, how can BRI position itself with Trans-Pacific Partnership Agreement (TPPA) and AEC? Third and fourth, what benefits can BRI bring to China and Malaysia respectively? Analysis of Globalization Indexes from ETH Zurich's KOF Swiss Economic Institute reveals reversed economic globalization trend after 2000 for United States, Canada, Australia and major European countries. Asian countries are globalizing rapidly since 1986 while South African countries see stable globalization trend. Therefore, BRI plays important role to lead ASEAN's globalization. In economic sphere, China's funds and expertise in construction of mega infrastructure projects could be beneficial to developing ASEAN. In return, ASEAN economies offer better regional-trade condition to China's products through joint productions in ASEAN countries like Malaysia. This is especially for products like halal goods where vast Middle East markets recognized Malaysia's halal certification but not China, agricultural-based industry and petroleum based-industry where Malaysia and other ASEAN countries are abundant. More specifically for Malaysia, BRI plays two important roles, namely trade creation among BRI participating countries and import substitution investment from China.

REFERENCES

- Asian Development Bank (2010). Central Asia Atlas of Natural Resources. Manila: Asian Development Bank.
- Blonigen, B. A. (2001). In search of substitution between foreign production and exports. *Journal of International Economics*. Vol. **53(1)**: 81 – 104.
- Cushman, D.O. (1988). Exchange rate uncertainty and foreign direct investment in the United States. . *Weltwirtschaftliches Archiv*. Vol. **124**: 322 – 336.
- Cuneyt, K. (2015). Effect of globalization on economic growth: Panel data analysis for developing countries. *Economic Insights - Trends and Challenges*. Vol. 4: 1 – 11.
- Dreher, Axel (2006): Does Globalization Affect Growth? Evidence from a new Index of Globalization. *Applied Economics*. Vol. 38(10): 1091-1110.
- Garemo, N, Matzinger, S. and Palter, R. (2015). Megaprojects: The good, the bad, and the better. Available at <http://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/megaprojects-the-good-the-bad-and-the-better>. Access date: 20th August 2018.
- Har Wai Mun & Tan Shuo Hui. (2013a). 需要与想要 (上) 债务膨胀政府效率偏低 (Needs vs. Want Part 1: High debt and low public efficiency). 16 December. 南洋商报经济周刊 Nanyang Press – Business Weekly: B02-B03. Also available online at <http://www.nanyang.com/node/5586292>.
- Har Wai Mun & Tan Shuo Hui. (2013b). 需要与想要 (下) 腐败病毒击垮经济 (Needs vs. Want Part 2: Corruption virus can defeat economy). 23 December. 南洋商报经济周刊 Nanyang Press – Business Weekly: B02-B03. Also available online at <http://www.nanyang.com/node/587947>.
- Har Wai Mun, Lee Teck Heang, Chew Kah Mun & Goh Huei Shan. (2014). Validity of Marshall Lerner Hypothesis: An Empirical Study on Malaysia-United States Trade Balance. *Asian Research Journal of Business Management*. Vol. 1 (3): 18 – 26.
- Har Wai Mun & Tan Chai Thing. (2015). 找出超级服务业 (Finding super service industries). 19 January. 南洋商报经济周刊 Nanyang Press – Business Weekly: B10-B11. Also available online at <http://www.nanyang.com/node/676254>.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Helpman, E. (1984). A Simple Theory of International Trade with Multinational Corporations. *Journal of Political Economy*. Vol.92: 451–71.
- Kana, G. &Kuar, G. (2017).The real economics of ECRL. The Star newspaper, Biz Week section: 14 – 15, 12th August.
- Maritime and Port Authority of Singapore.(2017). Singapore’s 2016 Maritime Performance.Retrieved on 20 August 2017 from <http://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/05460688-fe49-42e7-9740-4ce88b157b46>. 11 January.
- Markusen, J. R. (1983). Factor Movements and Commodity Trade as Complements. *Journal of International Economics*.Vol. 14: 341–56.
- Mundel, R. A. (1957). International Trade and Factor Mobility. *American Economic Review*. Vol.47: 321–35.
- Nataraj, G &Sekhani,R. (2015). China’s One Belt, One Road: An Indian Perspective. *Economic & Political Weekly*. Vol. 50 (49): 67 – 71.
- New York Times. (2016). Brexit, Explained: 7 Questions About What It Means and Why It Matters. Retrieved on 20 March 2017 from <https://www.nytimes.com/2016/06/21/world/europe/brexit-britain-eu-explained.html>.
- Onwuka.K.O,&Zoral. K. Y. (2012). Foreign Direct Investment and Imports Growth in Turkey. *Journal of Yasar University*, Vol. 4(15): 2357 – 2380.
- Petri, Peter A. and Michael G. Plummer. (1998). “The Determinants of Foreign Direct Investment: A Survey with Application to the United States,” in H. Lee and D.W. Roland-Holst, eds., *Economic Development and Cooperation in the Pacific Basin: Trade, Investment, and Environmental Issues*. Cambridge: Cambridge University Press.
- Reuters. (2017). Jack Ma to launch Alibaba's regional distribution hub in Malaysia.Retrieved from 23 August 2017 from <http://www.reuters.com/article/us-malaysia-alibaba-idUSKBN16P041>. 18th March.
- Rodrik, D. (1997). Has globalization gone too far?.*California Management Review*. Vol. 39(3): 29 – 53.
- Rolland, N. (2015). China’s New Silk Road. The National Bureau of Asian Research. Feb 12.
- SekSiok Kun &Har Wai Mun. (2014). Testing for Marshall-Lerner condition: Bilateral trades between Malaysia and trading partners. *Journal of Advanced Management Science*. Vol. 2 (1): 23 – 28.
- Shahbaza, M., Mallickb, H., Mahalikc, M.K. &Loganathand, N. (2015). Does globalization impede environmental quality in India? *Ecological Indicators*.Vol. 52: 379 -393.
- South China Morning Post. (2017). Alibaba launches Malaysian hub for electronic world trade platform – and plans a ‘new Silk Road’. Retrieved on 23 August 2017 from <http://www.scmp.com/business/companies/article/2081154/alibaba-launches-malaysian-hub-electronic-world-trade-platform>. 7th July.
- Stannia, C. S., Alla, A., & Sri, M. (2015).The impact of globalization on economic growth in ASEAN. *International Journal of Administrative Science & Organization*.Vol. 22: 79- 87.
- Swaine, M.D. (2015). Chinese views and commentary on the “One Belt, One Road” initiative. *China Leadership Monitor*.Vol.47.

**International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017**

- World Shipping Council.(2017). Trade statistics.Retrieved on 23 August 2017 from <http://www.worldshipping.org/about-the-industry/global-trade/trade-statistics>.
- Xinhua News Agency. (2017). Belt and Road forum points clear way for future cooperation: Chinese State Councilor. Retrieved on 22 August 2017 from http://news.xinhuanet.com/english/2017-05/17/c_136292793.htm. 17th May.
- Ying, Y. H., Chang, K., & Lee, C. H. (2014).The impact of globalization on economic growth.Romanian Journal of Economic Forecasting. Vol. 17: 25 – 34.
- Zhao, H. (2016). Can China's OBOR Initiative Synergize with AEC Blueprint 2025? ISEAS Perspective. Issue no. 62.

Oil Price Shock and Stock Return Predictability: The Case of Malaysia

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Abstract

Several estimation challenges namely heteroscedastic stock returns, persistent predictor, and endogeneity issue have overshadowed stock returns predictability in the literature. By using Malaysian monthly data from January 1993 to December 2016, this study aims to examine the stock returns predictability of oil price shocks. The contribution of this study is threefold. First, the results show that the choice of estimator matters for the stock returns predictability of oil price shocks, in which the feasible generalized least square (FGLS) estimator performs the best among the three alternatives. Second, in terms of the stock returns predictability, the predictive regression using the adjusted OLS and the feasible GLS estimators consistently outperforms the simple historical average model, suggesting that oil price shocks are one of the potential indicators that predict future stock returns. These findings are robust against the methods of in-sample and out-of-sample forecast. However, the predictability of oil price shocks is mildly sensitive to the lengths of forecast window.

Keywords: Stock Returns, Oil Price Shocks, Forecasting, Robust Predictor

INTRODUCTION

Are stock returns predictable? This question has always attracted a special attention from the public, especially from investors, speculators, fund managers, and policy makers, among others. If stock returns are unpredictable and following a random walk process, then any active investment strategies that based on stock returns forecast are meaningless. If stock prices or stock returns are in fact predictable, then party of interest can gauge the future movement of stock prices by studying appropriate predictors. Hence, the next question that follows immediately is: which indicator can predict stock returns?

The answers that we can get from the literature for both questions above are, unfortunately, inconclusive. On the one hand, numerous studies documented that the factors (dividend–price ratio, price–earnings ratio, dividend–payout ratio, and book-to-market ratio) listed in the Fama-French model are excellent in producing superior forecasting performance on stock returns (Campbell & Shiller, 1988a,b, Fama & French, 1988; Kothari & Shanken, 1997; Lamont, 1998, Goyal & Welch, 2003; Rapach et al., 2010, among others). Given the linkage between macroeconomic indicators and stock returns, some other studies examine whether any macroeconomic variables can predict stock returns (see Chen et al., 1986; Ross, 1976). To date, it is well known that oil price (Hamilton, 2003; Narayan & Sharma, 2011; Xu, 2015; Chiang & Hughen, 2017) and interest rate (Gupta & Modise, 2013; Fang & Bessler, 2017) can be used to predict excess stock returns.³⁶

On the other hand, while there is some positive evidence of stock return predictability, some studies such as Welch and Goyal (2008) strongly opposed the view. Through an extensive review on the past empirical evidence, Welch and Goyal (2008) found that majority of the commonly used predictors are unable to deliver consistently superior out-of-sample forecasts of the equity premium in the U.S. than a simple forecast based on the historical average returns. A number of studies have reached to a similar conclusion where individual predictors failed to outperform the historical benchmark model in predicting future stock returns

³⁶ Indeed, some other studies considered using other variation such as oil price shock, interest rate spreads, or term structure as equity premium predictor.

(see, among others, Bossaerts & Hillion, 1999; Lanne, 2002; Pesaran & Timmermann, 2002; Paye & Timmermann, 2006; Rapach & Wohar, 2006; Lettau & van Nieuwerburgh, 2008; Pettenuzzo & Timmermann, 2011).

This confusion in the literature means that stock return predictability remains an issue of intense debate. Amidst the debate, Rapach et al. (2010, p. 288) urged that: "... *The lack of consistent out-of-sample evidence in Welch and Goyal indicates the need for improved forecasting methods to better establish the empirical reliability of equity premium predictability. One of the potential problems is that many of the predictors are highly persistent, and their innovations tend to be correlated with return innovations...*" In addition, as Stambaugh (1999) shows, the presence of persistency and endogeneity could lead to a serious small-sample bias in the ordinary least square (OLS) estimator, which is the most commonly used estimator in the studies of stock return predictability. Another potential estimation problem is due to the clustering volatility present in stock returns. Indeed, this is one of the most documented features of financial time series where stock returns are highly heteroskedastic. If these estimation issues were left unattended, then one would hardly determine whether a predictor could produce superior prediction, as the statistical conclusions are most likely disturbed. Thus, it is critical to resolve these issues prior to examine the stock return predictability of any predictor.

The purpose of this paper is to contribute to the debate of stock return predictability of macroeconomic predictor. Specifically, this paper attempts to examine (i) whether the in-sample and out-of-sample predictability of crude oil price shock on Malaysian monthly stock return is related to the choice of estimator, and (ii) to determine whether the crude oil price shock can outperform the benchmark historical average return in stock return prediction. The contributions of this paper are threefold. First, this paper compares and evaluates the forecasting performance of three estimators, namely the OLS, the adjusted OLS (AOLS) by Lewellen (2004), and the feasible generalized least square estimator (FGLS) by Westerlund and Narayan (2012, 2015a,b) in the context of Malaysia. The main difference between the AOLS and the FGLS is that the FGLS estimator has accounted for persistency, endogeneity, and heteroscedasticity in the model while AOLS does not account for the problem of heteroscedasticity. Second, this study utilizes both the in-sample and out-of-sample approach for predicting stock return, in which the practice is scant in the literature. Third, this study evaluates the robustness of predictions in respect to different out-of-sample forecast horizons.

The remains of this paper is as follow. Section 2 discusses the data and methodology. Section 3 reports the empirical results. Section 4 concludes.

METHODOLOGY

Data

This study employs the Brent crude oil price shocks as the predictor of stock returns. Stock returns (SR) are measured by taking the first difference of natural logarithm of Kuala Lumpur Composite Index (KLCI) and Brent crude oil price shocks (OIL) are measured by the first difference of natural logarithm of the Brent crude oil price index. We obtain the data of KLCI and Brent crude oil price from Bursa Malaysia and from U.S Energy Information Administration, respectively. In addition, both financial variables are of monthly frequency that covers the period from January 1993 to December 2016, which amounted to 288 observations.

Methods

In order to evaluate the predictability of oil price shock to stock returns, a simple predictive regression is constructed as follow³⁷:

$$SR_t = \beta_0 + \beta_1 OIL_{t-1} + \varepsilon_t \quad (1)$$

where SR_t is the market stock returns at period t , OIL_{t-1} is the crude oil price shock that is one period lagged, and ε_t is the error term with zero mean. Equation (1) can be expressed in its conventional h -period-ahead forecasting form as:

³⁷ This section is largely indebted to Westerlund and Narayan (2012, 2015a,b)

$$SR_{t+h} = \beta_0 + \beta_1 OIL_t + \varepsilon_{t+h} \quad (2)$$

where ε_{t+h} is now the forecast error at h periods ahead, and β_0 and β_1 represent the constant term and the predictive coefficient of crude oil price shock, respectively. The predictive ability of crude oil price shock can be tested under the null hypothesis of $\beta_1 = 0$, in which rejection of the null hypothesis indicates that crude oil price shock can predict future stock returns and vice versa.

Equation (1) and (2) above can be estimated by using the OLS method. However, as pointed out by Westerlund and Narayan (2012), equation (1) and (2) are more likely to face the problems of persistency, endogeneity, and conditional heteroscedasticity. Therefore, the consequences of simply applying OLS method to estimate model (1) and (2) would result in inefficient and bias estimates. In other words, OLS is not an appropriate choice of estimation method for the predictive regression above, and that a better estimator is the one that able to resolve all estimation problems mentioned above. In addition, several modifications to the OLS estimators would be carried out to solve the issues one by one.

First, consider the following model:

$$OIL_{t+1} = c(1 - \rho) + \rho OIL_t + \mu_{t+1} \quad (3)$$

which forecasts future crude oil price shocks with its own lagged terms under the first autoregressive order ρ where $-1 \leq \rho \leq 1$. The oil price shock series OIL is said to be persistent if the absolute value of ρ is less than but very close to one. In the case where OIL is persistent, it means the value of oil price shock at time t is closely related to its previous values and OIL_t would carry too much noise due to the past information. As a result, the estimate of β_1 in model (1) and (2) are biased and could not reflect the actual predictability of oil price shock to stock return.

Meanwhile, as it is very common that macroeconomic variables and financial variables are interdependent to each other, it is possible that equation (1) and (2) are facing endogeneity problem if OIL is endogenous, which can be examined through

$$\varepsilon_t = \gamma \mu_t + \epsilon_t \quad (4)$$

where ϵ_t is an error term that assumed independent to μ_t , ε_t and μ_t are the error terms from the stock return model and oil price shock model, respectively. If γ is in fact equal to zero, then the two error terms are independent to each other and OIL is exogenous in equation (1) and (2). However, if the change in stock returns cause the movement of oil price shocks, then it is likely that γ is not equal to zero and OIL is endogenous. If this issue happens, then model (1) and (2) cannot be estimated by using OLS since the OLS method required all components in the right-hand-side are exogenous.

Given the potential issues of persistent and endogenous predictor, model (2) can be adjusted to treat both issues to reach unbiased estimates. Following the suggestion of Lewellen (2004), both ρ and ε can be assumed as equal to one without loss of generality, then, substituting equation (3) and (4) to model (1) yield:³⁸

$$SR_t = \beta_0 + \beta_1 OIL_{t-1} + \beta_2 \Delta OIL_t + \epsilon_t \quad (5)$$

where $\Delta OIL_t = OIL_t - OIL_{t-1}$. Subsequently, equation (5) captures the potential persistency and endogeneity together within the system, which resolve the failure of equation (1) and (2) in doing so.

Although equation (5) is free from the disturbance of persistency and endogeneity, it may still suffer from heteroskedasticity. According to Campbell and Thompson (2008), a regression model that includes highly volatile variables such as stock returns, oil price shocks, and other financial variables has low prediction power because these financial variables are

³⁸ See Westerlund and Narayan (2012, 2015a,b) for the technical notes.

extremely noisy. That is, the resulting variance of the error terms of the regression model will possess a pattern of volatility clusters and they are time variant, which normally can be represented by an autoregressive conditional heteroscedastic (ARCH) or a generalized autoregressive conditional heteroscedastic (GARCH) process (Westerlund and Narayan, 2012; 2015a,b, Phan et al. 2015). Failure to account the possible heteroscedasticity in the model (5) will result in inefficient OLS estimators. Therefore, it is important to capture the conditional information in the estimation. Westerlund and Narayan (2012) proposed to estimate a feasible generalized least square (FGLS) model by standardizing the OLS model. Specifically, they suggested dividing equation (5) by the estimated error variance or standard deviation, symbolically:

$$\frac{SR_t}{\sigma_{\epsilon t}^2} = \frac{\beta_0}{\sigma_{\epsilon t}^2} + \frac{\beta_1}{\sigma_{\epsilon t}^2} OIL_{t-1} + \frac{\beta_2}{\sigma_{\epsilon t}^2} \Delta OIL_t + \frac{\epsilon_t}{\sigma_{\epsilon t}^2} \quad (6)$$

where $\sigma_{\epsilon t}^2$ can be estimated by using a GARCH(1,1) model. Equation (6) can be rewritten as follow:

$$SR_t^* = \beta_0^* + \beta_1^* OIL_{t-1} + \beta_2^* \Delta OIL_t + \epsilon_t^* \quad (7)$$

where $\widehat{\beta}_0^*$, $\widehat{\beta}_1^*$, and $\widehat{\beta}_2^*$ are the FGLS estimators, respectively. As a result, the FGLS model described in equation (7) is expected to satisfy all classical regression assumptions and outperform the OLS model in equation (1) and (2) in the presence of persistency, endogeneity, and heteroscedasticity.

In-Sample vs Out-of-Sample Forecast

The question of whether out-of-sample approach is superior to in-sample approach is the central thesis in another strand of forecasting literature. Ashley et al. (1980) and Rapach and Wohar (2006) suggested that an out-of-sample analysis is relatively more important to policy makers than in-sample evidence. Foster et al. (1997) and Lo and MacKinlay (1990) claimed that in-sample tests are likely to suffer from data mining. On the contrary, Inoue and Kilian (2005) and Gupta and Modise (2013) showed that there is no significant difference in predictability by following in-sample and out-of-sample tests against data mining. Nonetheless, the question on either in-sample approach or out-of-sample approach is better in forecasting is beyond the scope of this paper. To avoid the confusion, this paper mainly utilizes both the in-sample and out-of-sample approach to forecast the Malaysian stock return.

In addition, we will conduct the out-of-sample test by using three forecast periods. Apart from the purpose of robustness check, the inclusion of multiple out-sample composition is due to the lack of formal guidance in selecting the forecast period. As Westerlund and Narayan (2012) noted, the choice of out-of-sample forecasting periods is arbitrary, thus it opens up the possibility of data mining. This paper divides the full sample period from January 1993 to December 2016 following three division points. The subsamples used for forecast are starting from January 1993 to December 1998 (25%), to December 2004 (50%), and to December 2010 (75%), respectively, while the remaining of the samples are used for calculating the forecast errors between the actual and forecasted stock returns. Lastly, the resulting Theil's inequality index will measure the forecasting performance of each out-of-sample prediction.

EMPIRICAL RESULTS

As a preliminary practice, both variables are subject to the augmented Dickey-Fuller unit root test (Dickey & Fuller, 1981) and the Phillips-Perron unit root test (Phillips & Perron, 1988) to detect their integrated order. Table 1 below tabulated the unit root tests output.

Table 1: Results of Unit Root tests

Time Series	Augmented Dickey-Fuller		Phillips-Perron	
	Intercept	Intercept and Trend	Intercept	Intercept and Trend
SR	- 5.698 [0.000]	- 5.732 [0.000]	-15.034 [0.000]	-15.008 [0.000]
OIL	-16.558 [0.000]	-16.539 [0.000]	-16.567 [0.000]	-16.547 [0.000]

Note: Figures in brackets are p -value. The selection of optimal lag lengths for the augmented Dickey-Fuller test follows minimum Akaike information criterion. The selection of bandwidths for the Phillips-Perron test are based on the Newey-West approach.

The unit root results show that both Malaysian stock returns (SR) and the Brent crude oil price shocks (OIL) are integrated at order zero or $I(0)$, where both SR and OIL are stationary. The unit root tests results indicate that the two financial variables satisfied one of the classical linear assumptions, thus we can proceed to the estimation stage.

Next, this section reports the estimated equation (2), (5), and (7) by adopting the OLS, adjusted OLS, and feasible GLS estimators and the resulting measurement of forecast accuracy, respectively. Table 2 below summarizes the estimated predictive regressions.

Table 2: In-Sample test

Predictand: SR_t	OLS	AOLS	FGLS
Panel A: Estimated Results			
OIL_{t-1}	-0.001 [0.408]	0.071 [0.184]	0.061 [0.003]
Constant	0.331 [0.984]	0.304 [0.445]	0.022 [0.158]
Panel B: Diagnostic Tests			
LM(1)	3.758 [0.005]	3.533 [0.060]	0.037 [0.847]
LM(2)	11.77 [0.002]	11.24 [0.004]	2.088 [0.352]
ARCH(1)	18.30 [0.000]	20.34 [0.000]	1.051 [0.305]
ARCH(2)	32.53 [0.000]	34.52 [0.000]	2.171 [0.338]
Panel C: Detection of Persistency and Endogeneity			
$\hat{\rho}$	0.015 [0.803]		
$\hat{\gamma}$	0.072 [0.055]		

Note: Figures in brackets are p -value. Figures in parentheses are lag lengths. The estimated coefficients of ΔOIL_t are not reported here to conserve space.

A quick glance on the Panel A in Table 2 shows that the estimated slope coefficients of the predictor are substantially different across the estimators. It shows that crude oil price shocks are not a significant predictor for stock returns when referring to the OLS and the AOLS estimates. However, the FGLS estimator indicates that crude oil price shocks have a strongly positive effect on the stock returns at 1% level. This finding tells the possibility that crude oil price shocks carry sufficient predictive information on stock returns in Malaysia.

As the results from different estimators are inconsistent, it is necessary to identify which estimator is trustworthy. Panel B in Table 2 shows the diagnostic checks of the three models. It is obviously that the estimates from the OLS and the AOLS failed to reject the null of no serial correlation and no conditional heteroscedasticity in the regression model. This means that both the OLS and AOLS estimators are inefficient and do not satisfy the essential assumptions of classical linear regression. The presence of serial correlation and ARCH effect in the OLS estimators could be the reason why the estimated β_1 are insignificant. In addition, the results in Panel C indicates that the predictor is endogenous, in which the residuals terms of stock returns and oil price shocks are statistically unequal to zero. However, there is no sufficient evidence to support that OIL_t is persistent.

Turning to the feasible GLS estimator, it seems that this estimator is free from first and second order serial correlation and conditional heteroscedasticity. This implies that the FGLS estimator has well handled the problem of heteroscedasticity that observed in the OLS estimators, add alongside the ability of the FGLS estimator in handling the endogeneity found in the predictor.

Although we came to a conclusion that the FGLS estimator might be the best candidate for stock return prediction, the findings reported so far are essentially in-sample. Therefore, next section will examine the out-of-sample forecasting performance of the three estimators by using

the Theil's index. Furthermore, we perform an additional exercise to compare the predictability of oil price shocks versus the historical average return model.

Table 3: Out-of-Sample test

Out-of-Sample Composition	OLS	AOLS	FGLS	Benchmark
25%	0.970	0.948	0.811	0.969
50%	0.964	0.912	0.784	0.962
75%	0.957	0.891	0.782	0.956

Table 3 above reports the out-of-sample results for three compositions of the samples used for out-of-sample forecasts. As aforementioned, this paper divides the full sample period from January 1993 to December 2016 into 4 subsamples. The subsamples used for forecast are starting from January 1993 to December 1998 (25%), to December 2004 (50%), and to December 2010 (75%), respectively. As a smaller value of Theil index indicates smaller forecasting error, it shows that the forecasting accuracy of the FGLS estimator outperforms the AOLS and the conventional OLS estimator across all subsample periods. This finding implies that the FGLS estimator is the top estimator for stock return predictability in out-of-sample test as well. Table 3 also reports the forecast results of a simple benchmark model that based on historical average stock return, in which the model assumes a form of $SR_t = C$ and treats all predictors have zero stock return predictability. The comparison between oil price shock predictive model and the benchmark equation shows that the FGLS estimator and the AOLS estimator consistently beat the historical return model. The OLS estimator, however, cannot beat the benchmark model for superior prediction in all subsamples. In terms of the effect of forecast period, it seems that a shorter forecasting horizon will produce more accurate forecast, which is an unsurprising finding. However, we find that there is no much difference between the 50% and 75% compositions. This indicates that the stock return predictability in Malaysia is mildly dependent to different forecast horizons.

CONCLUDING REMARKS

By using Malaysian data on monthly stock returns and crude oil price shocks, this paper investigated whether the choice of estimator would matter for the in-sample and out-of-sample prediction on stock returns. The empirical results have reached to some important findings.

First, we found a robust result that the Westerlund and Narayan's (2012) feasible GLS estimator is superior to the conventional OLS and the adjusted OLS estimator (Lewellen, 2004) in both in-sample and out-of-sample stock return prediction. This finding implies that the choice of estimator is vital in studies of stock return predictability. In particular, the estimator should be capable to capture the common empirical challenges such as endogeneity, persistency, and conditional heteroskedasticity in the literature of forecasting. Failure of doing so might result in biased and inefficient estimates, which ultimately follow by misleading policy and decision-making. Second, we found that, once the stock return predictor has accounted for endogeneity and persistency, crude oil price shock could produce consistent superior predictability on stock returns relative to the historical average return model. This finding might shed some light to the dispute that whether any predictor could outperform the simple benchmark model and the answer is positive in the case of Malaysia. Third, the conclusions from the in-sample test and the out-of-sample forecast are largely consistent in this study. This observation is similar to the early finding in Inoue and Kilian (2005) and Gupta and Modise (2013), who found that the stock predictability in both methods are virtually same. Lastly, we found that the predictability of oil price shock is mildly sensitive to forecast horizons.

Inevitably, this study does come with some limitations. The most apparent one is perhaps the constraint of single predictor in the predictive regression. As the developers of the predictive feasible GLS estimator noted, the limitation of equation (7) that only one predictor can be included at a time is a tradeoff for the accountability of estimator unbiasedness and efficiency. Likewise, equation (7) and alike might suffer from omitted variable bias. To overcome this drawback, one might seek for the advancement of even sophisticated method that can

account for multiple factors in the regression, or compare the predictability of several predictors by estimating multiple models or using composite index predictor.

REFERENCES

- Ashley, R., Granger, C.W.J., & Schmalensee, R. (1980). Advertising and aggregate consumption: an analysis of causality. *Econometrica*, *48*, 1149–1167.
- Bossaerts, P., & Hillion, P. (1999). Implementing statistical criteria to select return forecasting models: What do we learn? *Review of Financial Studies*, *12*, 405–428.
- Campbell, J., & Shiller, R. (1988a). The dividend–price ratio and expectations of future dividends and discount factors. *Review of Financial Studies*, *1*, 195–228.
- Campbell, J., & Shiller, R. (1988b). Stock prices, earnings and expected dividends. *Journal of Finance*, *43*, 661–676.
- Campbell, J.Y., & Thompson, S.B. (2008). Predicting excess stock returns out of sample: can anything beat the historical average. *Review of Financial Studies*, *21*, 1509–1531.
- Chen, N.F., Roll, R., & Ross, S.A. (1986). Economic forces and the stock market. *The Journal of Business*, *59*, 383–403.
- Chiang, E.I-H., & Hughen, W.K. (2017). Do Oil Futures Prices Predict Stock Returns? *Journal of Banking and Finance*, DOI: 10.1016/j.jbankfin.2017.02.012
- Dickey, D.A., & Fuller, W.A. (1981). Likelihood ratio statistic for autoregressive time series with a unit root. *Econometrica*, *49*, 1057–1072.
- Fama, E., & French, K. (1988). Dividend yields and expected stock returns. *Journal of Financial Economics*, *22*, 3–25.
- Fang, L., & Bessler, D.A. (2017): Stock returns and interest rates in China: the prequential approach, *Applied Economics*, DOI: 10.1080/00036846.2017.1307934
- Foster, F.D., Smith, T., & Whaley, R.E. (1997). Assessing goodness-of-fit of asset pricing models: the distribution of the maximal. *Journal of Finance*, *53*, 591–607.
- Goyal, A., & Welch, I. (2003). Predicting the equity premium with dividend ratios. *Management Science*, *49*, 639–654.
- Gupta, R., & Modise, M.P. (2013). Macroeconomic variables and South African stock return predictability. *Economic Modelling*, *30*, 612–622
- Hamilton, J.D. (2003). What is an oil shock? *Journal of Econometrics*, *113*, 363–398.
- Inoue, A., & Kilian, L. (2005). In-sample or out-of-sample tests of predictability: which one should we use? *Econometric Reviews*, *23*, 371–402.
- Kothari, S., & Shanken, J. (1997). Book-to-market, dividend yield and expected market returns: A time series analysis. *Journal of Financial Economics*, *44*, 169–203.
- Lamont, O. (1998). Earnings and expected returns. *Journal of Finance*, *53*, 1563–1587.
- Lanne, M. (2002). Testing the predictability of stock returns. *Review of Economics and Statistics*, *84*, 407–415.
- Lettau, M., & van Nieuwerburgh, S. (2008). Reconciling the return predictability evidence. *Review of Financial Studies*, *21*, 1607–1652.

- Lewellen, J. (2004). Predicting returns with financial ratios. *Journal of Financial Economics*, 74, 209–235.
- Lo, A.W., & MacKinlay, A.C. (1990). Data-snooping biases in tests of financial asset pricing models. *Review of Financial Studies*, 3, 431–467.
- Narayan, P.K., & Sharma, S. (2011). New evidence on oil price and firm returns. *Journal of Banking and Finance*, 35, 3253–3262.
- Paye, B. S., & Timmermann, A. (2006). Instability of return prediction models. *Journal of Empirical Finance*, 13, 274–315.
- Pesaran, M.H., & Timmermann, A. (2002). Market timing and return prediction under model instability. *Journal of Empirical Finance*, 9, 495–510.
- Pettenuzzo, D., & Timmermann, A. (2011). Predictability of stock returns and asset allocation under structural breaks. *Journal of Econometrics*, 164, 60–78.
- Phillips, P.C.B. & Perron, P. (1988). Testing for a unit root in time series regression. *Biometrika*, 75, 335–346.
- Rapach, D., Strauss, J., & Zhou, G. (2010). Out-of-sample equity premium prediction: Combination forecast and links to the real economy. *Review of Financial Studies*, 23, 821–862.
- Rapach, D., & Wohar, M. (2006). In-sample vs. out-of-sample tests of stock return predictability in the context of data mining. *Journal of Empirical Finance*, 13, 231–247.
- Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy Economics*, 21, 449–469.
- Stambaugh, R. (1999). Predictive regressions. *Journal of Financial Economics*, 54, 375–421.
- Welch, I., & Goyal, A. (2008). A comprehensive look at the empirical performance of equity premium prediction. *Review of Financial Studies*, 21, 1455–1508.
- Westerlund, J., & Narayan, P. (2012). Does the choice of estimator matter when forecasting stock returns. *Journal of Banking and Finance*, 36, 2632–2640.
- Westerlund, J., & Narayan, P. (2015a). Testing for predictability in conditionally heteroskedastic stock returns. *Journal of Financial Econometrics*. DOI: 10.1093/jjfinec/mbu001.
- Westerlund, J., & Narayan, P. (2015b). Testing for predictability in conditionally heteroskedastic stock returns. *Journal of Financial Econometrics*. DOI: 10.1093/jjfinec/mbu003.
- Xu, B. (2015). Oil prices and UK industry-level stock returns. *Applied Economics*, 47, 2608–2627.

An Event Study of the U.S.'s Contractionary Monetary Policy and Commodity Market: Effects on the Stock Markets of selected Latin American Countries

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Abstract

This study examines the impact of changes in commodity price and contractionary monetary policy announced by the U.S Federal Reserves on stock market performance in selected Latin American countries. The rationales behind of the study are of two folds: (1) The U.S.'s larger capital inflows (due to its higher interest rate) tend to retard the overall stock market performance of the neighboring Latin American countries especially during the period when many of them are already weakening. The Fed's increase in federal funds rate, for example, may exacerbate their stock market turmoil, and even may trigger a severe financial crisis; (2) On the other hand, due globalization, changes in commodity prices may lead to significant changes in economic performance of countries worldwide. Therefore, it is interesting to analyse the role played by commodity market and the U.S.'s (one of the largest economies in the world) monetary policy on stock market performance. Event study with 7-day event window is adopted to identify the short-run announcement impact. As such, it is expected that the findings of this study would be able to serve as an important guideline to policymaking and investment strategy for policy makers in the U.S. and stock market investors especially in the Latin American countries respectively.

Keywords: Commodity price, contractionary monetary policy, stock market performance, event study

INTRODUCTION

Background of Study

During the previous decades, commodity prices experienced an exceptional volatility, with con-current and alternating phases of increasing and decreasing trends (see Figure 1). For example, from 1990 to 2016, the percentage change of world commodity price are fluctuating, with 2 notable observations: (1) it dropped to the lowest point at about 100.00 after the 1997/1998 Asian Financial Crisis (AFC) and during the period of burst of the Bubble Dot Com which started in 2000; (2) it decreased dramatically since the 2008/2009 global financial crisis (GFC) which originated from the U.S's Subprime Crisis. At the same time, the evolution of the stock markets, as shown by Figure 2, representing S&P 500 and Nasdaq index, shows similar dynamic trend. During the post Dot Com Bubble crisis as well as the post GFC, there was a sharp decrease of the S&P and Nasdaq Indexes. The comparison between the trend of commodity prices and stock market performance (especially for the period 2009-2012 which was post turmoil) therefore reflects the possible association between the two variables. Note that simultaneously, commodities quickly become part of portfolio allocation, following stock classes (Creti, Joets, & Mignon, 2013).

As such, from the perspective of policy makers and macroeconomic theory, one of the priorities is the changes in commodity prices, given their potential to feed inflation pressure. This explains the reason why commodity price (and the fluctuations) is a prominent matter worldwide. For example, G20 tried to tackle the issue of excessive volatility and fluctuations of commodity prices in its September 2009 Pittsburgh summit (Creti, et al., 2013). Due to the globalization and increasing liberalization of economies, commodity prices' fluctuations may lead to heartfelt changes that may in turn, significantly affect economic performance especially in the developing countries. On the other hand, an increase in commodity prices will have a

negative effect on industrialized countries such as those in the Europe, Japan and United State; while a fall in commodity prices will be beneficial to the industrialized economies. In particular, when the commodity price is decreasing, it will generally result in a positive performance in the financial markets (IMF, 2015).

Figure 1: World's Commodity Price Index, 1990M1-2016M12

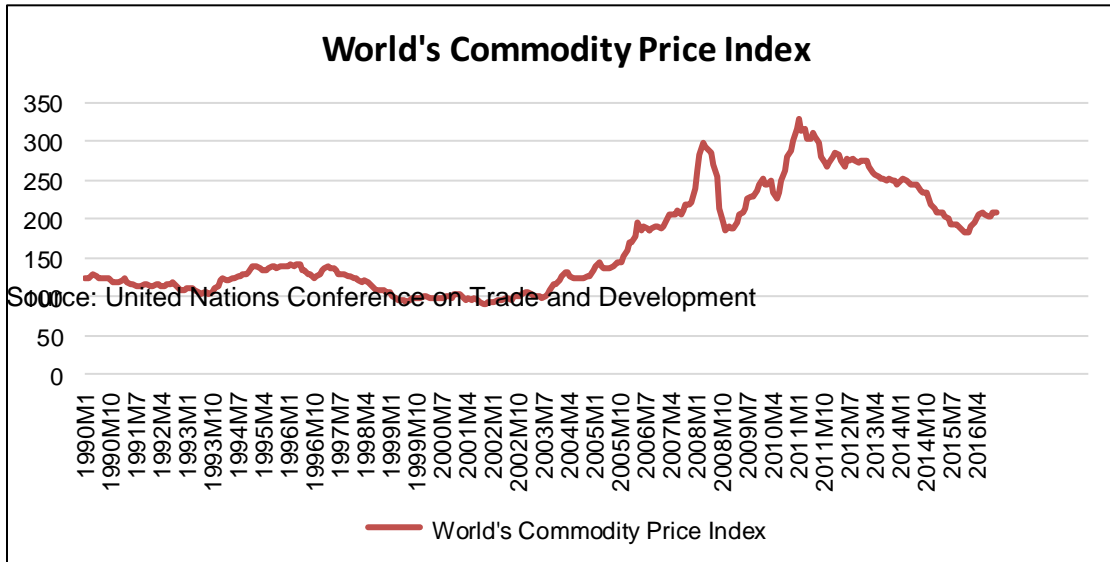
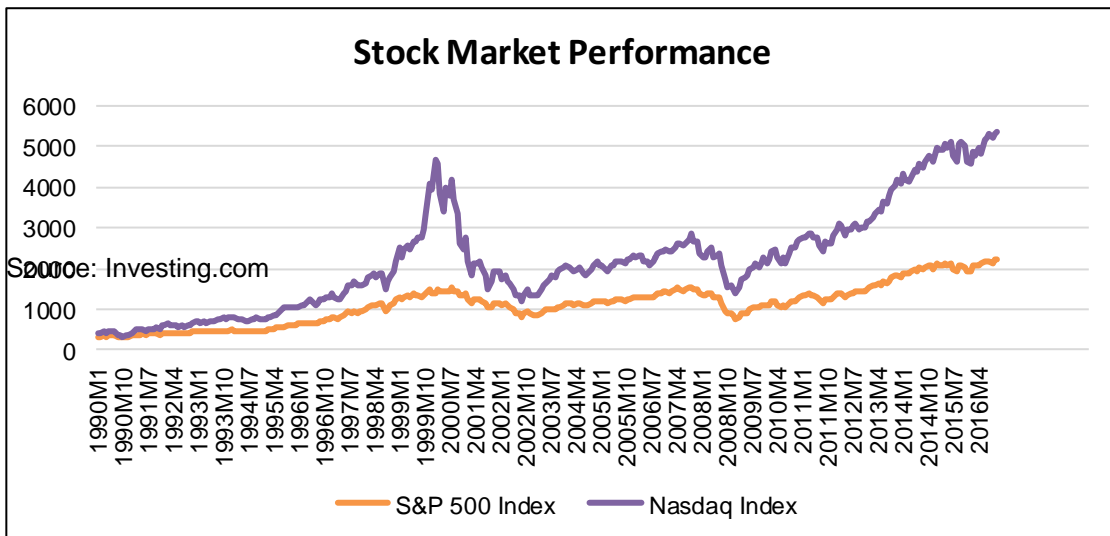
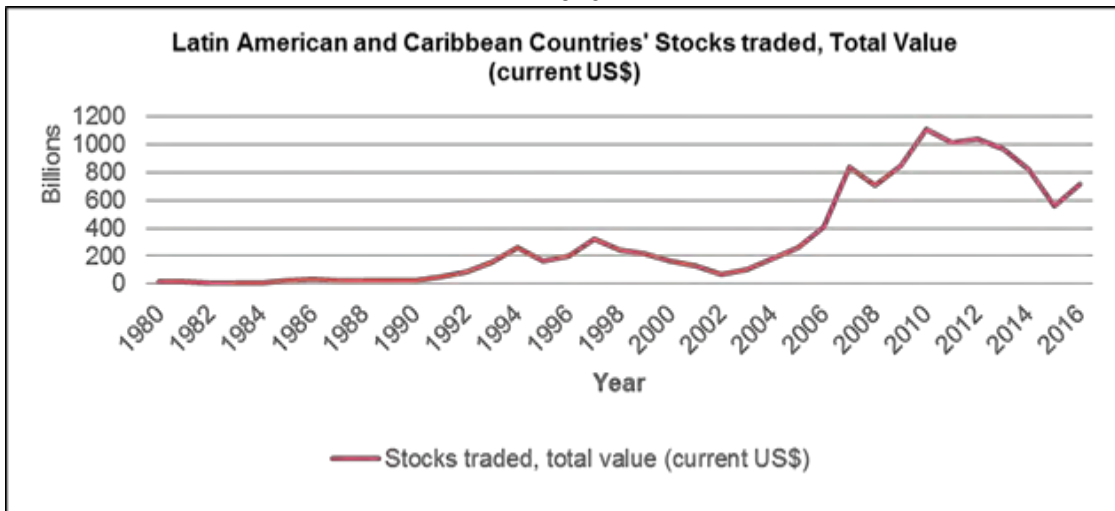


Figure 2: S&P 500 Index and Nasdaq Index, 1990M1-2016M12



In the context of the Latin American countries, their stock markets have experienced rapid growth in terms of value and volumes. For example, the total value of traded stocks in this region had risen significantly from less than 50 billion US\$ to approximately 700 billion US\$ during 1980-2016, though in between there are decreasing trend especially during the post 1997/1998 AFC and 2008/2009 GFC (see Figure 3).

Figure 3: Stock Market Development in Latin American and Caribbean countries, 1980-2016



Source: The World Bank

Problem Statement

The fluctuations imply that the stock markets of the region are vulnerable to global news and events, leading to a volatile and uncertain environment (Raza, Shahzad, Tiwari, & Shahbaz, 2016). To some extent, this is associated with the volatile fluctuations of commodity prices. For instance, during the past few years, there had been exceptional level of prices and volatility seen in commodity prices. According to the International Monetary Fund (IMF), the international normal prices of all commodities fluctuated dramatically since 2002. Notably, the evolution of major commodity indexes like the agriculture index, the energy index, and the food index throughout the previous 2 decades reflects that all commodities indexes reached their highest levels in June 2008 and February 2011. This substantial fluctuation is mainly due to the rise of demand for these products, which is a result of the increase in population and the issue of climate change (Charfeddine & Benlagha, 2016). For example, historical fluctuations in the crude oil prices indicate that the world will be entering the era of high oil prices volatility in the near future, and the 2008/2009 GFC has exacerbated the issue by distorting the crude oil market mechanism. The synchronized loss between crude oil prices and stock market has amplified during the post crisis period (Ji, 2012).

In particular, volatility in commodity prices has an adverse impact on stock markets, despite the former's role in portfolio diversification and hedging (Raza et al., 2016). Lower variability in commodity prices reflects safe investment conditions (Baur, 2012). In contrast, the rising volatility of commodity prices is a signal to investors and exposes them to risk. This will in turn, further motivate investors to understand the response of stock markets to the changes in commodity prices (Tulley & Lucey, 2007). Another key role played by the commodity markets is the rapid growth of liquidity that these markets have experienced, and the rapid liquidity growth in these markets essentially attracted international investors. Recently, commodity markets are considered by investors more as financial assets and securities than as real goods (Charfeddine & Benlagha, 2016). As such, they are more attracted to and interested in commodities as investments to diversify their portfolio, especially during the periods of financial crisis. For example, a number of empirical studies have indicated that during the periods of financial crisis, the price of commodities have shown rapid rise in volatility. From the perspective of policy makers, the evolution and fluctuations of price in the commodity markets are important and interesting as it is vital in determining inflation (Charfeddine & Benlagha, 2016).

Objective of the Study

The objective of this study is to examine the impact of the first federal funds rate hiked since the appointment of the U.S. President, Donald Trump on selected Latin American equity market returns. In particular, the study aims to investigate the effects of changes in commodity prices caused by announcement of the U.S. interest rate increased on stock returns, given the

challenging current situation, characterized by simultaneous fluctuating commodity prices, vulnerable financial markets and economic growth.

Motivation and Significance of study

The linkage between commodity prices and the stock market has received extended attention over the previous decades for a few reasons. First, investors are interested to know whether stock returns of companies whose core business is in commodities, accurately reflect changes in the prices of the underlying commodities. Understanding this linkage is crucial because stocks of commodity-based companies are considered as an investment instrument to gain exposure to commodities, and they enjoy prolong popularity, particularly among individual investors, because of their easy-access and low cost (Ntantamis & Zhou, 2015). The increasing importance of stock market wealth in household wealth is another motivation to study the linkage between the commodity (prices) and stock (returns). Via this channel, commodity fluctuations will have an indirect effect on aggregate demand, and hence on the real economy. In line with this, it is even vital to analyze the existence of commodity-stock market nexus. Although the relationship had been evaluated by large number of studies, majority of them concentrate on either gold, or oil, or both of them, or metal (see: Bastianin, Conti, & Manera, 2016; Raza et al., 2016; Reboredo & Ugolini, 2017; Huang, An, Gao, & Sun, 2017; Bailey & Bhaopichitr, 2004; Irandoust, 2017).

It therefore creates an interest to study the relationship between composite (overall) commodity prices and stock market performance in a more robust manner as this is especially important to the financial players because raw materials enter many investment portfolios, together with stock classes (Silvennoinen & Thorp, 2013; Dwyer, Gardner, & Williams, 2011; Vivian & Wohar, 2012). Besides, information about commodity markets and stock markets plays a vital role for commodity traders as these fluctuations can provide them insight to the trend of each market (Choi & Hammoudeh, 2010). By comparing the dynamic changes of raw materials to equity prices, one can obtain useful information regarding possible substitution strategies between commodity and stock classes in a portfolio (Creti et al., 2013). Indirectly, this enable risk hedging which is again crucial for traders and investors as it determines the asset allocation across raw materials and their risk return trade-off.

In line with the observed association between commodity and stock markets, recent literature has emerged, analyzing the role played by investors' behavior in explaining the rise in both the absolute amount and the changes of commodity prices (see: Irvin & Sanders, 2012; Vivian & Wohar, 2012; and others alike). Nonetheless, as indicated by Vivian and Wohar (2012)'s study, no robust conclusion can be drawn on how changes in commodity prices will affect stock market in the case of Latin American countries. This paper contributes to the existing literature that deals with the linkage between commodity price and stock market performance. In particular, the method of event study will be employed on the basis that the effects of an event (changes in commodity prices in this case) can be reflected immediately in stock prices, given the rationality in the marketplace. Therefore, a measure of the event's economic impact can be constructed by using stock prices observed over a relatively shorter time period, compared to the case of measuring direct productivity that may require many months or even years of observation. Furthermore, the adoption of all-groups (composite) commodity price index, including energy, metals, agriculture, food and others allow us to examine whether commodities can be considered as a homogeneous asset class in relation to stock market performance.

LITERATURE REVIEW

Commodity price and stock market

The relationship between commodity and stock prices had been examined in the previous literature. The pioneer research examined the relationship between commodity and stock market is from Houry (1984) who focus the studies on gold and oil price to the stock market. He found that there was disassociate the gold price from the returns of the firm securities when is unstable dividends, political risk, currency exchange and business risk. However, Jones and Kaul (1996) found that there was a negative and significant impact on the oil price shock on US and Canadian stock prices in the post war period by applying a standard

cash-flow dividend valuation model. Besides, many researches apply some variant of vector autoregressive analysis (VAR) provide a similar result. The result show that there is a significant impact of oil prices shocks on real stock return, interest rate and industrial production. For instance Sadorsky (1999) focus on the study of monthly oil price with the S&P stock return; Papapetrou (2001) investigate a vector error-correction model on monthly data For Greece; Park & Ratti(2008) consider the impact of oil price shocks on real stock return for US and 13 European countries.

However, some of the findings showed that the increasing correlation between commodities and assets is depend on three major arguments. Firstly, deficiency of regulation follow by vast capital inflows into commodity investments and investors distressed that leads to sell both commodity and equity assets during market clash. Due to the argument above, the results show that there is substantial increasing return correlation between commodities and stock during the current financial crisis but not during the pre-financial crisis (Master & White, 2008; Tang & Xiong, 2012; Adams & Gluck, 2015). Deficiency of regulation is the main factor to increasing the dependence between commodity and the stock return. With the initial financial futures, the significant distinction between commodities futures and financial futures were lost to regulator further explain by Master and White (2008). According to the study on the post 2008 data on the correlation between the returns of various commodity futures by Tang and Xiong (2012), vast capital inflows into commodity investment is the main principal of the linkage between commodities and financial market and it leads to a process of integration of commodity futures market with others financial market. Furthermore, cause financialization of commodities, which bring by the effects of portfolio rebalancing of index investor that lead to an unpredictability spillover from outsides to commodity market. Adams and Gluk (2015) advocated commodities have become an investment style for institutional investor, the increasing comovement of commodities and financial market in 2007-2009 financial crisis is due to the reason of distressed investors selling both assets.

A recent study by Charfeddine and Benlagha (2016), involved the rolling time-varying copula approach to study the commodity-stock dependence structure had found that this Student's t-copula approach is the most appropriate model for depicting the dependence structure between S&P 500 and various commodity returns, followed by the symmetrized Joe-Clayton copula (SJC). The result shows a negative linkage between S&P500 with massive majority metals, and S&P500 with agricultural returns series. However, there is a positive relationship between S&P500 with energy return series. In a study conducted by Baldi, Peri and Vandone (2016) to investigate the relationship between the commodity and stock market by comparing the symmetric window before and after the dot.com and 2008 financial crisis. The result shows that there is a negative spillover effect from stock market to commodity market before and after the dot.com bubble. Besides, the volatility spillover effect is more significant and more financialized after the 2008 financial crisis.

DATA AND ANALYSIS

Data

This paper chooses 6 major equity indices (i.e. Argentina, Brazil, Chile, Columbia, Mexico and Peru) from 13 heavily commodity exporting Latin American countries due to data availability (refer to Appendix 1). Argentina's Merval index represents by the MERV; Brazil's BM&F Bovespa index represents by the BVSP; Chile IPSA index represents by IPSA; Colombia's Colombia Select index represents by COP; Mexico's Bolsa Mexicana de Valores represents by BMV and Peru's Lima Stock Exchange general index represents by BVL. Daily index is collected in order to better capture the reactions of markets to announcement rather than weekly or monthly data.

Event study methodology

The objective of this study is to examine the impact of the first federal funds rate hiked since the appointment of the U.S. President, Donald Trump on selected Latin American equity market returns. The event study is used in order to analyse the financial effects of the announcement mentioned. The announcement on increasing the U.S. federal funds rate which falls on 15th March 2017 was believed to have an impact on the sample countries' stock market

which is consistent with efficient market hypothesis. In the existing literature, event study methodology is one of the commonly used methodologies to examine an economic event on the value affirm. Event study analysis is performed in the following steps (Mackinlay, 1997).

Firstly, the event date is defined and the event window is identified. Event window includes several days before and after the event. The event in this paper is defined as the announcements made by the U.S. Federal Reserve on increasing the federal funds rate. The announcement was made on 15th March 2017.

Second step is sample and source of data. We focus on daily changes in the six countries stock market around the announcement day. Indices returns, (r_{it}) are calculated in the following manner,

$$r_{it} = (P_{it} - P_{it-1}) / P_{it-1}$$

where

- P_{it} = the index i at end of day t
- P_{it-1} = is the index i at the end of day $t-1$
- r_{it} = is the return of index on day t

Next, normal returns are the expected index returns under normal circumstances where no unexpected events occur. Abnormal returns are the difference between actual index returns and normal returns (Laeven & Tong 2012). We used constant-mean-return model where it assumes that the mean return of the equity market is constant through time. This will be used to generate normal returns for equity market. To investigate the effects on stock indices, the event window in this study is 7 days from 3 days before and 3 days after 0 (announcement of the event). A total of 180 days is included in the estimation window to estimate the normal returns.

The constant-mean-return model is used to calculate the average of the equity index that falls within the estimation window. The average of the index will be the normal return to calculate the abnormal return (AR) and cumulative abnormal return (CAR). The abnormal returns are calculated as follows:

$$AR_{it} = r_{it} - E(r_{it})$$

$$CAR_{it} = \sum AR_{it}$$

where

- r_{it} = the actual return of index on day t
- $E(r_{it})$ = the normal return of index i during an event
- AR_{it} = abnormal return of index i of day t

If AR_{it} is zero, the firm does not have abnormal return; if AR_{it} is not zero, abnormal return exists.

$$CAR_{it} = \text{cumulative abnormal return of index } i \text{ of day } t$$

The cumulative abnormal return (CAR) can be used to determine if the event has any impact on the index returns using a simple t-statistics. The null hypothesis would be the event has no impact on the stock returns, where, $CAR = 0$.

RESULTS

This section discusses results from the mean model event study analysis for the 7-day event window. Table 1 shows the results of the index daily abnormal returns and their t-values at the examination window (-3 day to +3 days) for MERV, BOVESPA, IPSA, COP, BMV and BVL respectively on the announcement of federal funds rate hiked by the U.S. Federal Reserve. On overall, the daily abnormal returns of the individual equity market index showed inconsistent pattern. It is observed that all the daily abnormal returns are positive on the event date. The average abnormal return on the event date is positive (+1.20%) and significant at 10% level. The daily abnormal returns for the entire equity index are positive for the day+1 post event except BOVESPA, with average abnormal return of +0.82%. Obviously, the announcement gave immediate positive impact on all the selected Latin American equity markets. The daily abnormal returns for IPSA showed all positive impacts except day-1 whereas Colombia showed all positive impacts except day -1 and day +2. The commodity price increased due to the

appreciation of the USD along with the U.S. federal funds rate hiked. It brings positive impact on the profit of the commodity exporting companies.

Table 1: Daily Abnormal Returns and Average Abnormal Returns

Day	Daily Abnormal Returns						Average Abnormal Returns	T-values
	MERV	BOVESPA	IPSA	COP	BMV	BVL		
3	1.6349	0.8930	0.1429	0.4782	-0.0498	0.1183	0.5363	0.8457
2	-1.0685	-2.5478	0.7119	-0.4379	1.0948	0.0403	-0.3679	-0.2786
1	0.9874	-0.8391	1.4199	0.8186	1.1908	1.3244	0.8170	0.9720
0	1.3910	2.2174	0.4034	0.8852	0.7711	1.5332	1.2002	1.8518*
-1	-0.8717	-1.4308	-0.3925	-1.8275	-0.0509	-1.7249	-1.0497	-1.4372
-2	1.3321	1.1715	1.4424	0.4633	-0.0716	-0.0229	0.7191	1.0501
-3	0.3727	-0.0173	0.0880	0.4032	-0.2969	0.1540	0.1173	0.4505

Note: The asterisks ***, **, * denote the estimates are statistically significant at 1%, 5% and 10% level of significance respectively.

It is consistent with our findings on IPSA and COP where the percentage of commodity export in Chile and Colombia are the highest among the 6 selected countries amounting to 29.16% and 34%.

Table 2: Impact of the U.S. federal funds rate announcements on selected Latin American equity indices

Index	Event Date	Cumulative Abnormal Return	Test Statistics
MERV	15/03/2017	3.7779	4.4562***
BOVESPA	15/03/2017	-0.5530	0.613045
IPSA	15/03/2017	3.8161	3.9798***
COP	15/03/2017	0.7832	1.210483
BMV	15/03/2017	2.5875	1.658066
BVL	15/03/2017	1.4225	0.922229

Note: The asterisks ***, **, * denote the estimates are statistically significant at 1%, 5% and 10% level of significance respectively.

Notably, almost all the equity indices show positive announcement effect towards the U.S. interest rates hike on 15th March 2017 except for BOVESPA. The market participants perceive the announcement of U.S. interest rates hike as a positive signal to the equity market of the commodity exporting countries. Therefore, they tend to shift their investment portfolio to those equity markets to earn abnormal returns. However, only MERV and IPSA showed significant positive results.

Table 3: Daily Cumulative Average Abnormal Returns

Day	MERV	BOVESPA	IPSA	COP	BMV	BVL
3	3.7779	-0.5530	3.8161	0.7832	2.5875	1.4225
2	2.1430	-1.4460	3.6731	0.3050	2.6372	1.3042
1	3.2115	1.1018	2.9612	0.7428	1.5424	1.2639
0	2.2241	1.9409	1.5414	-0.0758	0.3517	-0.0606
-1	0.8331	-0.2765	1.1380	-0.9609	-0.4194	-1.5938
-2	1.7048	1.1542	1.5305	0.8665	-0.3685	0.1311
-3	0.3727	-0.0173	0.0880	0.4032	-0.2969	0.1540

Note: The asterisks ***, **, * denote the estimates are statistically significant at 1%, 5% and 10% level of significance respectively.

This is because these two indices provide positive cumulative average abnormal returns consistently as indicated in Table 3. The findings are supported by Baur (2012) and Raza, et al.

(2016) where changes in commodity prices do impact the stock price movements. Bovespa shows negative and insignificant cumulative abnormal return of -0.5530%. It indicates that the rise in the U.S. interest rates results to a decline in Brazil's stock returns by approximately 0.55%. A possible explanation is because the percentage of commodity exports of Brazil is the lowest among the sample countries, which is 10.58%.

CONCLUSION

In this paper, we have studied the response of the selected Latin American commodity exporting countries' major equity market towards the Federal Reserve announcement on interest rate hiked which falls on 15th March 2017. This study used the common event study methodology to capture the market impact on the event of increase federal funds rate. As expected, most of the selected commodity equity markets have positive impact on the announcement of increased interest rate in the U.S. The market participants perceived that a higher commodity prices could contribute to the increased in the revenue of commodity countries. Thus, they shift their portfolio investment to these countries to grab a great opportunity of achieving positive abnormal returns. Future research is suggested to include more sectors' indices or testing on the relationship between interest rate and equity returns. These might give a different perspective of the market reaction which brings valuable contribution to investors and scholars as well.

REFERENCES

- Adams, Z., & Glück, T. (2015). Financialization in commodity markets: A passing trend or the new normal? *Journal of Banking & Finance*, 60, 93-111.
- Bailey, W., & Bhaopichitr, K. (2004). How Important Was Silver? Some Evidence on Exchange Rate Fluctuations and Stock Returns in Colonial-Era Asia. *The Journal of Business*, 77(1), 137-173.
- Baldi, L., Peri, M., & Vandone, D. (2016). Stock markets' bubbles burst and volatility spillovers in agricultural commodity markets. *Research in International Business and Finance*, 38, 277-285.
- Bastianin, A., Conti, F., & Manera, M. (2016). The impacts of oil price shocks on stock market volatility: Evidence from the G7 countries. *Energy Policy*, 98, 160-169.
- Baur, D. G. (2012). Asymmetric volatility in the gold market. *The Journal of Alternative Investments*, 14(4), 26-38.
- Charfeddine, L., & Benlagha, N. (2016). A time-varying copula approach for modelling dependency: New evidence from commodity and stock markets. *Journal of Multinational Financial Management*, 37, 168-189.
- Choi, K., & Hammoudeh, S. (2010). Volatility behavior of oil, industrial commodity and stock markets in a regime-switching environment. *Energy Policy*, 38(8), 4388-4399.
- Creti, A., Joëts, M., & Mignon, V. (2013). On the links between stock and commodity markets' volatility. *Energy Economics*, 37, 16-28.
- Dwyer, A., Gardner, G., & Williams, T. (2011). Global commodity markets—price volatility and financialisation. *RBA Bulletin*, June, 49-57.
- Huang, S., An, H., Gao, X., & Sun, X. (2017). Do oil price asymmetric effects on the stock market persist in multiple time horizons?. *Applied Energy*, 185, 1799-1808.
- IMF Survey: Slowing Global Growth has Varied Effects on Low-Income Countries. (n.d.). retrieved from <https://www.imf.org/en/News/Articles/2015/09/28/04/53/socar121715a>

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Irlandoust, M. (2017). Metal prices and stock market performance: Is there an empirical link?. *Resources Policy*, 52, 389-392.
- Irwin, S. H., & Sanders, D. R. (2012). Testing the Masters Hypothesis in commodity futures markets. *Energy economics*, 34(1), 256-269.
- Masters, M. W., & White, A. K. (2008). The accidental Hunt brothers: How institutional investors are driving up food and energy prices. *The Accidental Hunt Brothers Blog*, special report posted July, 31, 2009.
- Ji, Q. (2012). System analysis approach for the identification of factors driving crude oil prices. *Computers & Industrial Engineering*, 63(3), 615-625.
- Jones, C. M., & Kaul, G. (1996). Oil and the stock markets. *The Journal of Finance*, 51(2), 463-491.
- Khoury, S. J. (1984). Speculative markets. Macmillan Pub Co.
- Ntantamis, C., & Zhou, J. (2015). Bull and bear markets in commodity prices and commodity stocks: Is there a relation? *Resources Policy*, 43, 61-81.
- Papapetrou, E. (2001). Oil price shocks, stock market, economic activity and employment in Greece. *Energy economics*, 23(5), 511-532.
- Park, J., & Ratti, R. A. (2008). Oil price shocks and stock markets in the US and 13 European countries. *Energy economics*, 30(5), 2587-2608.
- Sadorsky, P. (1999). Oil price shocks and stock market activity. *Energy economics*, 21(5), 449-469.
- Tang, K., & Xiong, W. (2010). VIndex Investment and Financialization of CommoditiesV. NBER Working Paper w16385.
- Raza, N., Shahzad, S. J. H., Tiwari, A. K., & Shahbaz, M. (2016). Asymmetric impact of gold, oil prices and their volatilities on stock prices of emerging markets. *Resources Policy*, 49, 290-301.
- Reboredo, J. C., & Ugolini, A. (2017). Quantile causality between gold commodity and gold stock prices. *Resources Policy*, 53, 56-63.
- Silvennoinen, A., & Thorp, S. (2013). Financialization, crisis and commodity correlation dynamics. *Journal of International Financial Markets, Institutions and Money*, 24, 42-65.
- Tully, E., & Lucey, B. M. (2007). A power GARCH examination of the gold market. *Research in International Business and Finance*, 21(2), 316-325.
- Vivian, A., & Wohar, M. E. (2012). Commodity volatility breaks. *Journal of International Financial Markets, Institutions and Money*, 22(2), 395-422.

APPENDIX

Appendix 1: Percentage of Commodity Exporting in Latin American

Name	Major commodity producing	Percentage of export (%)
Argentina	Soybean	24.4
Bolivia	Petroleum gases	43.29
Brazil	Iron ores and concentrates	10.58
Chile	Copper	29.16
Colombia	Crude petroleum	34
Cuba	Raw sugar	27
Dominican Republic	Gold	13
Ecuador	Crude petroleum	34
Mexico	Machines	19
Panama	Coal and petroleum	27
Paraguay	Electricity	24
Peru	Copper ore	19
Venezuela	Petroleum	89

What Impact does Oil Price had on Malaysian Economic Activity? A Nonlinear Cointegration Analysis

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Abstract

This paper aims to investigate the oil price-output nexus for the case of Malaysia between the time period from 2005:Q1 to 2016:Q3. This paper applies both linear and nonlinear Autoregressive Distributed Lag (ARDL) approaches to examine the long run relationships for 19 bivariate models that assess oil price impact on Malaysian aggregate and disaggregate GDPs. The results of linear ARDL bound test approach to cointegration analysis revealed no relationship among variables in the long run except for the case of financial activity. Subsequently, we re-estimated all models by setting up a nonlinear ARDL approach to cointegration. The evidence of long run relationship only exists among Malaysian economic activities of manufacturing, finance and motor vehicles. The long run parameter estimates showed positive effects of both oil price increase and decrease on outputs of manufacturing. The extent of oil price decrease influence tends to be more than oil price increase on output of manufacturing sector. Next, we found positive impacts of oil decrease on finance and motor vehicles outputs in the long run.

Keywords: Oil price shocks, Economic activity

INTRODUCTION

The changes in the oil price encouraged various empirical studies on the relationship between oil price and economic variables. A number of prominent past studies concluded negative impact of oil price increase on economic activity particularly investigation for the case of developed oil importing countries (refer Hamilton, 1983; Burbidge and Harrison, 1984; Bruno and Sachs (1981, 1985), Gisser and Goodwin, 1986, to name a few). Nevertheless, limited number of studies conducted on small-open developing and oil exporting country like Malaysia. In particular, impacts of positive and negative shocks of oil price on Malaysian output by sector are remaining less focused. The main contribution of this study is to provide an estimate on the long run relationship among positive and negative oil price shocks and Malaysian economic activity. Unlike most of the existing literatures, we analyzed the long term relationship and the impact of oil price on Malaysian GDP by kind of economic activities. This investigation is significant to answer the query on what impact do oil price shocks had on Malaysian aggregate and disaggregate GDPs? The outcome of this study may provide details on the direction as well as on extent of the influence. This could benefit researchers and policy makers to observe the nature of the impact and to identify which Malaysian economic activity (by kind) has been significantly affected by the oil price changes. To investigate the impact, we resort the nonlinear cointegration analysis by computing the partial sums of positive and negative oil price changes to assess the long run relationships between oil price shocks and disaggregate GDP.

Although studies on impact of oil price on Malaysian disaggregate GDP arguably less, this is an exception for several past works done by Shaari, et al., (2013), Solaymani and Kari (2013) and Liew and Balasubramaniam (2017). Shaari, et al., (2013) found the long term effects of oil prices on the agriculture, construction, manufacturing, and transportation sectors using the Johansen cointegration test. The authors found oil price shocks can affect agriculture sector. Solaymani and Kari (2013) found an increase in the world oil prices decreases transport demand and output in the short run and an increase in transport demand and output in the long run using the computable general equilibrium (CGE) approach. Liew and Balasubramaniam

(2017) investigated linear and nonlinear impacts of oil price on Malaysian aggregate and disaggregate outputs by sector using linear and nonlinear ARDL approach. Using world development indicators (WDI, World Bank) dataset, Liew and Balasubramaniam (2017) examined the oil-output nexus for four main sectors (agriculture, manufacturing, industrial and services). In their estimation, the industrial production grosses mining, manufacturing, construction, electricity, water and gas production outputs. While, the output of service sector aggregates wholesale and retail trade, transport, storage and motor vehicles, real estate, finance, government and other services. Using these aggregated sectors, the authors found a significant nonlinear impact of oil price increase and decrease on the manufacturing sector and a negative influence of oil price decrease on the industrial sector. Following the work by Liew and Balasubramaniam (2017), this study intends to examine the linear and nonlinear oil-output relationship for Malaysian GDP. Our present study is different in the sense where we address the nature and extent of impact of oil price changes on sub-sectors of industrial and services including other main sectors which provide a total of 18 disaggregate outputs by sectors/subsectors. This effort is to present a fresh evidence on the type of the impact as well as to identify which sector/subsector had been significantly affected by oil price shocks using quarterly data from 1st quarter of 2005 till the 3rd quarter of 2016. From the theoretical point of view, the consequences of oil shocks can be transmitted on to economic activity through a number of channels. According to Brown and Yucel (2002), the oil shocks can be transmitted through the supply side shock effect, wealth transfer effect, real balance effect, inflation effect, sector adjustment effect and unexpected effect. This study adopts the assumption of supply side effect to examine oil-output nexus for the case of Malaysia.

LITERATURE REVIEW

Plethora of past works have investigated the relations of oil price and macroeconomic since early 1980s. Prominent works in this area are the studies by Darby (1982) and Hamilton (1983) on the linear oil price and macroeconomic relationship, while, Mork (1989), Mork and Olsen (1994), Hamilton (1996) and Lee, Ni and Raati (1995) considered the asymmetric effects of oil price. Numerous studies were conducted for developed countries (Gisser and Goodwin 1986; Guo and Kliesen 2005; Chen and Chen, 2007; Farzanegan and Markwardt (2009), Cunado and Gracia, 2014). Some studies focused on Asian developing countries for example, Raguindin and Reyes (2005), Rafiq et al.(2008), Cong et al. (2008), Du, Yanan, and Wei (2010), Tang, Wu, and Zhang (2010) and Gosh and Kanjilal (2014). There are also a number of studies on asymmetries or nonlinear relationship between oil price and macroeconomy. For instance, to name a few, Mork (1989), Hamilton (1996) and Lee, Ni and Raati (1995) Cunado and Gracia (2005), Mehrara (2008) and Gosh and Kanjilal (2014), Allegret et al.(2014).

Studies of oil price impact on the Malaysian GDP have been studied by Ghani and Duasa (2009), Abdul Jalil et al. (2009), Mohamed Yusoff and Abdul Latif (2013), Shaari, et al., (2013), Solaymani and Kari (2013), Maji, Saari, Habibullah and Utit (2017) and Liew and Balasubramaniam (2017). Ghani and Duasa (2009) found a positive long term relationship between GDP and oil prices. They reported that there is a one-way causality running from oil price changes to GDP growth. Abdul Jalil et al. (2009) found positive long-run relations between GDP and oil prices. The authors found asymmetric effect of oil price changes on Malaysian GDP. Using Wald test of restriction on the impact of oil price increase and oil price decrease dummies, they found Malaysian GDP was significantly affected by oil price decrease. Shaari, et. al., (2013) found a long run relationship among oil price, agriculture, construction, manufacturing, and transportation sectors using Johansen cointegration test. The authors further discovered oil price granger caused agriculture sector, while a unidirectional causality running from construction sector's output to oil price. Mohamed Yusoff and Abdul Latif (2013) used linear ARDL approach to examine the impact of oil price change on economic growth and energy demand in Malaysia. Solaymani and Kari (2013) found an increase in the world oil prices decreases transport demand and output in the short run and it seems to increase in transport demand and output in the long run using CGE approach. Maji et al.,(2017) examined the oil price decreased on Malaysian economy using both econometric and input-output model. They found reduction in oil price reduces tax revenues, GDP and increases unemployment rate. Liew and Balasubramaniam (2017) investigated oil-sectoral output nexus for case of Malaysia. The

authors found nonlinear long run relationship among oil price decrease manufacturing and industrial outputs.

RESEARCH METHODOLOGY

Linear and Nonlinear ARDL Model

This paper adopts the linear Autoregressive Distributed Lag (ARDL) proposed by Pesaran et al. (2001) which can specify the oil price-output nexus as follows:-

$$DLogY_t = \alpha_0 + \alpha_1 LogY_{t-1} + \alpha_2 LogOP_{t-1} + \sum_{i=1}^q \delta_{1i} DLogY_{t-i} + \sum_{i=0}^r \delta_{2i} DLogOP_{t-i} + \varepsilon_t \quad (1)$$

The term 'D' shows the 1st difference operators and epsilon (ε_t) means term of white noise disturbance. $LogY$ refers to log of outputs and $LogOP$ is log of oil price. The parameters of α show the long run relationships, while δ show the short run relationships. The ARDL bound test approach to cointegration is conducted to examine whether output and oil price are cointegrated. Following Shin et al. (2014), we can specify the Nonlinear ARDL approach as below:

$$DLogY_t = \alpha_0 + \alpha_1 LogY_{t-1} + \alpha_2 LogOP_{t-1}^+ + \alpha_3 LogOP_{t-1}^- + \sum_{i=1}^q \delta_{1i} DLogY_{t-i} + \sum_{i=0}^r (\theta_i^+ DLogOP_{t-i}^+ + \theta_i^- DLogOP_{t-i}^-) + \varepsilon_t \quad (2)$$

Where q and r denote lag orders and alphas are long run coefficients. $\sum_{i=0}^r \theta_i^+$ and $\sum_{i=0}^r \theta_i^-$ are short run influences of oil price on outputs. $LogOP_{t-1}^+$ and $LogOP_{t-1}^-$ are partial sums of positive and negative changes in oil prices. The partial sums of positive and negative can be computed as follows:

$$LogOP_t^+ = \sum_{i=1}^t \Delta LogOP_i^+ = \sum_{i=1}^t \max(\Delta LogOP_i, 0) \quad (3)$$

And

$$LogOP_t^- = \sum_{i=1}^t \Delta LogOP_i^- = \sum_{i=1}^t \min(\Delta LogOP_i, 0) \quad (4)$$

The nonlinear long run equation can be specified as below:

$$LogY_t = \alpha_0 + \alpha_1 LogY_{t-1} + \alpha_2 LogOP_{t-1}^+ + \alpha_3 LogOP_{t-1}^- + \varepsilon_t \quad (5)$$

Alphas are cointegrating vectors, $LogOP_{t-1}^+$ and $LogOP_{t-1}^-$ are partial sums of positive and negative changes in oil prices. The partial sums of positive and negative changes in the long run equation may show the directions and magnitudes of oil price increase and decrease impacts on Malaysian aggregate and disaggregate GDPs.

Data Description

To investigate the relationship between oil price and economic activity, this study employs quarterly time series data over the period from 2005:Q1 to 2016:Q3. The Malaysian aggregate economic activity (GDP) and disaggregate GDP by kind of economic activity comprises 1)agriculture, 2)mining and quarrying, 3)manufacturing, 4)construction, 5)electricity and gas, 6)water, 7)wholesale trade, 8)retail trade, 9)motor vehicles, 10)restaurants, 11)accommodation,12)transport and storage, 13)communication, 14)finance, 15)insurance, 16)real estate and business services, 17)other services and 18)government services. The quarterly data on Gross Domestic Product (GDP) by kind of economic activity is collected from Bank Negara Malaysia (BNM). The oil price used in this study is average spot price of West Texas Intermediate crude oil obtained from U.S. Energy Information Administration (EIA). All data has been transformed to logarithms.

DATA ANALYSIS

Unit root test results

Table 1 shows the results of ADF unit root test. The outcomes are presented for outputs of agriculture, mining and quarrying, manufacturing, construction, electricity and gas, water, wholesale trade, retail trade, motor vehicles, restaurants (food and beverages), accommodation, transport and storage, communication, finance, insurance, real estate and business services, other services, government services, GDP and oil price for the sample period between the years from 2005:Q1 to 2016:Q3. The results endorse that variables underwent mixed integration order of $I(0)$ and $I(1)$. This is as all series are found to be stationary at the levels or first difference and there are no $I(2)$ series (refer Table 1).

Linear ARDL Estimation

This study chooses maximum lag length of 5 periods ($m=5$) to obtain the optimum lag orders for each variable. We applied general to specific approach to select the ARDL specification. Table 2 shows linear and nonlinear bound test results. The linear bound test results confirmed that there is no linear long run relationships exist except for the case of finance activity. We checked for serial correlation for all bound test results and found no problem of serial correlation for all linear bound test estimation. Since there is an evidence of long run relationship between oil price and finance activity, we proceed to ARDL error correction model. Table 3 presents the error correction model and long run parameters estimates. The error correction term found to be negative and significant, confirms that there is an adjustment to the long run equilibrium. The speed of adjustment is about 12.9 quarters or roughly more than 3 years to adjust to the long run convergence. While, from the long run parameter estimates, we found there is no long run impact of oil price and we only found short run impact of oil on finance which is positive. The diagnostics analysis for the ARDL ECM have been performed and the results confirmed that there is no problem of serial correlation, no model misspecification, homoscedastic, normal distribution among error terms and CUSUMQ estimate confirms the parameters stability.

Nonlinear ARDL Estimation

Subsequently, we performed nonlinear ARDL bound test approach to cointegration test results. Similar to linear ARDL, we employed general to specific approach to select the nonlinear ARDL specification with maximum lag of 5 lag periods. The nonlinear bound test outcomes in Table 2, show that the long run relationships exist between oil price and production of manufacturing, financial services and production of motor vehicles. As the evidence of long run connection only exist for GDP from 3 kind of economic activity, this restricts to present the nonlinear parameter estimates only for production of manufacturing, financial services and production of motor vehicles. In order to check the suitability of the nonlinear model, we conducted Wald test for linearity of long run (W_{LR}) and short run (W_{SR}). The results of long run and short run asymmetries are presented in Table 4. The results confirm that linear model would be probably mis-specified for all the long run linearity as the null hypothesis of linearity has been rejected at 5% and 10% significance levels.

The results of long run coefficients of nonlinear ARDL are presented in Table 5. The outcomes show significant impacts of oil price increase and oil price decrease on the manufacturing. Specifically, a 1% increase in the oil price increase can cause to an increase of 0.32% on the manufacturing output and an increase of 0.36% of manufacturing output during the oil price decrease in the long run. This shows that both oil price increase and decrease have significant influences on the manufacturing sector's output. Moreover, the positive impact of oil price decrease is higher than oil price increase. On the other hand, a 1% decrease in the oil price can be associated to an increase of 0.59% and 0.170% on the financial activities and motor vehicles production. The findings of asymmetrical impact of oil price is consistent with Abdul Jalil et al. (2009) and Liew and Balasubramaniam (2017), where these authors reported that oil price decrease had a significant impact on Malaysia economic activity compared to oil price increase.

Table 1: ADF Unit Root Test

	Level		First Difference		Order of Integration
	Intercept without Trend	Intercept with Trend	Intercept without Trend	Intercept with Trend	
	t-stats (p-values)	t-stats (p-values)	t-stats (p-values)	t-stats (p-values)	
LACCOM	-0.687 (0.836)	-2.385 (0.380)	-6.265 (0.000)***	-6.197 (0.000)***	I(1)
LAGRI	-0.502 (0.878)	-6.166 (0.000)***	-6.388 (0.000)***	-6.298 (0.000)***	I(0)
LCONS	0.747 (0.992)	-2.013 (0.575)	-6.879 (0.000)***	-6.973 (0.000)***	I(1)
LCOM	3.328 (1.000)	-0.169 (0.991)	-2.380 (0.155)	-3.935*** (0.022)	I(1)
LELECT	-0.359 (0.905)	-4.688 (0.003)***	-6.697 (0.000)***	-6.602 (0.000)***	I(0)
LFINANCE	-1.629 (0.458)	-0.493 (0.978)	-7.024 (0.000)***	-7.259 (0.000)***	I(1)
LGDP	0.293 (0.974)	-1.651 (0.751)	-6.288 (0.000)***	-6.205 (0.000)***	I(1)
LGSERV	0.329 (0.977)	-1.449 (0.827)	-8.868 (0.000)***	-8.748 (0.000)***	I(1)
LINS	0.264 (0.973)	-4.976 (0.001)***	-8.513 (0.000)***	-8.405 (0.000)***	I(0)
LMANU	0.149 (0.965)	-1.399 (0.843)	-6.073 (0.000)***	-6.002 (0.000)***	I(1)
LMIN	-1.369 (0.586)	0.001 (0.994)	-0.639 (0.000)***	-6.846 (0.000)***	I(1)
LOSERV	-0.251 (0.922)	-6.056 (0.000)***	-9.378 (0.000)***	-9.240 (0.000)***	I(0)
LRES	-2.361 (0.160)	-5.233 (0.001)***	-8.697 (0.000)***	-8.571 (0.000)***	I(0)
LRESTATE	-0.798 (0.807)	-3.772 (0.029)**	-6.991 (0.000)***	-6.890 (0.000)***	I(0)
LRETAIL	0.001 (0.952)	-1.293 (0.874)	-7.268 (0.000)***	-7.157 (0.000)***	I(1)
LTRANS	-0.595 (0.859)	-2.138 (0.508)	-4.607 (0.000)***	-4.546 (0.004)***	I(1)
LVECHI	-0.992 (0.743)	-4.150 (0.012)**	-6.089 (0.000)***	-6.005 (0.000)***	I(0)
LWATER	-0.493 (0.882)	-0.317 (0.987)	-8.287 (0.000)***	-8.170 (0.000)***	I(1)
LWHOLE	-0.863 (0.787)	-1.765 (0.701)	-7.182 (0.000)***	-7.079 (0.000)***	I(1)
LOPN	-2.842 (0.062)*	-2.699 (0.243)	-4.698 (0.000)***	-4.751 (0.003)***	I(0)

Notes: Asterisks (***), (**) & (*) denotes rejection of null hypothesis at 1%, 5% and 10% significance levels. Legend: LACCOM= accommodation, LAGRI=agriculture, LMIN= mining and quarrying, LMANU=manufacturing, LCONS=construction, LELECT=electricity and gas, LWATER=water, LWHOLE=wholesale trade, LRETAIL=retail trade, LVECHI=motor vehicles, LRES=restaurants, LTRANS=transport and storage, LCOM=communication, LFINANCE=finance, LINS=insurance, LRESTATE=real estate and business services, LOTHER=other services, LGSERV=government services and LGDP=Gross Domestic Product, LOPN=oil price. The term L denotes natural logarithm transformed series.

Table 2: ARDL Cointegration Test Results (Quarterly Data:2005:Q1 to 2016:Q3)

DEPENDENT	F-STATISTIC	OUTCOME
Linear ARDL Model		
LACCOM	0.990529	No cointegration
LAGRI	0.809034	No cointegration
LCONS	2.929220	No cointegration
LCOM	0.512988	No cointegration
LELECT	2.651669	No cointegration
LFINANCE	13.56067*	Cointegrated
LGDP	1.179850	No cointegration
LGSERV	0.212883	No cointegration
LINSU	1.566941	No cointegration
LMANU	0.969855	No cointegration
LMIN	0.585251	No cointegration
LOTHSERV	0.573452	No cointegration
LREALS	0.249451	No cointegration
LREST	2.864175	No cointegration
LRETAIL	0.202548	No cointegration
LTRANS	1.524636	No cointegration
LVECH	1.995932	No cointegration
LWATER	0.720642	No cointegration
LWHOLE	0.560232	No cointegration
Nonlinear ARDL Model		
LACCOM	2.057576	No cointegration
LAGRI	0.784763	No cointegration
LCONS	0.573503	No cointegration
LCOM	0.392056	No cointegration
LELECT	2.024018	No cointegration
LFINANCE	11.60553*	Cointegrated
LGDP	0.514119	No cointegration
LGSERV	1.918192	No cointegration
LINSU	1.313724	No cointegration
LMANU	4.204642*	Cointegrated
LMIN	0.608728	No cointegration
LOTHSERV	1.988634	No cointegration
LREALS	1.840463	No cointegration
LREST	3.401660	No cointegration
LRETAIL	2.137753	No cointegration
LTRANS	0.074252	No cointegration
LVECH	5.052724*	Cointegrated
LWATER	0.345501	No cointegration
LWHOLE	3.905231	No cointegration

Notes: Asterisk (*) denotes rejection of null hypothesis at 5% significance level. Legend: LACCOM= accommodation, LAGRI=agriculture, LMIN=mining and quarrying, LMANU=manufacturing, LCONS=construction, LELECT=electricity and gas, LWATER=water, LWHOLE=wholesale trade, LRETAIL=retail trade, LVECHI=motor vehicles, LRES=restaurants, LTRANS=transport and storage, LCOM=communication, LFINANCE=finance, LINS=insurance, LRESTATE=real estate and business services, LOTHER=other services, LGSERV=government services and LGDP=Gross Domestic Product, LOPN=oil price. The term L denotes natural logarithm transformed series.

Table 3: Linear ARDL ECM and Long Run Parameters Estimation for Finance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LY(-1))	-0.54958***	0.131784	-4.17032	(0.000)
D(LY(-2))	-0.644868***	0.13648	-4.725	(0.000)
D(LY(-3))	-0.647285***	0.143684	-4.50493	(0.000)
D(LOPN)	-0.004193	0.026673	-0.1572	(0.876)

D(LOPN(-1))	0.047296	0.041215	1.147541	(0.262)
D(LOPN(-2))	-0.038967	0.036364	-1.07158	(0.294)
D(LOPN(-3))	0.073617**	0.029193	2.521696	(0.018)
ECT(-1)	-0.07774*	0.039231	-1.98158	(0.058)
Diagnosics	Coefficients	P-values		
SC	2.316157	(0.314)		
JB	0.536227	(0.765)		
ARCH	0.442114	(0.506)		
RESET	1.480434	(0.235)		
CUSUM	Unstable	--		
CUSUMQ	Stable	--		
Long run coefficients				
Constant	13.72964***	4.406981	3.11543	(0.004)
LOPN	-0.858821	0.937332	-0.91624	(0.368)

Notes: Asterisks (**), (*) & (*) denotes rejection of null hypothesis at 1%, 5% and 10% significance levels. The term 'D' denotes delta. LY(-1)=lag dependent variable, LOPN=log of oil price, ECT=error correction term, SC=Serial correlation test, JB=JB normality test, RESET=Ramsey RESET test, ARCH=Heteroscedasticity test, CUSUM and CUSUMQ are the parameter stability tests.

Table 4: Nonlinear ARDL Estimation

	MANUFACTURING		FINANCE		MOTOR VECHILES	
	Coefficient s	P-values	Coefficient s	P-values	Coefficient s	P-values
Constant	-1.90787*	(0.0837)	-2.452545	(0.2271)	14.68842** *	(0.0024)
LY(-1)	0.418456*	(0.0811)	0.289825	(0.2043)	1.874295** *	(0.0025)
LOPPOS(-1)	-0.13382***	(0.0084)	-0.083300	(0.1278)	0.073524	(0.6454)
LOPNEG(-1)	-0.14892***	(0.0059)	-0.171967**	(0.0400)	0.319077*	(0.0645)
D(LOPPOS)	0.015095	(0.5626)	0.001816	(0.9619)	-0.191562**	(0.0479)
D(LOPNEG)	0.006823	(0.6769)	-0.088574	(0.2859)	0.155553	(0.4104)
D(LY(-1))	-0.89551***	(0.001)	0.898697** *	(0.0007)	0.988195** *	(0.0055)
D(LOPPOS(-1))	0.148741**	(0.039)	0.142626**	(0.0120)	0.045628	(0.7990)
D(LOPNEG(-1))	0.180476***	(0.000)	0.019827	(0.8296)	-0.421846	(0.1197)
D(LY(-2))	-0.62742***	(0.0073)	0.958478** *	(0.0001)	0.798473**	(0.0245)
D(LOPPOS(-2))	0.145168*	(0.0534)	0.024167	(0.6061)	0.100674	(0.5024)
D(LOPNEG(-2))	0.125123***	(0.0027)	0.070535	(0.2502)	-0.380066	(0.1935)
D(LY(-3))	-0.70348***	(0.0025)	0.893447** *	(0.0000)	0.355025	(0.1551)
D(LOPPOS(-3))	0.124964***	(0.009)	0.071907	(0.1563)	-0.229081*	(0.0987)
D(LOPNEG(-3))	0.071667**	(0.0313)	0.074348	(0.2829)	0.023884	(0.9270)
D(LY(-4))	0.381474**	(0.019)	--	--	0.809501** *	(0.0003)
D(LOPPOS(-4))	0.088915**	(0.0192)	--	--	-0.075413	(0.5809)
D(LOPNEG(-4))	0.034525	(0.2427)	--	--	0.030997	(0.8298)

4))						
D(LY(-5))	--	--	--	--	0.213085	(0.4098)
D(LOPPOS(-5))	--	--	--	--	-0.021273	(0.8624)
D(LOPNEG(-5))	--	--	--	--	-0.151896	(0.3142)
Diagnostics						
<i>R-squared</i>	0.900053	--	0.756344	--	0.943188	--
<i>Adj. R-squared</i>	0.793859	--	0.585785	--	0.848502	--
SC	0.696368	(0.706)	2.163533	(0.3390)	2.335592	(0.3111)
JB	5.171271*	(0.07535)	2.249972	(0.324657)	1.691813	(0.429168)
ARCH	0.001749	(0.9666)	0.590539	(0.4422)	0.311502	(0.5768)
RESET	0.572812	(0.259)	1.920502	(0.1819)	0.742928	(0.4071)
WLR	0.015099***	(0.009)	3.349557*	(0.0822)	10.52674**	(0.0070)
WSR	0.054391	(0.2059)	0.000619	(0.9804)	0.349373	(0.5654)
CUSUM	Stable		Stable		Stable	
CUSUMQ	Stable		Stable		Stable	

Long Run Coefficients

Constant	4.5593 (0.000)***	8.462160 (0.0000)***	7.836775 (0.000)***
LOPPOS	0.319802 (0.0046)***	0.287414 (0.2199)	0.039227 (0.6440)
LOPNEG	0.355885 (0.0088)***	0.593347 (0.0358)**	0.170238 (0.0327)**

Notes: Asterisks (**), (*) & (*) denotes rejection of null hypothesis at 1%, 5% and 10% significance levels. The term 'D' denotes delta. LY(-1)=lag dependent variable, LOPN=log of oil price, ECT=error correction term, SC=Serial correlation test, JB=JB normality test, RESET=Ramsey RESET test, ARCH=Heteroscedasticity test, CUSUM and CUSUMQ are the parameter stability tests. WLR=long run linearity test and WSR=short run linearity test. LOPPOS= log of oil price increase and LOPNEG=log of oil price decrease.

CONCLUSION AND DISCUSSION

This study investigates oil price-output relationship at the aggregate and disaggregates levels using linear and nonlinear ARDL approaches. We estimated the linear ARDL approach to cointegration to investigate the long-run relationships for 19 bivariate models including aggregate GDP. The ARDL cointegration analysis shows no long-run relationship in the linear framework for aggregate GDP, while for the case of disaggregate GDP, only financial activity seems to be cointegrated. Therefore, this study proceeds with linear ARDL ECM and that the error correction term is negative and significant for the case of financial activity, while long run coefficients estimate shows insignificant influence of oil price. Hence, we continued with nonlinear framework. In the nonlinear framework, we found an existence of long-run relationships for the case of manufacturing, finance and motor vehicles outputs with the oil price and no evidence for nonlinear oil price-aggregate GDP nexus. The rejection of long run asymmetry hypothesis signifies the appropriateness of nonlinear ARDL models rather linear models. From the long run coefficient estimates, the results confirmed statistically significant impacts of oil price increase (+0.32%) and decrease (+0.36%) on the production of manufacturing. Interestingly, the positive and significant impact of oil price decrease is higher than the positive and significant impact of oil price increase. On the other hand, a 1% decrease in the oil price can be associated to an increase of 0.59% and 0.170% on the financial activities and motor vehicles production. Hence, it is clear that there is a significant positive impact of oil price on Malaysian economic activity especially during the oil price plummeting periods. This implies that the fall in the cost of production that associated with oil price changes; significantly boost the productive capacity of manufacturing, finance and motor vehicles.

REFERENCES

- Abdul Jalil, N., Mat Ghani, G., & Duasa, J. (2009). Oil Prices and the Malaysia Economy. *International Review of Business Research Papers*, 5(4), 232 -256.
- Allegret, J.-P., Couharde, C., & Coulibaly, D. (2014). Current Accounts and Oil Price Fluctuations in Oil- Exporting Countries: The Role Financial Development. *Journal of International Money and Finance*, 47, 185-201.
- Brown, S. P. A., & Yüücel, M. K. (2002). Energy Prices and Aggregate Economic Activity and Interpretative Survey. *The Quarterly Review of Economic and Finance*, 42, 193-208.
- Bruno, M. R., & Sachs, J. (1981). *Supply Versus Demand Approaches to the Problem of Stagflation*. In H. Giersch and J. C. B. Tubingen (Eds.), *Macroeconomic Policies for Growth and Stability*.
- Bruno, M. R., & Sachs, J. (1985). *Economics of worldwide stagflation*. Cambridge, MA: Harvard University Press.
- Burbidge, J., & Harrison, A. (1984). Testing for the Effects of Oil-Price Rises Using Vector Autoregression. *International Economic Review*, 25, 459-484
- Chen, S. S., & Chen, H. C. (2007). Oil Prices and Real Exchange Rates. *Energy Economics*, 29, 390-404.
- Cunado, J., & Gracia, F.P (2005). Oil prices, economic activity and inflation: evidence for some Asian countries. *The Quarterly Review of Economics and Finance*, 45(1), 65-83.
- Cunado, J., & Gracia, F.P. (2014). Oil Price Shocks and Stock Market Returns: Evidence for Some European Countries. *Energy Economics*, 42, 365-377.
- Darby, M.R. (1982). The price of oil and world inflation and recessions. *American Economic Review* 72, 738-51.
- Du, L., He, Y., & Wei, C. (2010). The Relation Between Oil Price Shocks and China's Macro-Economy: An Empirical Analysis. *Energy Policy*, 38(8), 4142-4151.
- Farzanegan, M., & Markwardt, G. (2009). The Effects of Oil Price Shocks on the Iranian Economy. *Energy Economics*, 31, 134-151.
- Ghosh, S., & Kanjilal, K. (2014) Oil price shocks on Indian economy: evidence from Toda Yamamoto and Markov regime-switching VAR. *Macroeconomics and Finance in Emerging Market Economies*, 7(1), 122-139
- Gisser, M., & Goodwin, T. H. (1986). Crude Oil and the Macroeconomy: Tests of Some Popular Notions. *Journal of Money, Credit and Banking*, 18, 95-103.
- Guo, H., & Kliesen, K.L. (2005). Oil price volatility and US macroeconomic activity. *Review-Federal Reserve Bank of St. Louis*, 57(6), 669-683
- Hamilton, J.D. (1983). Oil and the macroeconomy since World War II. *The Journal of Political Economy* 91, 228-248.
- Hamilton, J.D. (1996). This is what happened to the oil price-macroeconomy relationship. *Journal of Monetary Economics*, 38, 215-220.
- Lee, K., Ni, S., & Raati, R.A. (1995). Oil shocks and the macroeconomy: The role of price variability. *The Energy Journal*, 16, 39-56.

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Liew, V.K.S., & Balasubramaniam, A.(2017). Oil Price Shocks and Sectoral Outputs: Empirical Evidence from Malaysia. *Economics Bulletin*, 37(1), 38-47.
- Maji, I.K, Saari, M.Y Habibullah, M.S., & Utit, C. (2017). Measuring the economic impacts of recent oil price shocks on oil dependent economy: evidence from Malaysia. *Journal of Policy Studies*, 38(4), 1-17.
- Mehrara, M. (2008). The Asymmetric Relationship Between Oil Revenues and Economic Activities: The Case of Oil-Exporting Countries. *Energy Policy*, 36, 1164-1168.
- Mohamed Yusoff, N. Y., & Abdul Latif, N. W. (2013). Measuring the Effects of World Oil Price Change on Economic Growth and Energy Demand in Malaysia: An ARDL Bound Testing Approach. *International Journal of Trade, Economics and Finance*, 4(1), 29-36.
- Mork, K.A. (1989). Oil and the marcoeconomy when prices go up and down: An extension of Hamilton's results. *The Journal of Political Economy* 97, 740-744.
- Mork, K.A., & Olsen, O. (1994). Macroeconomic response to oil price increases and decreases in seven OECD countries. *Energy Journal*, 15, 19-35
- Pesaran, M.H., Shin, Y., & Smith, R. (2001). Bound Testing Approaches to the Analysis of Level Relationship. *Journal of Applied Econometrics*, 16(3), 289-326.
- Rafiq, S.,Salim,R., & Bloch,H.,(2008). Impact of crude oil price volatility on economic activities: an empirical investigation in the Thai economy. *Resource Policy*, 34(3), 121-132.
- Shaari, M. S. Tan, L.P., & Abdul Rahim, H. (2013). Effects of Oil Price Shocks on the Economic Sectors in Malaysia. *International Journal of Energy Economics and Policy*, 3(4), 360-366.
- Shin, Y., Yu, B., & Greenwood-Nimmo, M. (2014). *Modelling Asymmetric Cointegration and Dynamic Multipliers in a Nonlinear ARDL Framework*. In W. Horrace, and R. Sickles (Eds.), *The Festschrift in Honor of Peter Schmidt.: Econometric Methods and Applications*, pp. 281-314. Springer: New York.
- Solaymani, S., & Kari, F., (2013). Environmental and economic effects of high petroleum prices on transport sector. *Energy*, 60, 435-441.
- Tang, W., Wu, L., & Zhang, Z.X. (2010). Oil price shocks and their short- and long-term effects on the Chinese economy. *Energy Economics* 32, 3-14.

Role of Financial Sector Development as a Contingent Factor in the Remittances and Growth Nexus: A Panel Study of Pacific Island Countries

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Abstract

Except for emergencies including natural disasters and for technical assistance towards raising skills and institution building, overseas development assistance (ODA) to Pacific island countries (PICs) for budgetary support has been phased out since the late 1990s. Because of the small sized domestic markets, foreign direct investment in manufacturing has been negligible but it is confined mostly to the tourism sector. On the other hand, steadily rising remittances from increasing number of migrants from PICs working in advanced economies for supporting families left behind and maintaining their consumption levels now top the list of the three non-debt creating resource transfers. In the long run, contribution of remittances to growth in output and economic development depends on financial sector development (FSD) for mobilizing the savings from remittance receipts for domestic investment. This paper assesses the role of FSD in the nexus between remittances and output through a panel study of five major PICs.

Keywords: Remittances, financial sector development, Pacific islands

INTRODUCTION

World-wide remittances from migrants working and resident overseas to families left behind in their home countries rose by about 82 percent from US\$330 billion in 2006 to US\$ 598 billion in 2015³⁹. Annual remittances received by the developing countries higher, by 89 percent from US\$ 229 billion in 2006 to US\$ 440 billion in 2015. During the ten year period (2006-2015), at least two Pacific island countries (PICs)⁴⁰, have always been in and out in the list of the 10 top most recipient countries, in terms of percentages of their gross domestic products. Remittances have now taken a lead over foreign aid, known as official development

³⁹ According to World Bank's latest update (World Bank, 2017) on its Migration and Remittances Fact Book 2016 the remittances worldwide have been on the decline after reaching the peak in 2014 at US\$ 598 billion. They declined to US\$ 583 billion in 2015 and to US\$ 575 billion (estimate) in 2016. The decline by 2 percent is the first drop in global remittances since 2009, which witnessed the onset of American financial crisis, soon deteriorating into global recession. The decline in remittances in 2015 was attributed to lay-offs by the oil companies in the Gulf countries due to the continuing fall in oil prices since 2013. However, World Bank (2016a) has forecasted that with the advanced economies recovering from recession and shortages of labour developing in skilled areas as well as unskilled farm labour, the rising trend in global migration is not likely to be reversed.

⁴⁰ The 14 Pacific island countries (PICs) are: Cook Islands, Fiji, Kiribati, Republic of Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Among the 14 PICs, PNG is an outlier as its land area, population, abundant natural resources with oil and natural gas and other minerals place the country far ahead of the other 13 countries in terms of high growth potential. Hence, our study leaves out PNG from the study focus.

assistance (ODA). The other non-debt creating transfer, foreign direct investment (FDI) inflows have been confined to tourism sector, as manufacturing-related investments were not attractive because of the smallness of domestic markets.

In last two decades, notably from the early 2000s, steadily rising inward remittances sent by increasing number of migrant Pacific islanders residing and working in the two metropolitan countries Australia and New Zealand (ANZ) and North America and Europe have become a substantial support. Besides supplementing domestic savings, remittances are additions to real resources of the country, as they are in the form of foreign exchange, which would have to be earned under normal circumstances by exporting limited range of exports of goods, mostly tropical fruits and vegetables. According to conventional wisdom, the nexus between remittances and growth is mainly through consumption by recipient families, stepping up domestic aggregate demand. No doubt, increases in consumption expenditures on food, clothing and medicines and children's education were facilitated by remittance inflows, alleviating poverty to a greater extent. However, steady annual inflows of remittances in the absence of any avenues for savings mobilization in rural areas, which have no access to banks and other savings institutions, tend to get frittered away on needless and avoidable consumption.

If there were opportunities for savings by way of access to banking services, additions to reserves in banks would enable recycling of remittance moneys as credit to the would-be investors in domestic small and medium enterprises. It is well known that well-functioning financial markets, by lowering costs of conducting transactions, facilitate directing remittances to projects that yield the highest return, and thereby enhance economic growth. Bettin and Zazzaro (2012) and Giuliano and Ruiz-Arranz (2009) in their panel studies about 100 developing countries, which do not include any of the 14 PICs, focused their attention on financial sector development (FSD) as a contingent factor. Their findings led to the conclusion that in financially deeper systems, the growth effects of remittances are likely to be enhanced confirming the hypothesis of a complementary relationship of remittances with financial flows into growth enhancing investment areas.

Past regional studies on remittance-growth nexus in the region as a whole (Browne & Mineshima, 2007) did not take into consideration the role of FSD in the region, although there were individual countries (Jayaraman *et al.*, 2009, 2010; Rao & Takirua, 2010) on Fiji and Kiribati respectively. This paper makes an attempt to fill the gap (by undertaking a panel study of five major PICs: Fiji, Samoa, Solomon Islands, Tonga and Vanuatu). The choice of the five PICs study is dictated by two reasons: Firstly, these five PICs have a relatively credible database enabling the researchers to have access to the data series required for fairly long periods.

Further the five PICs selected for the study share many commonalities such as small sized populations of less than a million each and the lack of mineral resources as well as a narrow range of exportable similar agricultural products mostly fruits and vegetables, which compete for the same markets, unlike Papua New Guinea with the highest population (7 million) in the region and substantial mineral resources dominating its exports, which is excluded as an outlier. The paper is organized as follows: Section II gives a brief review of literature on remittances and growth with special reference to role of FSD; Section III presents the trends in remittances in PICs; Section IV outlines the empirical model and data sources; Section V discusses the results while Section VI is a summary with conclusions and policy implications.

REVIEW OF LITERATURE ON REMITTANCES AND GROWTH

Remittances, known as cross-border transfers of earnings⁴¹ sent by migrants to their countries of origin, which are channeled through official and unofficial channels, have grown

⁴¹ The World Bank (2016a) has introduced a new definition of remittances since April 2016. Remittances have three categories: (i) personal transfers; (ii) employees' compensation less taxes social contributions, transports and travel; and (iii) capital transfers between households.

over last three decades. The official channels are either banking systems or authorized money-transfer agencies. It is estimated nearly 50 percent of remittances received in Sub-Saharan Africa were through unauthorized channels (World Bank, 2011). The global average transaction cost of remitting, say US\$ 200 which was as high as at 25 percent two decades ago has come down to 10 percent by 2010. Although the average cost has further decreased to 7.4 percent in the last quarter of 2015, it is still higher than the targeted rate of 3 percent by 2030 (World Bank, 2017), as one of the UN Sustainable Development Goal Indicators (World Bank 2016b), because of the continuing ease of sending money through unauthorized channels.

The World Bank (2011; 2016c) reports that remittances from migrants (who are estimated to be more than 250 million, which is 3.4 percent of the world population in 2015) to developing countries have grown from US\$69 billion in 1990 to US\$132 billion in 2000, and US\$332 billion in 2010 and reached US\$440 billion in 2015. Remittances have now emerged to be the most important source of external finance to developing countries, about 40 percent of which went to rural communities in the recipient countries. Further, it has been noted by United Nations Conference Trade and Development (Mashayekhi, 2014) that remittances grew faster than FDI and ODA during a ten year (2003-2012) period.

Positive and negative impacts of remittances on growth have now been well documented. The evidence gathered suggests that with appropriate policies and remedial measures negative impacts can be more than offset. Empirical evidence gathered during last two decades, by country specific studies and panel studies (Stahl & Habib, 1989; Adleman & Taylor, 1990; Leon-Ledesma & Piracha, 2001; Edwards & Ureta, 2003; Page & Adams, 2003; Hildebrandt & McKenzie, 2005; World Bank, 2006; Yang, 2008; Bettin & Zazzaro, 2012; Giuliano & Ruiz-Arranz, 2009) have established the positive consequences of remittances, as they (i) supported the welfare of the families left behind, thereby alleviating their poverty; (ii) helped the recipient families to upgrade their dwellings and undertake investments towards improving their farming operations; (iii) enabled families to pay education fees for children and bear expenses of medical care of the elderly; and (iv) added to the foreign reserves of the recipient country, thereby raising the level of its credit worthiness for undertaking growth enhancing investments with loans from international funding agencies. The negative impacts have been noted to include (i) encouraging greater migration possibilities of skilled manpower, thereby leading to brain drain; (ii) inducing consumption of imports of luxury goods and avoidable trade deficits; and (iii) resulting in higher demand for non-tradeables including electricity and water, pushing up the domestic price level, raising the real exchange rate and hurting the competitiveness of limited range of exportables, known as the phenomenon of Dutch disease. The remedial measures include appropriate investments in domestic water supply, electricity generation and other infrastructures by utilizing the foreign exchange resources brought in by remittance inflows (Jayaraman, Choong & Chand, 2016).

Role of Financial sector development

The developmental impact of remittances can be enhanced only when savings made by recipients out of their remittances are mobilized by financial sector institutions for recycling them as credit. In the absence of access to savings institutions, families in the rural parts of developing countries, which are reported to receive about 40 percent of remittances (Mashayeki, 2014) tend to fritter away their savings on avoidable consumption. Since only 50 percent of adults (15 years plus) have been found to have an account with a formal financial institution, most of the recipient families in rural areas, which have been found to be receiving face challenges in accessing financial services in terms of basic payment, savings and insurance services as well as credit for undertaking small enterprises in informal sector. Further, women and youth lag behind as only 47 percent of women and 37 percent of youth have a formal account.. Furthermore, in developing countries only 34 percent of firms have a bank loan as compared to 51 percent in developed countries. Nearly 80 percent of microenterprises and small and medium enterprises in the informal sector do not have access to bank credit and they are forced to seek funds at high interest rates from outside the formal financial sector (Mashayekhi, 2014).

Recognizing the need for promoting greater access to financial services, the United Nations (UN) has included in its post-2015 Development Framework⁴², financial inclusion, as a major goal which is defined as “effective access and use by individuals and firms of access of affordable and sustainable financial services from formal providers” (United Nations, 2015). Empirical studies incorporating FSD as a variable in their studies on remittance-growth nexus (Calderon *et al.*, 2008; Ramirez & Sharma, 2008; Giuliano & Ruiz-Arranz, 2009; Nyamongo *et al.*, 2012; Bettin & Zazzaro, 2012) incorporating FSD as a variable in their studies on the remittance-growth nexus, employed quantity-based indicators. These are the ratio of liquid liabilities of the financial system to GDP, the ratio of domestic credit provided by the banking sector to GDP, the ratio of bank deposits to GDP and the ratio of claims on private sector.

Major proportion of evidence assembled by these studies shows that remittances act as substitute. In countries where domestic credit markets are weak, households that have no access to FSD institutions to approach credit are forced to borrow either from money lenders or to borrow at a large premium over the risk adjusted interest rate. In such cases as well cases where the borrowers have no collateral rely on remittances could even pledge their remittances as collaterals (Paulson & Townsend, 2010). Well-functioning banks which attract remittances on a regular basis do lower monetary costs of opening deposits and allow financial resources to be channeled to productive investments after sufficient screening and ensuring viability of projects (Freund & Sapatafora, 2008).

Giuliano and Ruiz-Arranz (2009) observe remittances become a substitute for FSD when the latter is small and weak. That is, in a country with a shallow FSD with thin credit markets, the marginal impact of remittances is much higher. On the other hand, in a country, where FSD is strong with widespread credit markets, and where liquidity constraints do not pose a problem, remittances may actually be used for consumption. In the former case of substitutability, the sign of the coefficient of remittances would be positive and significant and coefficient of the interaction term would be negative and significant. In the second and complementary relationship case, signs of the coefficient of remittances and interaction term would be both positive and significant.

Evidence gathered by various studies find the existence of predominant support in favour of the hypothesis of substitutability between remittances and loan finance. These studies include those on Latin American and Caribbean countries: Calderon *et al.*, (2008); Ramirez & Sharma (2009); Barajas *et al.* (2009); and Bettin and Zazzaro (2012). However, Bettin and Zazzaro (2012) argue by quoting the findings of Nyamongo *et al.* (2012) and Zouheir and Sghaier (2014) observe that there is a contradicting piece of evidence in regard to relationship between remittances and financial development. In African countries, where financial sector is weak, the two variables are seen as complements, strengthening the positive impact of remittances on growth, rather than mitigating it. As remittances can be deposited in banks, they bring a larger share of the population in contact with the financial sector, expanding the availability of credit and savings products (Aggarwal *et al.* 2011).

TRENDS IN REMITTANCES AND FINANCIAL SECTOR DEVELOPMENT IN PICs

This section focuses on the selected five major PICs namely Fiji, Samoa, Solomon Islands, Tonga and Vanuatu. The key economic indicators of the five PICs are given in Table 1.

⁴² Mashayeki (2014) notes that financial inclusion is an important element of the UN post-2015 Sustainable Development Goals: (i) contribution to poverty reduction and economic development (target 1.4); (ii) recognition of role of agriculture (target 2.3); (iii) general support to economic growth and job creation and innovation (target 8.3); (iv) stepping up infrastructure (9.3); (v) promotion of inclusiveness of the poor and vulnerable (target 1.4); (vi) encompassing women (target 5a); (vii) formalization and growth of micro and small and medium enterprises (8.3); and (viii) enhancement of importance of financial institutions (target 8.10)

Table 1: PICs: Selected Key Indicators: 2016

	Fiji	Samoa	Solomon Is.	Tonga	Vanuatu
	18,27				
Land Area Sq. Kms)	0	2,849	27,540	748	12,200
Population ('000)	892	197	467	106	273
Aid per capita (US\$): 2014	104	483	346	756	380
Remittances (US\$): 2014	236	733	28	1082	109
Annual average Growth Rate (2010-14)	3.7	1.1	5.4	1.2	1.6
Annual average Inflation (2010-14)	3.3	1.6	4.9	2.7	1.3
Overall Budget Balance (% of GDP) 2010-14	-2.4	-5.3	4.9	-3.3	0.4
Current Account Balance (% of GDP) 2010-14	-5.7	-0.9	-11.7	2.9	-4.4

While ODA inflows have been declining both in absolute amounts as well as percent of GDP in recent years due to recession in donor countries as well as changes in donor priority considerations, the rise in the other unrequited transfer of resources, has been receiving greater attention by government. Table 2 and 3 reveal that the remittances from the islanders of PICs resident overseas are growing. Further, they have proved more reliable than ODA. It may also be seen that Samoa and Solomon Islands have received more foreign aid, in terms of percentages of GDP, than others in certain years⁴³. They were for the humanitarian purposes, which are of emergency nature. Foreign aid for Samoa was for both immediate relief in terms of cash and donations in kind after the cyclones as well as for long term cyclone rehabilitation measures. Solomon Islands received aid police and judicial administration and related components for restoring peace and order following the ethnic riots of 2004. This is more than decade long programme of assistance, known as Regional Assistance Mission to Solomon Islands (RAMSI) mounted by ANZ. The aid is estimated to be well over US\$ \$2.6 million until 2016.

Table 2. PICs: ODA and Remittances (percent of GDP)

	1980-89	1990-99	2000-04	2005-09	2010	2011	2012	2013	2014
<u>Fiji</u>									
ODA	3.27	2.85	1.95	1.87	2.51	2.15	2.80	2.22	2.12
Remittances	1.66	1.55	4.95	5.73	5.33	4.25	4.8	4.85	4.62
<u>Samoa</u>									
ODA	-	10.58	11.27	9.56	23.1	13.9	15.7	15.4	11.9
Remittances	25.09	21.83	16.61	17.93	21.0	20.9	22.1	20.6	17.5
<u>Solomon Islands</u>									
ODA	24.35	14.64	17.62	46.93	68.5	50.4	32.7	27.4	18.0
Remittances	-	0.49	1.34	2.03	7	7	4	2	5
<u>Tonga</u>									
ODA	23.52	16.56	11.10	9.82	18.4	20.5	16.6	18.2	18.2

⁴³ Fiji which was affected by the most destructive Tropical Cyclone Winston of last 20 years in March 2016 received substantial aid from advanced and developing countries all over the world. The aid figures, when available later this year would reveal the aid received would be the highest received so far by a PIC.

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					5	9	8	8	0
					20.8	17.8	25.7	27.9	26.2
Remittances	23.14	18.1	31.15	27.16	9	4	2	5	9
<u>Vanuatu</u>									
					16.0	11.8	13.8	11.4	12.0
ODA	29.97	20.19	12.65	13.27	2	0	2	0	7
Remittances	6.63	7.61	7.47	1.37	1.68	2.75	2.82	2.96	3.45

Source: World Bank (2016c)

Table 3. PICs: ODA, Remittances and FDI (US\$ million in current prices)

	1980- 89	1990- 99	2000- 04	2005- 09	201 0	201 1	201 2	201 3	201 4
<u>Fiji</u>									
Foreign aid	55	61	51	69	89	91	123	104	104
Remittances	24	35	128	218	202	185	218	231	236
<u>Samoa</u>									
Foreign aid	161	248	195	269	793	545	638	620	483
Remittances	166	240	303	541	744	851	941	864	732
<u>Solomon Islands</u>									
Foreign aid	136	127	153	439	648	631	555	514	347
Remittances	-	-	11	22	27	31	38	37	29
<u>Tonga</u>									
Foreign aid	189	295	219	292	677	897	747	772	756
Remittances	158	223	625	811	743	752	112	115	108
							3	0	1
<u>Vanuatu</u>									
Foreign aid	253	245	182	306	458	375	410	359	380
Remittances	62	103	106	32	50	90	89	94	109

Source: World Bank (2016c)

Under the ongoing negotiations for a regional free trade agreement in goods and services, including greater labour mobility known as Pacific Agreement on Closer Economic Relations (PACER) between Australia and New Zealand (ANZ), and 14 PICs, both ANZ began to explore since 2001 the possibility of meeting seasonal shortages of agricultural labour in their farms by importing labour from PICs. Studies on seasonal migration schemes for unskilled citizens of PICs (World Bank, 2006 and Browne & Mineshima, 2007), which were introduced in the mid 2000s by ANZ on an experimental measure for a select few PICs showed promising potential. These schemes are known as Recognized Seasonal Employer Scheme (RSE) by New Zealand from 2008 and Seasonal Worker Programme (SWP) by Australia in 2012. While RSE is focused on labour for horticulture activities mainly for picking up fruits and related activities, SWP covers horticulture and unskilled work in other agriculture related activities and in tourism sector as well. These two schemes now cover all PICs, including Fiji and proved beneficial to both parties, as they help ANZ to overcome its chronic shortage of seasonal labour to work on their orchards. Further, they provide a vent to surplus labour in PICs by providing jobs on a temporary basis to earn and send back some money to the families left behind. Almost 12,000 workers from PICs have been estimated to have been employed under these two schemes so far (World Bank, 2016d). One of the continuing hurdles faced by migrants from PICs is the persisting high cost of sending remittances. The World Bank study (2016c) observes PICs are some of the most expensive countries, when it comes to sending remittances to them. The average cost is 11.5 percent, which had remained steady for past five years compared to the global average of 7.5 percent (Betteridge & Howes, 2015).

Remittances have been found to be a boon for households in PICs just as elsewhere since they have been supplementing disposable incomes of the recipient families (Chami & Fullenkamp, 2013). The funds received are seen spent on consumption of clothing, food, medicine and shelter. They have also enabled them to invest in education and health care, besides investments in semi durable goods. Remittances are now seen increasingly play a supportive source of funds to enterprising families. They help the small scale rural entrepreneurs undertake simple food processing microenterprises such as pickles, chutney and condiments for local urban markets. Thus, these families look upon remittances as a source of funding new production opportunities for commercial purposes.

As remittances relax credit constraints imposed by undeveloped financial sectors, governments realize immense potential of remittances in triggering entrepreneurial efforts. Therefore, they are now encouraging financial institutions to help in channeling remittance inflows through formal banking channels. Banks have responded in turn by opening more branches in urban areas as well as new branches in rural areas and introducing mobile banking in inaccessible areas. These efforts are expected to facilitate enhanced financial development by realizing greater economies of scale in financial intermediation.

Financial Sector Development

All the five PICs under study have independent currencies of their own and have fixed exchange rate regimes. The financial sector in each of the five PICs comprises a central bank set up as a statutory authority for controlling money supply and for regulating and supervising the commercial banks and other credit institutions, government owned development banks and state sponsored pension funds. With experiences gained from the failed indigenous banks in PICs two decades ago, the banking regulations and supervision standards have been brought up to international standards. Most of the banks are foreign owned and are also subject to control and supervision from their headquarters. Consequently, loan applications are subject to stricter appraisal standards. This has given rise to criticism that commercial banks were more concerned with safe and secure loans such as industrial and housing loans rather than with agriculture development projects, for which collaterals are not readily available because of the unique communal land tenure system restricting individual ownership of lands. Further, commercial banks were on the defensive mode, resulting in a high spread between average deposit and lending rates and as a result excess liquidity finds its way into safe investments as government bonds.

In recent years, administrative measures were introduced by PICs for reducing the spread by requiring banks to publish disclosure statements on their income and expenditure statements and laying down the spread margin not more than certain prescribed percent. Further, banks have been persuaded to open more branches in rural areas and operate banks on wheels to reach unbanked public in remote parts rather than being confined to accessible urban centers where most of the commercial activities and tourist operators are located.

Table 4 presents financial sector development indicators. The indicators are broad money (M2), quasi-money (savings and time deposits) and credit by banks to private sector during 21 year period (1997-2014) in five PICs. Table 5 presents Financial Inclusion Indicators for three PICs. They are based on the completed surveys conducted by the central banks with the UN assistance. The survey results are partial, as the two PICs namely Tonga and Vanuatu have not been completed so far.

Table 4: PICs: Financial Indicators (percent of GDP)

	1997-2000	2001-2005	2006-2010	2011	2012	2013	2014
<u>Fiji</u>							
BM	41.7	52.2	68.5	69.5	69.8	80.6	83.1
QM	26.1	33.3	45.2	38.4	39.0	29.7	30.6
PSC	30.2	42.4	63.2	60.0	60.6	64.2	69.2
<u>Samoa</u>							
BM	25.0	27.5	40.6	40.4	38.1	40.6	43.9

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QM	16.7	19.5	29.0	27.8	26.0	27.4	29.1
PSC	18.7	23.3	37.5	39.7	38.7	39.4	44.5
<u>Sol.Is</u>							
BM	19.9	22.8	36.1	38.5	40.6	44.5	42.5
QM	9.3	9.4	13.0	10.9	8.9	9.6	11.5
PSC	8.6	9.7	23.6	18.0	16.8	18.8	19.9
<u>Tonga</u>							
BM	33.2	41.5	45.5	40.1	43.9	46.3	48.3
QM	20.6	24.1	30.5	26.5	22.3	21.2	16.5
PSC	40.8	44.9	48.8	32.8	30.3	29.7	29.7
<u>Vanuatu</u>							
BM	98.3	94.6	92.9	80.8	78.6	70.9	71.9
QM	83.7	66.3	59.7	49.2	47.4	36.0	38.3
PSC	32.5	37.8	52.9	67.1	70.2	68.5	71.5

Note: BM = Broad Money; QM= Quasi Money; and PSC: Bank Credit to Private sector.
Source: IMF, ADB and Authors' Calculations

Table 5. PICs: Financial Inclusion Indicators

	Fiji	Samoa	Solomon Is.
Land Area (sq.km)	18,270	2,830	27,539
Adults Population ('000)	615,800	115,900	306,590
Density (adults per sq.km)	34	41	11
Financial Inclusion (% of adults)			
Excluded	27	34	31
Included	73	66	69
Banked	60	39	26
Other formal	4	12	8
Informal	9	15	35
Access: No. Service points per 10,000			
Bank Branches	1.17	1.92	0.46
ATMs	4.64	3.51	1.27
Mobile Phones with subscription (% of adults)	75	71	62
Ave. cost of travelling to nearest access point (US\$)			
Bank Branch	3.33	2.2	19.08
ATM	2.06	2.9	13.5
Bank agent	2.25	2.1	15.03
Post Office	1.52	2.5	13.34
Ave. time of travelling to nearest point (US\$)			
Bank Branch	46.2	44.8	291.6
ATM	22.8	23.7	237.7
Bank agent	21.9	14	91.9
Post Office	23.8	24.6	159.6

Persons with at least one type of deposit account (%)	60.2	39	27.3
Persons with at least one type of credit account (%)	9.4	13.4	3.9
Persons using mobile fin. service for person to person	1.4	0.7	4.3
Transfer and bill payment in the last 12 months (%)			
Persons receiving money (including e -money) through mobile money in last 12 months (%)	2.1	2.7	3.3
Women with an active deposit account (%)	43.7	35.1	16.6

Source: Reserve Bank of Fiji (2016)

DATA, METHODOLOGY AND MODEL

Modeling

The empirical model to assess financial sector development's impact on the remittances-income nexus in Pacific Island countries takes the following panel data structure:

$$Y_{it} = \beta_0 + \beta_1 K_{it} + \beta_2 RM_{it} + \beta_3 FSD_{it} + \beta_4 RM_{it} FSD_{it} + \varepsilon_{it} \quad (1)$$

where, the notations would indicate:

- Y_{it} = natural logarithm of real GDP per capita (US\$);
- K_{it} = natural logarithm of capital stock per capita (US\$);
- RM_{it} = remittances inflow (% of GDP);
- FSD_{it} = FSD indicator
- $RM_{it}FSD_{it}$ = interaction between FSD indicator and remittances

Subscripts i and t stand for number of countries and time periods respectively. $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5$ and α_6 denote the slope coefficients and ε_{it} is the regression error term. Explanatory variables in Equation (1) and their expected roles in PICs economic growth are explained as follows:

- 1) Capital per capita (K_{it})
Capital per capita (in natural logarithm) is positively associated with long-run output.
- 2) Remittances inflow ratio (REM_{it})
Remittances inflow should promote output since it directly promotes demand for goods and services, and it may add to domestic credit which can be channeled into production. Hence, remittances expect to be positively associated with output.
- 3) FSD (FSD_{it})
FSD indicator represents financial deepening. FSD enables banks to have greater liquidity enabling them to provide loanable funds for supplementing investment capital for undertaking production activities. Broad money (BM) is used in this paper as the proxy for FSD.
- 4) Interaction between remittances and FSD ($REM_{it}FSD_{it}$)
If financial deepening is efficient in channeling excessive remittances into production, it can further enhance remittances' impact on output. If this holds, interaction between remittances and bank credit should have a positive sign.

Data

The above model is estimated based on a sample of five Pacific Island countries (Fiji, Samoa, Solomon Islands, Tonga and Vanuatu) over 1997-2014. Choice of sample countries is based on available data on specified variables over the study period. All data are sourced from World Development Indicators, issued and updated periodically by World Bank (2016b).

Methodology

This study employs panel data methodology. According to Baltagi (1985), the use of panel analysis can also overcome the problems of heterogeneity and serial correlation. A

technical appendix (Appendix 1) presents in brief panel estimation various techniques with a comparison among the long run estimators.

RESULTS AND INTERPRETATIONS

As a first step, the panel unit root tests are conducted to investigate the stationarity properties of the time series of data employed. The results of Levin-Lin-Chu (LLC) test, Im-Pesaran-Shin (IPS) test and the ADF Fisher test are shown in Table 6. The test results show that null hypotheses of unit roots for all the variables could not be rejected at levels. However, the reverse holds when tests are conducted at their first differences. This implies that all variables are integrated at first order, I(1). As the variables are stationary at the first difference, we then proceed to test the long run relationship among the variables using Pedroni and Kao cointegration tests. Table 7 shows the results of Pedroni and Kao tests for cointegration. The results of Pedroni test confirm the cointegration among the variables in the long run. Similar outcome is obtained by Kao test as well.

Table 6: Panel Unit Root Tests

	LLC		IPS		Fisher ADF	
	Level (trend and intercept)	First difference (intercept)	Level (trend and intercept)	First difference (intercept)	Level (trend and intercept)	First difference (intercept)
Y	-0.03066 (0.4878) (0)	-2.06621** (0.0194) (1)	-0.15238 (0.4394) (1)	-1.62822* (0.0517) (1)	9.83135 (0.4554) (1)	16.0939* (0.0970) (1)
K	1.71713 (0.9570) (0)	-2.28644** (0.0111) (3)	2.64945 (0.9960) (0)	-1.66942** (0.0475) (1)	1.28261 (0.9995) (0)	16.3428 * (0.0902) (1)
REM	-1.15423 (0.1242) (1)	-4.96258*** (0.0000) (1)	0.41429 (0.6607) (1)	-3.54111*** (0.0002) (1)	6.90890 (0.7340) (1)	30.3285*** (0.0008) (1)
BM	-0.05604 (0.4777) (1)	-4.06939*** (0.0000) (1)	0.47397 (0.6822) (1)	-3.61294*** (0.0002) (1)	6.28648 (0.7906) (1)	31.1199*** (0.0006) (1)
REMBM	-0.72342 (0.2347) (1)	-4.91334*** (0.0000) (1)	0.77092 (0.7796) (1)	-3.49456*** (0.0002) (1)	5.47611 (0.8572) (1)	29.9192*** (0.0009) (1)

Note: LLC, IPS, and Fisher ADF indicate the Levin et al. (2002), Im et al. (2003), Maddala and Wu (1999) panel unit root and stationary tests. All three tests examine the null hypothesis of non-stationary. *, ** and *** represent the rejection of null hypothesis at 10%, 5% and 1%. The figures without bracket is the test statistic value, the first bracket shows the probability value, while the subsequent bracket shows the lag length selected based on SIC. The probability values for the Fisher ADF are computed using asymptotic χ^2 distribution, while the rest follow the asymptotic normal distribution.

Table 7: Panel Cointegration tests

Pedroni	
Panel cointegration statistics (within-dimension)	
Panel v-statistic	-1.422544 (0.9226)
Panel rho-statistic	0.950041 (0.8290)
Panel PP-statistic	-2.518123*** (0.0059)
Panel ADF-statistic	-2.474040*** (0.0067)
Group mean panel cointegration statistics (between-dimension)	
Group rho-statistic	1.908883 (0.9719)
Group PP-statistic	-4.208257*** (0.0000)
Group ADF-statistic	-2.533089*** (0.0057)
Kao	
ADF	-1.422039* (0.0775)

Note: Both tests examine the null hypothesis of no cointegration for the variables. * and *** indicate the rejection of null hypothesis at 10% and 1%. The figures without bracket represent test statistic values. Probability values are shown in the bracket. The lag length is selected automatically based on SIC.

Having confirmed the existence of long run cointegration, dynamic ordinary least square (DOLS) procedure was applied. Table 8 reports the results of pooled DOLS estimation. The results reveal that capital per capita increases GDP in the long run. It is shown that 1 percent increase in capital will lead to a 0.483 percent rise in real GDP per capita. Similarly, the coefficients of REM and BM, which are elasticities are also positive and significant, indicating that both remittances and BM contribute to economic growth. For the case of remittances, it is found that 1 percent increase in the variable will cause the economy to grow by 0.421 percent.

The results of a positive long run relationship between remittances and economic growth are supported by the previous studies such as Bettin and Zazzaro (2012), Edwards and Ureta (2003), and Giuliano and Ruiz-Arranz (2009). On the other hand, 1 percent increase in BM will increase real GDP per capita by 0.152 percent as shown by the value of coefficient. However, the coefficient of interaction term between remittances and bank credit is found to be negative and significant.

The finding that the interaction term is negative confirms the general finding by other similar studies by Ramirez (2013), and Ramirez and Sharma (2009) in developing countries in other regions that remittances and FSD are substitutes.

Table 8: Panel pooled DOLS

Independent variable	Coefficient (p-value)
K	0.483535*** (0.0034)
REM	0.421123** (0.0193)
BM	0.152359** (0.0469)
REMBM	-0.107954** (0.0236)
Adjusted R ²	0.996219
S.E. of regression	0.027303

Notes: Dependent variable is Real GDP per capita. Automatic leads and lags are selected based on AIC criterion. The figures without bracket indicate the coefficient estimates while the figures in brackets show the probability value. **, *** represent the significance level at 5% and 1%.

Threshold level of FSD

We adopt the procedure employed by Hermes and Lensink (2003) for deriving the threshold level of BM, which is the indicator of FSD. As Y, REM and BM are in natural logarithms, we use the differential of y with respect to REM and interactive term of REM and BM and equate its first order derivative to zero for determining the threshold levels of BM required for REM to contribute to economic growth. We calculate the threshold level as shown below:

$$\Delta Y / \Delta \text{REM} = 0.421 - 0.108 \text{ BM}$$

The threshold value of BM is determined as $0.421 / 0.108 = 3.901$. The exponential value of the natural logarithm will give us the actual percentage that would be the pre-required level of BM. The threshold level BM is: 49.449 percent of GDP.

Similarly, we derive the threshold level of REM.

$$\Delta Y/\Delta BM = 0.152/0.108 \text{ REM}$$

The threshold value of REM is determined as $0.152/0.108 = 1.411$. The exponential value of the natural logarithm will give us the actual percentage that would be the pre-required level of REM. The threshold level REM is: 4.101 percent of GDP

Since the coefficient of the interaction term between REM and BM has a negative sign, the indications are that marginal output effects of remittances and broad money are respectively reduced by their interaction. Remittances' marginal effect on output turns negative if BM exceeds 49.445 percent of GDP. Similarly, BM's marginal effect on output turns negative if remittances exceed 4.101 percent of GDP. This suggests that, when BM is higher than 49.449 percent of GDP and at the same time at the same time remittances are higher than 4.101 percent of GDP, any further increases in both indicators would actually lead to decline in output, *ceteris paribus*.

CONCLUSION AND POLICY IMPLICATION

The PICs have been among the world's top most remittances dependent countries. Their absorptive capacity to save and invest in growth enhancing economic activities by recipients, rather than frittering them on avoidable, needless consumption has been handicapped by shallow financial sector. The negative interaction term between BM and REM reveals financial sector development and remittances are not complementary to each other but they act only as substitutes. The policy implication is that efforts for developing the financial sector have to be stepped up so that remittances are put to best use.

REFERENCES

- Adelman, I., & Taylor, J. (1990). Is structural adjustment with a human face possible? The case of Mexico. *Journal Of Development Studies*, 26(3), 387-407. <http://dx.doi.org/10.1080/00220389008422161>
- Aggarwal, R., Demirgüç-Kunt, A., & Pería, M. (2011). Do remittances promote financial development?. *Journal Of Development Economics*, 96(2), 255-264. <http://dx.doi.org/10.1016/j.jdeveco.2010.10.005>
- Barajas, A. Gapen, M.T. Chami, R., Montiel, P. & Fullenkamp, C. (2009). *Do workers' Remittances Promote Economic Growth? IMF Working Paper*, 09/153, Washington, D.C.: International Monetary Fund.
- Baltagi, B.H. (1985). *Econometric analysis of panel data*. England: John Wiley and Sons.
- Betteridge, A. & Howes, S. (2015). *The Persistently High Cost of Pacific Remittances*. Development Policy Blog, November 17. <http://devpolicy.org/the-persistently-high-cost-of-pacific-remittances-20151117/>
- Bettin, G. & Zazzaro, A. (2012). Remittances and Financial Development: Substitutes or Complements in Economic Growth? *Bulletin of Economic Research*, 64(4): 509-536
- Browne, C. & Mineshima, A. (2007). *Remittances in the Pacific region*. Staff Working Paper 07/35, Washington: International Monetary Fund (IMF).
- Calderon, C., Fajnzylber, P. & Lopez, J.H. (2008). Remittances and Growth: the Role of Complementary Policies in Fajnzylber, P. and Lopez, J.H. (eds). *Remittances and Development: Lessons from Latin America*, Washington, D.C.: World Bank.

- Chami, R. & C. Fullenkamp, C. (2013). Beyond the Household. *Finance and Development*. September 2013: 48-51.
- Edwards, A.C. & Ureta, M. (2003). International Migration, Remittances and Schooling: Evidence from Salvadore. *Journal of Development Economics*, 51: 387-411
- Freund, C. & Sapatfora, N. (2008). Remittances, Transaction Cost, and Informality. *Journal of Development Economics*, 86(2):356-366
- Giuliano. P. & Ruiz-Arranz. M. (2009). Remittances, Financial Development and Growth. *Journal of Development Economics*, 90 (1):144-52.
- Hermes, N., & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *Journal Of Development Studies*, 40(1), 142-163. <http://dx.doi.org/10.1080/00220380412331293707>
- Hildebrandt, N. & McKenzie, D.J. (2005). The Effects of Migration on Child Health in Mexico. *Policy Research Working Paper Series 3573*, Washington, D.C.: World Bank.
- Im, K.S., Pesaran, M.H., & Shin, Y. (2003). Testing in unit roots in heterogeneous panels. *Journal of Econometrics*, 115, 53-74.
- Jayaraman, T.K., Choong, C.K. & Chand, P. (2016). Do Remittances and aid affect export competitiveness of Fiji? *Journal of Economic Development*, 41(2), 111-125
- Jayaraman, T.K., Choong, C.K. & Kumar, R. (2010). Role of Remittances in Tongan Economy. *Migration Letters*, 7 (2):224-230
- Jayaraman, T.K. Choong, C.K. & Kumar, R. (2009). Role of remittances in Economic growth in Pacific Island countries: A study of Samoa. *Perspectives on Global Development and Technology*, 8: 611-627
- Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics*, 90, 1-44.
- Kao, C., & Chiang, M. (2000). On the estimation and inference of a cointegrated regression in panel data. *Advances in Econometrics*, 15, 179-222.
- Leon-Ledesma, M. & Piracha, M. (2001). International Migration and the role of Remittances in Eastern Europe. *Studies in Economics 0113*, Department of Economics, University of Kent.
- Levin, A., Lin, C.F., & Chu, C. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of Econometrics*, 108, 1-24.
- Maddala, G.S., & Wu, S. (1999). A comparative study of unit root tests with panel data and a new simple test. *Oxford Bulletin of Economics and Statistics*, 61, 631-652.
- Mashayekhi, M. (2014). Remittances and Financial Inclusion. *Paper presented at the 13th Coordination Meeting on International Migration, New York 12-13 February 2015*, Geneva:UNCTAD
- Nyamongo, N., Misati, R. N., L. Kipyegon, L. & Ndirangu, L. (2012). Remittances, Financial Development, and Economic Growth in Africa. *Journal of Economics and Business*, 64:24-260
- Page J. & Adams, R.H. Jr. (2003). *International Migration, Remittances and Poverty in Developing Countries*. *World Bank Policy Research Working Paper No.3179*, Washington, D.C: World Bank

International Conference on Business, Accounting, Finance, and Economics (BAFE 2017)
Universiti Tunku Abdul Rahman, Kampar, Perak, Malaysia, 4th October 2017

- Paulson A. & Townsend, R. (2000). *Entrepreneurship and Financial Constraints in Thailand. Working Paper*, (Evanston/Chicago, Illinois: Northwestern University).
- Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressions. *Oxford Bulletin of Economics and Statistics*, 61, 653-670.
- Pedroni, P. (2004). Panel cointegration: Asymptotic and finite sample properties of pooled time series tests with application to the PPP hypothesis. *Econometrics Theory*, 20, 597-625.
- Ramirez, M.D. & Sharma, H. (2008). *Remittances and Growth In Latin America: A panel Unit Root and Panel Cointegration Analysis. Working Papers, No. 51*, New Haven: Yale University Press.
- Rao, B.B. & Takirua, T. B. (2010). The effects of exports, aid and remittances on output: the case of Kiribati. *Applied Economics*, 42, 1387-1396
- Reserve Bank of Fiji (2016). *Reserve Bank of Fiji: Annual Report 2015*. Suva: Reserve Bank of Fiji.
- Stahl, C. W. & Habib, A (1989). The impact of Overseas Workers 'remittances on indigenous industries: Evidence from Bangladesh. *The Developing Economies*, 27,269-85
- United Nations (2015). Millennium Development Goals and post-2015 Development Agenda, <http://www.un.org/en/ecosoc/about/mdg.shtml/post2015developmentframework.shtml>, Accessed on August 25, 2016.
- World Bank (2017). Migration and Remittances: recent Developments and Outlook, <http://www.worldbank.org/en/topic/migrationremittancesdiasporaissues>, accessed on June 20 2017.
- World Bank (2016b). *World Development Indicators*, Washington, D.C: World Bank. <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators> , Accessed on June 23, 2016.
- World Bank (2016c). "Migration and Remittances: Recent Developments and Outlook, April 2016", *Migration Development Brief 26*, Washington, D.C.: World Bank
- World Bank (2016d). *Pacific Possible: the billion dollar prize*, Washington D.C. : The World Bank.
- World Bank (2016a). Migration and Remittances: Factbook 2016, <http://www.worldbank.org/en/research/brief/migration-and-remittances>, accessed on June 20, 2017
- World Bank (2011). *Migration and Remittances: Fact Book 2010*, Washington, D.C.: World Bank
- World Bank (2006). *At Home and Away: Expanding Job Opportunities for Pacific Islanders through Labor Mobility*, Sydney and Washington, D.C.: World Bank.
- Yang, D. (2008). International Migration, Remittances and Household Investment: Evidence from Philippines. *Economic Journal*, 118(528): 591-630.
- Zouheir, A., & Sghaier, I.M. (2014). Remittances, Financial Development and Economic Growth: The Case of North African Countries. *Romanian Economic Journal*, 17(51), 137-170.

APPENDIX

Appendix 1

A brief discussion on Panel Study Procedures

Before employing panel methodology, it is necessary to check the stationarity of the variables used in this study since use of non-stationary variables can lead to erroneous results. Thus, this study utilizes three panel unit root tests, namely the Levin-Lin-Chu (LLC) test developed by Levin et al. (2002), the Im-Pesaran-Shin (IPS) test suggested by Im et al. (2003) and the ADF Fisher test proposed by Maddala and Wu (1999) to enhance the robustness. In recent years, there are specific panel unit root tests, which have been evolved as these tests have greater power than the normal time series unit root tests. The panel unit root tests are in fact multiple time series unit root tests built for the use of panel data. However, both the panel and time series unit root tests share the common null hypotheses and alternative hypotheses. The null hypothesis of all the three tests above is the existence of a unit root in the series, i.e. the variables are non-stationary. On the contrary, non-existence of a unit root (the variables are stationary) is the alternative hypothesis. If the variables in the series are stationary at first difference, then the existence of a long run relationship can be examined using panel cointegration tests.

Our study employs Pedroni (1999, 2004) and Kao (1999) tests to examine the residuals of a spurious regression performed using I(1) variables. Cointegration exists among the variables if the residuals are stationary at levels. However, the variables are said to be not cointegrated if the residuals are stationary at first difference. The Pedroni test comprises seven statistics to examine the null hypothesis of no cointegration in the heterogeneous panel.

In general, Pedroni test takes the following form:

$$y_{it} = \alpha_i + \delta^i t + \beta_{1i} x_{2i,t} + \dots + \beta_{mi} x_{Mi,t} + \varepsilon_{i,t} \quad (A1)$$

$t=1, \dots, T; i=1, \dots, N, m=1, \dots, M$

where T represents the number of observation over time, N is the number of individual units in the model while M denotes the number of regression variables. Besides, y and x are assumed to be I (1). Here, α_i and δ_i are individual and trend effects that can be set to zero if preferred. $\varepsilon_{i,t}$ represents the residuals.

One of the following regressions can be employed to examine the integration of residuals obtained from equation (A1):

$$\varepsilon_{it} = p_i \varepsilon_{it-1} + \mu_{it} \quad (A2)$$

or

$$\varepsilon_{it} = p_i \varepsilon_{it-1} + \sum_{j=1}^{p_i} \varphi_{ij} \Delta \varepsilon_{it-j} + v_{it} \quad (A3)$$

for every cross section. On the other hand, Kao test uses the same basic approach as the Pedroni tests. However, it specifies cross section specific intercepts and homogeneous coefficients on the first-stage regressors.

If cointegration is confirmed among the variables, the next step would be to use long run estimators to test the long run elasticity between the dependent variable, real GDP per capita, and all the explanatory variables. There are three commonly used estimators in the existing literature namely ordinary least squares (OLS), fully modified ordinary least squares (FMOLS) and the dynamic ordinary least square (DOLS). Among them, FMOLS and DOLS estimators have been more preferred than OLS estimator in recent years. It is due to the fact that FMOLS and DOLS estimators are able to get rid of the problems of endogeneity in the regressors as well as serial correlations in the error terms. However, DOLS is considered superior to FMOLS in the sense that DOLS eliminates the problems of endogeneity and

autocorrelation using parametric approach but not nonparametric approach as what happens to FMOLS.

Kao and Chiang (2000) who extended the use of DOLS estimator to panel data set concluded that DOLS is a better estimator than OLS and FMOLS for both homogeneous and heterogeneous panels after employing Monte Carlo simulations to compare the three estimators. They confirmed the role of leads and lags of the explanatory variables in reducing the biases of DOLS. Kao and Chiang (2000) developed the pooled DOLS estimator which utilizes OLS to estimate an augmented cointegrating regression as below:

$$y_{it} = \beta X_{it} + \sum_{j=-q_i}^{r_i} \Delta X_{it+j} \delta_i + \mu_{it} \quad (A4)$$

Where y_{it} and X_{it} are data removed from the individual deterministic trends. δ_i denotes the short run dynamics coefficients which are allowed to be cross section specific. Let Z_{it} be the regressors formed by relating the ΔX_{it+j} terms with cross section dummy variables, and with $W_{it}' = (X_{it}', Z_{it}')$, the pooled DOLS estimator can be presented as follows:

$$\begin{pmatrix} \beta_{DP} \\ \gamma_{DP} \end{pmatrix} = \left(\sum_{i=1}^N \sum_{t=1}^T W_{it} W_{it}' \right)^{-1} \left(\sum_{i=1}^N \sum_{t=1}^T W_{it} y_{it}' \right) \quad (A5)$$

An Investigation of The Economic and Governance Factors Influencing FDI Inflows into Asean

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Abstract

This study aims to investigate the relationship between economic and governance factors and FDI (foreign direct investment) inflows into ASEAN (Association of South East Asian Nations), which is considered the most sought-after FDI destination in South East Asia. ASEAN consists of 10 member countries namely Brunei, Cambodia, Indonesia, Laos, Myanmar, Malaysia, Philippines, Singapore, Thailand and Vietnam. The study uses the panel PMG (pooled Mean Group) to estimate the regression. AS time series data is involved, the preliminary unit root test to test the stationarity of the series using LLC (Lin Liu Chu) and IPS (Im Pesaran Shin) methods are used. A panel Co-integration test is also carried out using both the Kao and Pedroni methods to test the existence of co-integration between the variables used in this study. The economic factors that are considered in this study are the inflation rate, gross domestic product, trade openness and total population. The non-economic factors comprise of three political dimension of governance retrieved from the WGI (world Governance Indicators), which include Voice and Accountability (VA), Government Effectiveness (GE) and Political Stability and Absence of Violence (PSAV). The study covers a period between 2002 and 2015. The PMG estimated results suggest that good governance does significantly influence FDI inflows in a positive manner but the economic factors yielded mixed results.

Key words: FDI ASEAN PMG Unit Root Co-integration Voice and Accountability (VA) Political Stability and Absence of Violence (PSAV) Government Efficiency (GE)

INTRODUCTION

FDI (foreign Direct Investment) is an important source of financing for many developed, developing and under-developed countries to enhance their economic growth, employment opportunities and technology transfer. It is an opportunity for the capital rich countries to allocate their capital resources to capital-deficient countries, thereby striking a win-win situation for the both parties.

FDI is clustered into two main types which is the, green-field and brown-field investments. The greenfield investments refer to new business ventures not undertaken before by a home country where the investment originate from to a host country which is the destination country where the business is going to be formed. Furthermore, FDI can be sub-divided into three components: equity capital, reinvested earnings and intra-company loans.

- Equity capital is the foreign direct investor's purchase of shares in an on-going business concern in the host country.
- Reinvested profits where the profits obtained by a foreign company in a host country is reinvested to expand existing profits or into a new business in the host country,
- Other capital which refers to short- or long-term borrowing and lending of funds between direct investors (parent enterprises) and affiliate enterprise (UNCTAD2007).

Among these three components, equity capital seems to be main channel of FDI inflow to ASEAN.

ASEAN in Brief

The Association of Southeast Asian Nations (ASEAN) is an economic trading bloc which was formed in 1967. It now comprises 10 Asian countries including Singapore, Malaysia, Indonesia, Thailand, Philippines, Brunei, Vietnam, Cambodia, Laos and Myanmar. In 2007, these 10 nations committed to establishing both a single market and a production base, with free movement of goods, services, investment, capital and labor. Although there is a commitment to removing tariff barriers, significant non-tariff barriers exist and ASEAN has pledged to make business simpler and more efficient across the key objectives with separate blueprints, since its inception in 1967, through the ASEAN Declaration (1967-2010), which can be grouped as:-

The ASEAN Declaration states that the aims and purposes of the Association are: (i) to accelerate the economic growth, social progress and cultural development in the region through joint endeavor in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian nations, and (ii) to promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter. (<http://asean.org/the-asean-declaration-bangkok-declaration-bangkok-8-august-1967>).

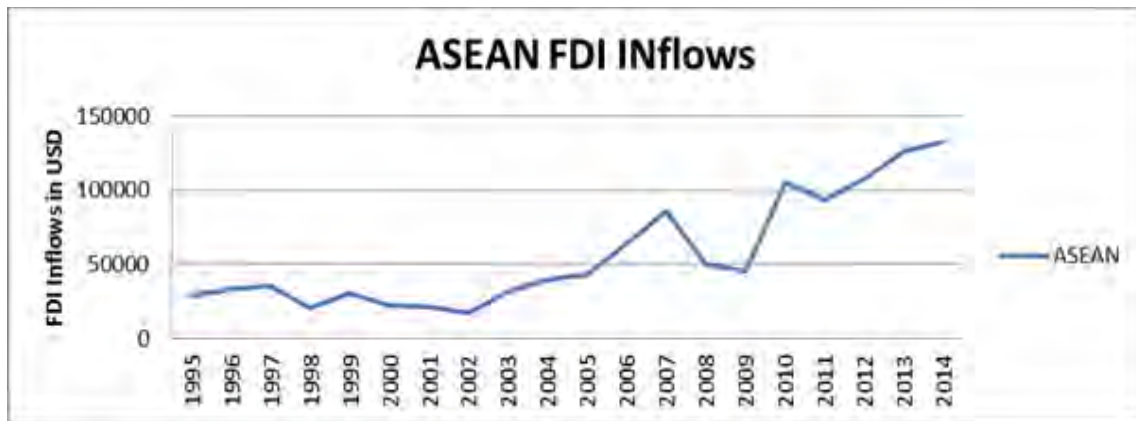


Figure 1: ASEAN FDI inflow trend (Source: ASEAN Investment Report, 2015)

Despite the fluctuations in FDI inflows into ASEAN periodically, generally the trend in FDI inflows is an upward one, implying the importance of this region as an attractive FDI hub. This importance is undeniable owing to the fact that ASEAN receives a considerably large influx of direct investment from its foreign sources and how FDI and GDP growth are related will be discussed in length in the following sections.

Objectives of Research

This study is dedicated to achieve two main objectives namely to investigate which of the macroeconomic factors play a significant role in attracting FDI inflows and which of the non-economic factors tested play an influential role in FDI attraction and finally, to determine whether economic or non-economic factor is dominant in doing so.

LITERATURE REVIEW

The literature on FDI determinants in ASEAN and elsewhere is abundant and is still ongoing studies along these areas of research. However, for the case of ASEAN, the non-economic determinants are still in wanting. Hence, this paper will help to fill in some of the existing gaps in this regard. The most commonly investigated variables in FDI literature includes, among others proxies in relation to market size which include GDP, Population size and trade openness. Past studies on these variables in relation to market size will be discussed and its' impact on FDI will be examined further in this section.

Economic Factors

Trade openness, a proxy for market size and which is often measured by the sum of import and export to the total GDP has been a often investigated variable that determines

investment decisions. If, for example a country has high volumes of export and import as a ratio of its GDP, then it is deemed to provide a conducive and accessible market, thereby attract more foreign investors. Hence trade openness has been empirically found to have a positive relationship with FDI inflows as supported by Liargovas, P. G. & Skandalis, K. S. (2012). This view had been earlier supported by Charkrabarti (2001) states that there is mixed evidence concerning the significance of openness, which is measured mostly by the ratio of exports plus imports to GDP, in determining FDI, as well. The maintained hypothesis is: given that most investment projects are directed towards the tradable sector, a country's degree of openness to international trade should be a relevant factor in the decision.

Gross Domestic Product (GDP) has been usually used as a proxy to represent affordability or purchasing power as well as a proxy to indicate economic stability. In this context, a higher level of GDP indicates a stronger economic platform for a higher per capita income, which indicates higher purchasing power. Thus, for foreign investors with a motive for market seeking opportunities, a strong GDP will correlate with high FDI inflow. The GDP is also a well-accepted proxy for economic stability. A sound and steady economic growth will be an attraction for FDI inflows, which have long term objectives and a sustainably high GDP growth will be a motivation for foreign direct investors. While, inflation rates measured by CPI (Consumer Price Index) is also accepted as a proxy for economic stability besides GDP as mentioned above. Thus, and it would be logical to expect that a low inflation rate signifies economic stability. Hence, it would be expected that low levels of inflation will positively influence FDI inflows.

Many previous studies are in consensus with these views, for example Oladipo (2013), in a study on FDI determinants in Nigeria claims that a high levels of GDP while, low inflation levels have significantly positive impact on FDI inflows. In a study done closer to home, Yutaka Kurihara (2012) in an investigation of FDI determinants in ASEAN confirmed that strong GDP growth and low inflation rates significantly influenced FDI inflows in the region based on observations for the period of 2002 to 2012 using Least Square estimation Method.

Non-Economic Factors- The Issue of Governance

There has been an increasing focus on non-economic factors that influence economic decisions. With regards to this aspect, this sub-section will focus on the issues that implicate the socio-political dimensions of governance. Three of these dimensions will be pursued in this study with consideration of past literature reviews that has been covered to this end. The findings from past studies on governance issues and its relationship with FDI inflows yielded mixed results. While most past studies have generally confirmed the importance of good governance in FDI performance stating that good governance ensures institutional quality which in turn promotes FDI inflows, some other studies were in contradiction to this generalization.

Dumludag et.al (2007) carried out a study on several emerging economies using panel data approach between 1992 and 2004 with the conclusion that there is a significantly positive relationship between good governance and FDI inflows. However a somewhat contradictory findings was recorded on a study by Amal, et.al (2010) which finds that government effectiveness had a negative significant impact on FDI and was echoed by a study Koen, et.al (2012) which involved 28 OECD countries between 1997 and 2004. Ourvashi (2012) in a study which involved 45 developing countries across three continents namely, Africa, Latin America and Asia concluded that FDI inflows are significantly and positively influenced by all governance indicators. Meon and Sakkat (2007) used a two-stage least square regression on a 96 country case with a conclusion that Voice and Accountability had a significantly positive on FDI inflows.

RESEARCH METHODOLOGY

Data and Model Specification

This study is based on yearly observed data ranging from 2012 to 2015 for 10 ASEAN countries. Data on economic variables is obtained from the UNCTAD (United Nations Trade and Development) website while the governance data was retrieved from the WGI (World Governance Indicators), World Bank Website. The dependent variable for this study is the log FDI inflows and the independent economic variable is Trade Openness (TO), gross domestic

product (GDP), consumer price index (CPI). The non-economic or governance factors include voice and Accountability (VA), political Stability and Absence of violence (PSAV) and Government Effectiveness (GE). These three variables make up the political dimensions of the WGI. The inflation (CPI) and GDP signifies the economic stability where, low levels of inflation and high levels of growth (GDP) is generally accepted to signify economic stability. Trade Openness represents market size and again GDP is also a proxy for market size as well. According to the WGI (1993) PSAV is described as the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence. GE is the quality of public and civil services and its degree of independence from political pressures. VA is the ability of a country's citizen to participate in selecting their government as well as freedom of expression, association and a free media.

Model Specification

A panel regression model is set up as the study involves both time series and cross-sectional data. The model is specified as follows:

$$\text{Ln FDI}_{it} = \alpha + \beta_1 \text{CPI}_{it} + \beta_2 \text{TO}_{it} + \beta_3 \text{GDP}_{it} + \beta_4 \text{VA}_{it} + \beta_5 \text{GE}_{it} + \beta_6 \text{PSAV}_{it} \quad (1)$$

Where LnFDI_{it} refers to foreign direct investment for country i for period t ; TO refers to the trade openness; CPI refers to the consumer price index; GDP is the gross domestic product; VA refers to voice and Accountability; GE is government effectiveness; PSAV political stability and absence of violence. The method of estimation for this model is the ARDL/PMG which is generated through e-views 9. As the estimation involved time series data, a unit root test on all the variables used in this model is carried out to test for stationarity. Further, Pedroni and Kao co-integration test is being done to test the co-integration between the variables in the model.

DATA ANALYSIS

Table 1: Unit Root Test Results

Series	LLC		IPS	
	Level	1 st Difference	Level	1 st Difference
FDI	7.853** (1000) (3)	-11.731** (1) (0.000)	2.286** (0.989) (3)	-9.493** (0.000) (1)
GDP	3.979** (1.000) (4)	-3.411** (0.0003) (4)	5.338** (1.000) (4)	-2.567** (0.005) (4)
TO	-1.185** (0.118) (1)	-5.360** (0.000) (1)	-1.164** (0.122) (2)	-6.917** (0.00) (2)
CPI	-0.142** (0.444) (3)	-14.850** (0.000) (3)	1.051** (0.854) (3)	-11.192** (0.000) (1)
VA	-1.025 (0.153) (1)	0.153 (0.000)	0.484 (0.040)	--1.450 (0.000)
PSAV	-2.601 (0.005)	-4.402 (0.000)	0.100 (0.888)	-1.522 (0.0006)
GE	-2.794 (0.003)	-30.134 (0.000)	-0.884 (0.313)	-20.131 (0.000)

Table 2 Panel Co-integration Results

A. Pedroni	
Panel Co-integration statistic (within-dimension)	
Panel v-statistic	-3.255 (0.999)
Panel rho-statistic	2.393 (0.992)
Panel PP-statistic	-11.099*** (0.000)
Panel ADF-statistic	-9.729 *** (0.000)
Group Mean Panel Co-integration Statistic	

(between-dimension)	
Group rho-statistic	3.781 (1.000)
Group PP-statistic	-13.021***(0.000)
Group ADF-statistic	-10.731***(0.000)
B. Kao	
ADF	-6.165***(0.000)

Note: Both tests examine the null hypothesis of no co-integration for the variables. *** indicates the rejection of null hypothesis at 1%. The figure without brackets represents T-statistic values. Probability values are shown in the bracket. The lag length is selected automatically based on SIC.

EMPIRICAL FINDINGS AND DISCUSSION

Table 3: Empirical Result for Estimated model
Dependent Variable: FDI

Independent Variables	Coefficient (t-stats)	Probability
PSAV	7.041*** (16.317)	0.000
GE	5.463*** (9.214)	0.000
VA	1.564*** (2.558)	0.000
TO	-7.041 (-2.532)	0.014
CPI	3.351 (1.309)	0.196
GDP	0.013 (2.558)	0.014

Note: *** indicates the rejection of null hypothesis at 1%.

Based on the empirical findings shown in the Table 3 above, which indicates that all three governance variables that was tested have strong positive significance in attracting FDI inflows. A stable, efficient and democratic environment proxied by PSAV, GE and VA respectively will be favored by potential investors who would not want to risk their investments in a relatively unstable political environment. Good governance will is a prerequisite for strong institutions and strong institutions create business confidence which will be an attraction to investors. Among the three political governance variables tested political stability and absence of violence (PSAV) tend to be the strongest, followed by government efficiency (GE) and voice and accountability (VA) in influencing FDI inflows. These findings are in line with most previous studies.

The findings of the economic factors tested in this study seem to differ from most previous study. This is especially so for the trade openness as it has been empirically and conventionally accepted by many scholars that trade openness will promote FDI inflows, the findings of this study tends to be contradictory to this consensus. However there are some studies that offer an explanation to this unconventional finding. SRK Narayanan and M.T.Hassanuddin (2015) in a study on macroeconomic determinants of FDI inflows in Malaysia also discovered similar findings which was endorsed by Jordaan(2004).who claims that the degree of openness and FDI would have different impact depending on the type of FDI. He claims that for market-seeking FDI, the lesser the openness, the stronger the FDI inflow, suggesting a negative relationship between the two variables. The findings of Newfarmer and Sztajerouska (212) mentions that trade openness does not automatically contribute positively to FDI and economic growth without the right investment and governance climates

Another contradictory finding in this study is that inflation which traditionally has been tested negative with respect to FDI inflows show a positive relationship in this study. As

explained previously, low inflation signifies stability and hence promoted FDI. The positive relationship between FDI and inflation has been discovered in a study done by a study by Caroline Kariuki (2015), also finds this exception phenomenon of a positive FDI inflation relationship and explains it with higher inflation relates to higher stock prices which are a motivation for FDI. GDP is seen as insignificant in influencing FDI inflows in this study although its relationship with FDI is positive as it is normally proven to be, where higher levels of GDP not only shows economic health, it also signifies a potential market.

CONCLUSION AND DISCUSSION

Based on the results of the analysis, it is certainly important that governance issues are given the priority in investment policies as good governance has been proven to be a much desired element for long term investment initiative as in the case for FDI. Good governance creates a sense of confidence. Hence, it is timely for ASEAN as a regional grouping which has the agenda to attract FDI inflows and maintain sustainable growth to focus on issues of good governance. It is crucial for ASEAN member countries to watch out on each other and progressively implement policies that mutually benefit each other as a regional grouping by promoting good governance as an important policy agenda to avoid the likes of the governance crisis of Greece lately. If any one country fails in keeping good governance it may tarnish the reputation and confidence of all the other member country as a whole.

REFERENCES

- Amal, M., Tomio, B.T. & R. Raboch, H. (2010). "Determinants of Foreign Direct Investment in Latin America," *GCG: Journal of Globalization, Competitiveness and Governability*, 4(3): 116-33.
- ASEAN Investment Report. (2015)
- Charkrabarti, A. (2001). "The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions." *Kyklos*, 54(1), pp. 89-114.
- Dumludag, D., Saridogan, E. & Kurt, S. (2007). "Determinants of foreign direct investment: An Institutional approach." Seventh Conference of the European Historical Economics Society, Lund University, June 2007, http://www.ekh.lu.se/ehes/paper/devrim_dumludag_EHES2007_paper_new.pdf.
- Kariuki, C. (2015). The Determinants of Foreign Direct Investment in the African Union. *JOEBM Journal of Economics, Business and Management*, 3(3), 346-351
- Koen, B., Jeffrey, H., Bergstrand & E.V. Etten (2012). "Governance, Globalization and Selection into Foreign Direct Investment". ECORYS and Erasmus University
- Liargovas, P. G. & Skandalis, K. S. (2012). Foreign direct investment and trade openness: The case of developing economies. *Social indicators research*, 106(2), 323-331.
- Newfarmer, R. & Sztajerowska, M. (2012). Trade and Employment in fast-Changing World. In: Lippoldt, Douglas (Ed.), *Policy Priorities for International Trade and Jobs*. OECD, Paris, pp. 7-73
- Ouvashi, B. (2012). "Can Better Institutions Attract More Foreign Direct Investment (FDI)? Evidence from Developing Countries", *International Research Journal of Finance and Economics*, Euro journals publishing, pp. 59-70
- S.R.K. Narayanan & M.T. Hassanuddin. (2015). Macroeconomic Determinants of FDI inflows: Malaysia Evidence *Global Journal of Business and Social Science Review*, 4(1), 125-134

World Bank. (1993). Governance: The World Bank Experience

A Study on the Impact of Minimum Wage On Sustainability and Competitiveness of the Timber Industry in Malaysia

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Abstract

In recent years, minimum wage has become an increasingly popular for reducing inequality in many emerging markets. The aim of minimum wage is to allow low income workers to maintain a decent standard of living without unduly limiting the flexibility of employers to allow Malaysia to remain competitive at the global level. In setting the minimum wage, the government took into account social and economic considerations: cost of living, productivity, competitiveness and employment. The timber industry in Malaysia is one of long-standing prominence, garnering much attention as one of the economy's core components of growth setting Malaysia among the world's largest exporter of tropical logs, plywood, sawn-timber and furniture to international markets. This survey aimed to reveal the impact of minimum wage on sustainability and competitiveness of the timber industry. A questionnaire survey of targeted respondents who are owners or managers with knowledge of financial information and the operation details of the company was conducted. The findings from the survey seems to indicate that SMEs in the furniture sector seem to be more ready towards the implementation of the minimum wage policy in comparison to their counterparts in wood and wood-based products sector. Their operational performance ratings are generally higher for majority of the different performance aspects.

KEYWORDS: Timber industry, minimum wage, sustainability, competitiveness and Malaysia

INTRODUCTION

As recommended by the National Wage Consultative Council (NWCC), the government has set a minimum wage of RM900/month for Peninsular Malaysia and RM800/month for Sabah, Sarawak and Labuan. The aim of the minimum wage should be to allow low income workers to maintain a decent standard of living without unduly limiting the flexibility of employers to allow Malaysia to remain competitive at the global level. In setting the minimum wage, the government took into account social and economic considerations: cost of living, productivity, competitiveness and employment. In Malaysia, almost 33.8% of about 1.3m private sector workers still earned less than RM700/month in 2009, well below the RM800/month that is considered the poverty line (CIMB Economic Updates May 2, 2012). From 1st July 2016, the monthly minimum wage increased from RM900 to RM1,000 for peninsular Malaysia and from RM800 to RM920 for Sabah, Sarawak and Labuan. These factors, to a certain extent, contribute to cost escalation in timber evacuation and transport.

Many believe that if the minimum wage is set at the right level, it helps the poorest workers meet their basic needs, reduces poverty in the short run. Since the poorest have high marginal propensity to spend, eventually the raise on wage will be channeled back to the economy. The timber industry in Malaysia is one of long-standing prominence, garnering much attention as one of the economy's core components of growth. As Malaysia is well-blessed with an abundance of rainforest and land, the steady supply of trees and logs highlight the importance of this resource-based sector, ranking it among the likes of agriculture, oil and gas, mining and manufacturing. Malaysia is among the world's largest exporter of tropical logs, plywood, sawn-timber and furniture to international markets. As the world's second largest industry after food, timber is a material with a wide range of uses, providing employment opportunities and raw

materials with further flexible functions. Malaysia is aggressively promoting downstream activities to become a manufacturer of higher quality and value-added products. Malaysia Timber Industry Board (MTIB) believes that Malaysia can achieve a target of RM53 billion in the export of timber and timber related products by the year 2020. In recent years, the minimum wage has become increasingly popular for reducing inequality in many emerging markets. This survey aimed to reveal the impact of minimum wage on sustainability and competitiveness of the timber industry. Even though there will be probably a rise in labour costs for the timber industry given the high percentage of labour involved, competitive pressure should not be driven by labour cost but instead by factors such as technological adoption, productivity and innovation.

LITERATURE REVIEW

Multifactor productivity is a measure that relates output to the combined inputs of labour, capital and intermediate purchases. This measure takes into consideration the effects of capital investment and intermediate purchases (materials, fuels, electricity and purchased business services) on labour productivity. According to Muth II and Falk (1994), household furniture manufacturing industry in the United States experienced average annual multifactor productivity gain of 0.5% over the period 1958-1991, accounted for approximately one-third of the average annual labour productivity gain of 1.8%. Wood-based household furniture establishments contributed approximately 40% of the total output in the overall household furniture manufacturing industry, the largest in comparison to others in the same industry. Factors that positively influence multifactor productivity gain are technological change, change in skills and effort of the workforce and economies of scale. In Malaysia, a questionnaire survey on 150 workers was conducted by Razak et al (2014) found that motivation from higher wages, close supervision and application of technological aids on the job, are the three factors that have positive relationship with labour productivity. Based on these results, increasing minimum wages and adopting more automation should have positive impact on labour productivity.

Although there is growing presence of foreign workers in Malaysian manufacturing sector due to industrialization of the Malaysian economy and cheaper cost of foreign workers, Zaleha et al (2011) found that foreign workers are neither substitutes nor complements for domestic workers. Using the Cobb-Douglas production function to derive the model specification, their results also revealed that foreign labours have significant positive impact on labour productivity. Therefore, based on these results, we can infer that by increasing minimum wages, it will prompt manufacturing firms in Malaysia to hire more foreign labours and enjoy the benefits of rising productivity. Productivity is the ratio of outputs (goods and services) divided by one or more inputs such as labor, capital, and management, which are integrated into a production system. Only through increases in productivity can labour, capital and management receive additional payment. Hence, increases in productivity can improve the standard of living for people in a country (Heizer & Render, 2014). However, productivity measurements are very challenging as it required specific inputs and outputs; external elements may indirectly impact the productivity and then quality may be affected while inputs and output remain constant. Heizer et al. (2014) further discussed about three factors which are critical to improve productivity. Labor contributes about 10%, capital contributes 38% while management contributes about 52% of the annual increase in productivity.

Rizov, Croucher & Lange (2016) found that the implementation of new minimum wage (NMW) in Britain has positively affected the aggregate low-paying sector productivity. This is supported by Riley & Bondibene (2015) where they investigated that the NMW in Britain increased average labour costs for companies that tend to employ low paid workers. The companies then responded to these increases in labour costs by raising labour productivity. On the contrary, a study done by Sabia (2015) states that increases to the minimum wage redistribute the composition of industry-specific productivity in ways that harm some low-skilled workers rather and redistribute gross domestic product towards higher skilled industries. Meanwhile Wolfers & Zilinsky (2015) revealed through various studies found by other authors relating to higher wages, will increases productivity due to higher motivation to work harder, ability to attract capable and productive workers, lower turnover cost, enhance quality and customer service; and further lower monitoring cost and absenteeism rate.

In a study by Bush & Sinclair (1989) they found that labour productivity in softwood sawmills are significantly higher as compared with hardwood sawmills; and labor productivity increases with mills size due to economies of scale. Rufolo, Bronfman & Strathman (1989) stated that the labor productivity in wood product manufacturing has improved mainly associated with the direct substitution of the capital with the labour resources as more technologies were available in this industry.

This has been reported by Lehner (2012), that revealed productivity and output in wood product manufacturing has been increased in Oregon due to technology with less workers employed. Technology such as Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), and Computer Numeric Control (CNC) router have revolutionized the commercial woodworking industry and it is viable for small custom workshops to maximize their productivity and profits as to remain competitive in the industry (Peter, 2007). The government spending for productivity is beneficial as it will help the company towards improving production and efficiency. Competitiveness among companies would certainly make new companies which have just started to sustain so that companies will have a good ground for their growth. It also creates a stand towards anti-poverty strategies which combats a social stigma. The government's assistance could reduce poverty at the same time reduce social problems among the citizens in the district. (Stephen Chukwuma, 2017). The sustainability of the industry also will be noted if the government can have a program that can support the industry, be it natural resource or also the company itself. This will help the company to be competitive and then grow the profits for better grounding towards the company growth. (Cécile Bessou et al, 2017). It is acknowledged that without the support of the international laws, government support also can protect the citizens against poverty. The lower and middle income group where agricultural crops are the main source of income will suffer. Without the support of the government in terms of funds, expertise and advice, recipients cannot improve their productivity, address the risk factors and grow their assets. (FAO, 2015). Through evidence that members of community being protected through communities or Government bodies will survive the test of time (Norton et al., 2001).

RESEARCH METHODOLOGY

This paper will emphasize on the comparison between wood and wood based product sector firms and furniture sector firms in the timber industry. The targeted respondents are the owners or the managers who have knowledge on the financial information and the operation details of the company. The analyses are performed based on a total of 107 responses which comprises 60 from wood and wood-based product sector (44%) and 47 from furniture sector (56%). Most of the respondents are from Johor followed by Perak and Sabah. For wood and wood based product sector, highest respondents are from Sabah while for furniture sector most of the respondents are from Johor. Majority of the respondents in wood and wood based product sector are managers which consists of 43% followed by directors 26% and senior executive 21%. Meanwhile for furniture sector, managers consist of 58% followed by senior executives and junior executives which consists of 18% of the respondents each as shown in Figure 1 in the Appendix

DATA ANALYSIS

Figure 1 shows that only 7.5% percent of the respondents of timber industry indicate that the minimum wage policy have no impact on labour cost. This could be due to the labours working in these enterprises having been paid more than the minimum wage rate before the enforcement of the policy. However, majority of the respondents (31.7%) indicates that labour cost has increased by 11 to 20 percent whereby out of this 19.6% are from wood and wood based product sector firms and 12.1% are from furniture sector firms. Followed by 22.4% of the timber industry respondents indicates that labour cost has increased by 21 to 30 percent. For wood and wood based product sector firm, 35% of the respondents are facing rise in labour cost of 11% to 20%, followed by 18.3% for labour cost impact of 6% to 10% increase and 16.7% for labour cost rise of 21%-30%. Whereas for the furniture sector firm, 29.7% of the respondent

facing labour cost rise of 21% to 30%, 27.6% of the respondents are facing the rising cost of labour of 11% to 20%, followed by 21% for labour cost impact of 6% to 10%.

The followings the actions taken by the timber industry to mitigate the impact of minimum wage policy (refer to Figure 2):

- a) **The number of Malaysian workers.** 63% of the wood and wood-based products sector firms and 68% of the furniture sector firms indicated that there is no change in the number of Malaysian workers. 21.6% of the wood and wood-based products sector indicates that they have increased the number of Malaysian workers, while 15% of the firms indicate the opposite. Around 21.3% of the furniture sectors have increased the number of Malaysian workers while 6% have reduced them.
- b) **The number of foreign workers.** Majority of the respondents which are 45% from wood and wood-based products sector and 40.2% of furniture sector firms indicate no changes in number of foreign workers. 18.3% of the wood and wood based product firms indicate that the number of the foreignworkers has increased. While 21.7% of the firms reported decrease in number of foreign workers. Meanwhile 10.6% of the furniture sector firms indicate that the number of the foreignworkers has increased. While 17% of the firms reported decrease in number of foreign workers.
- c) **The number of part-time workers.** The majority of the responses are 'no change' in this aspect, across the timber firms which are 23% in wood and wood based product sector and 21% in furniture sector. For wood and wood based product sector firms, there is 8% respondents agree that there is an increase and 5% indicates reduction in part time workers. While 8.5% of furniture sector agrees there is an increase in part time workers while the around 4.2% indicate there is reduction.
- d) **Recruitment of skilled-workers.** Only 5% of the respondents in wood and wood based products sector firm and 2% out of furniture sector firms' respondents indicates that they will reduce the recruitment of skilled-workers. Oppositely, 18% of the wood and wood based products sector firms and 19% of the furniture sector has increased the recruitment of skilled workers.
- e) **Automation or improvement in the production method.** Rising labour cost definitely increase the effort of timber industry to enhance the level of automation and to improve their production method. 43% from wood and wood based products sector firm and 36% of furniture sector firms indicates no changes in the level of automation and improvement in production method. 33% of the wood and wood based products sector firm and 44.6% of the furniture sector firm has made improvement in this aspect.
- f) **Training of existing workers.** These firms also increased allocations to train workers to be more productive. The wood and wood based products sector firm and the furniture sector firms dramatically increase the training for their workers (23.3% and 29.8% respectively). Only 1 out of 47 respondents from furniture sector has indicated reduction in training while none in wood and wood based products sector firm.
- g) **Non-wage benefits.** The majority of the firms do not change the non-wage benefits which are 58% and 57% respectively. However, 3% of the wood and wood based products sector firm firms and 4% of the furniture sector firms indicate a reduction in this matter.
- h) **Selling price of goods and/or services.** Most of the impact of rising labour cost is transferred to the consumer. 33.3% of the wood and wood based products sector firms and 46.8% of the furniture sector firms have indicated an increase in pricing.
- i) **Overtime pay for full-time workers.** 33.3% of wood and wood based products sector firms and 38.3% of furniture sector firms have revealed an increase in overtime. These firms could have limited the number of workers and increase the overtime during peak season. However, the 15% of wood and wood based products sector firm and 10.6%

from furniture sector have cut the overtime. The possible reasons are an improvement in automation and training.

- j) **Night shift.** 40% of wood and wood based product sector firms and 31.9% of furniture sector have indicated no changes in night shift while only 1.6% and 6% have reduced night shift due to the same reasons given earlier.
- k) **Other benefits and healthcare of workers.** 68% of wood and wood based product sector firms and 63.8% of furniture sector have indicated no changes in other benefits and health care of workers while only 1.6% and 4.2% have indicated reductions in such benefit.
- l) **The introduction of the productivity-linked wage system.** There are more firms indicated 'yes' to introductions of this system as opposed to those which indicated 'no'. 48% of wood and wood based product sector firms and 48.9% of furniture sector firms indicated there is an introduction of productivity linked wage system
- m) **Relocation of your operation.** This is a long term plan and expensive option. There is 55% of the wood and wood based product sector firm's respondents and 42.5% of the furniture sector firm's respondents did not initiate operation relocation. Due to limited resources, 26% and 40.4% of respective sector firms have no action on this aspect.
- n) **Ceased operation.** 75% of the wood and wood based product sector firms and 53% of furniture sector firms did not have any ceased operation.
- o) **Curtailed/reduced operation.** Only 25% of the wood and wood based product sector firms and 21.3% of furniture sector firms agreed that there is some reduction in operation. 58% of wood and wood based product sector firms and 42.6% of furniture sector firms are not affected by reduced operation.

In conclusion, the intention of the government to raise minimum wage rate are reasonably justified and achieved. The timber industry firms indicated some initiatives taken to improve productivity by the adoption of capital-intensive production processes and provide training to workers. At the same time, more skilled workers are recruited. However, there is a higher tendency for timber industry firms to increase the selling price and pass on the burden to consumers. However, there is little evidence to show that the timber industry firms have reduced or cut down the benefits of workers.

Impact of minimum wage on productivity

For the wood and wood based product sector firms, 63% of the respondents indicate a decrease in productivity while 12% indicate increase of the impact on minimum wage policy on productivity (Figure 3). While for furniture sector industry, a majority of 58% of the respondents indicates decrease and only 21% claimed that there is an increase in productivity. These decreases in labour productivity arose not because of reductions in employment, but were associated with reduction in total factor productivity, the efficiency with which firms convert labour and capital into outputs. The mechanisms of such productivity decreases are not explored in the report, but could be explain through the effects of minimum wages on the number of hours worked, firm profits, level of work effort, human resource practices, operational efficiencies, internal wage structures, and other parameters. Meanwhile, employers are likely to feel the pinch in paying higher salaries, resulting in increased cost pressures which may lead to companies passing on increased cost to consumers. However, effected employers would have to re-examine their business processes in order to become more efficient and productive. The timber industry in Malaysia has to move higher up in the economic value chain and attaining a high income economy.

Expectations on government's assistance for productivity improvement

The expectations vary among the SMEs in different sectors. For SMEs in wood and wood-based products sector (Figure 4), 83.3% expects government to provide incentives on corporate tax reduction. Assistance to access more export markets (71.7%), and financial

assistance for automation and mechanization (68.3%), are the two other most common forms of government assistance that respondents wish to receive. Expert hotline is the least preferred form of government assistance (33.3%). In addition, less than 40% of respondents in this sector welcome assistance in the forms of consultancy service and solution workshop respectively. Similar to wood and wood-based products sector, SMEs in furniture sector (Figure 5) most commonly expect government to provide incentives on corporate tax reduction. Over 70% of respondents in furniture sector hope government to provide financial assistance for automation and mechanization, incentives for improving standard and quality, as well as incentives for training workers. Over half of the SMEs in furniture sector (53.2%) think that expert hotline is helpful. Solution workshop is the least favoured form of government assistance in this sector (42.6%), which is also the only form with less than 50% expectation rate.

More than half of the SMEs in both furniture sector as well as wood and wood-based products sector indicate that they experience a decrease in the profit or profit margin (Figure 6). Given the current economic situation, SMEs are unable to pass on the increased labour cost to their customers as higher selling price for products because they fear that this would lead to an acute fall in sales volume or even loss some customers forever. Only six out of thirteen aspects of operational performance have improved, but the extent of improvements are quite minor. The top three aspects of improvement, delivery reliability (5.92), employee satisfaction (5.75) and delivery speed (5.73), score slightly above the mid-point rating of 5.5. On the other hand, operational performance measured in terms of unit manufacturing cost (4.47) and manufacturing overhead cost (4.21) deteriorate most significantly after the implementation of minimum wage policy. Unlike wood and wood-based products sector, furniture sector not only experience improvement in eleven out of thirteen aspects of operational performance after the implementation of minimum wage policy, the magnitudes of improvement are also relatively larger. Top three aspects of improvement include employee satisfaction (6.52), product mix flexibility (6.28), and product quality and reliability (6.18). Similar to wood and wood-based products sector, manufacturing overhead cost (4.98) is the most significantly deteriorate performance indicator in the furniture sector. Unit manufacturing cost (5.47) is the only other weakening performance indicator in this sector.

CONCLUSION AND DISCUSSION

There is a debate heating up over how the rise in the minimum wage will affect businesses especially the small-sized businesses which are typically in highly-competitive industries with low profit margins. In the short run, the minimum wage policy may subject firms to higher costs, especially those that have been highly dependent on low-wage workers. Some business groups have opposed local pushes to bump up wages for hourly workers, arguing that employers cannot afford the added overhead and will have to pass on the increased overhead costs to consumers or cut jobs in response. This could result in adjustments through several possible means, including by absorbing the increased costs through a reduction in margins, increasing productivity, reducing the overall costs through improved efficiency, and reducing the amount of labour used. More approaches must be undertaken in respect of small-sized businesses, i.e., combining minimum wage increases with other initiatives to help businesses be more productive and competitive. Firms may be encouraged to invest in automation and newer technologies that could enhance production capacity, rather than rely on low-cost foreign workers. Government should provide tax incentives such as higher rate of capital allowances as well as subsidies when firms spend on automation. Besides that, firms may also be rendered incentives to provide training to enhance the skills and productivity of their employees. With lower reliance on low-cost unskilled labour, firms may in turn be encouraged to move up the value chain to be more competitive.

In addition, MATRADE and other government agencies should help furniture and wood-based products exporting firms to access and penetrate more foreign markets. With a potential larger demand base for their products as well as adoption of automation in their production process, these firms could enjoy economies of scale through mass production. Lower per unit manufacturing cost enable them to set more competitive pricing for their products in an increasingly intensified competitive domestic and global markets, especially manufacturers from mainland China.

In order to help businesses in a more effective manner, government has to ensure facilitators and trainers who provide solution workshop, consultancy services and expert hotline services are well-qualified and fully understand the unique problems and needs of firms as well as their employees in a specific industry, such as timber industry. Overall, SMEs in the furniture sector seem to be more ready towards the implementation of the minimum wage policy in comparison to their counterparts in wood and wood-based products sector. Their operational performance ratings are generally higher for majority of the different performance aspects.

REFERENCES

- Bush, R. J. & Sinclair, S. A. (1989). Labor productivity in sawmills of the eastern and southeastern United States. *Wood and Fiber Science*, 21(2), 123-132.
- Heizer, J. & Render, B. (2014). *Operations management, sustainability and supply chain management* (11th ed.) USA: Pearson Education Inc.
- Lehner, J. (2012). *Wood Products Productivity, an Update*. Oregon office Economic Analysis. Retrieved from: <https://oregoneconomicanalysis.com/2012/01/26/wood-products-productivity-an-update/>
- Muth II, T.M., & Falk, E.T. (1994). Multifactor productivity in household furniture. Bureau of Labour Statistics. Retrieved August 12, 2017, from <https://www.bls.gov/mfp/mprmf94.pdf>.
- Peter, D. W. (2007). *How technology could increase production capacity for a small artisan woodworking shop*. Unpublished master's thesis, University of Wisconsin-Stout.
- Razak, M.I.M., Osman, I., Yusof, M.A.M., Naseri, R.N.N., & Ali, M.N. (2014). Factors affecting labour productivity in Malaysia: an overview. *International Journal of Economics, Commerce and Management*, 2(10), 1–13.
- Riley, R. & Bondibene, C. R. (2015), *Raising the standard: Minimum wages and firm's productivity*, National Institute of Economic and Social Research and Centre For Macroeconomics.
- Rizov, M., Croucher, R. & Lange, T. (2016). The UK national minimum wage's National Minimum Wage's impact on productivity. *British Journal of Management*, Vol. 27, 819–835. DOI: 10.1111/1467-8551.12171
- Rufolo, A. M., Bronfman, L. M. & Strathman, J. (1989). *Labor productivity in wood products: Using interviews to supplement statistical estimates*. School of Urban and Public Affair. Portland State University. Discussion paper, 89-3. October 1989.
- Sabia, J.J. (2015), *Do minimum wages stimulate productivity and growth?* IZA World of Labor 2015: 221.
- Wolfers, J. & Zilinsky, J. (2015). Higher wages for low-income workers lead to higher productivity. *RealTime Economic Issues Watch*, 2015, Jan 13. Retrieved from: <http://users.nber.org/~jwolfers/policy/RealTime%20Economic%20Issues%20Watch%20Higher%20Wages%20for%20Lowincome%20Workers%20Lead%20to%20Higher%20Productivity.pdf>
- Zaleha, M.N., Noraini, I., Rusmawati, S., & Suhaila, J. (2011). The impact of foreign workers on labour productivity in Malaysian manufacturing sector. *International Journal of Economics and Management*, 5(1), 169–178.

APPENDIX

Figure 1: Respondents by sector and position

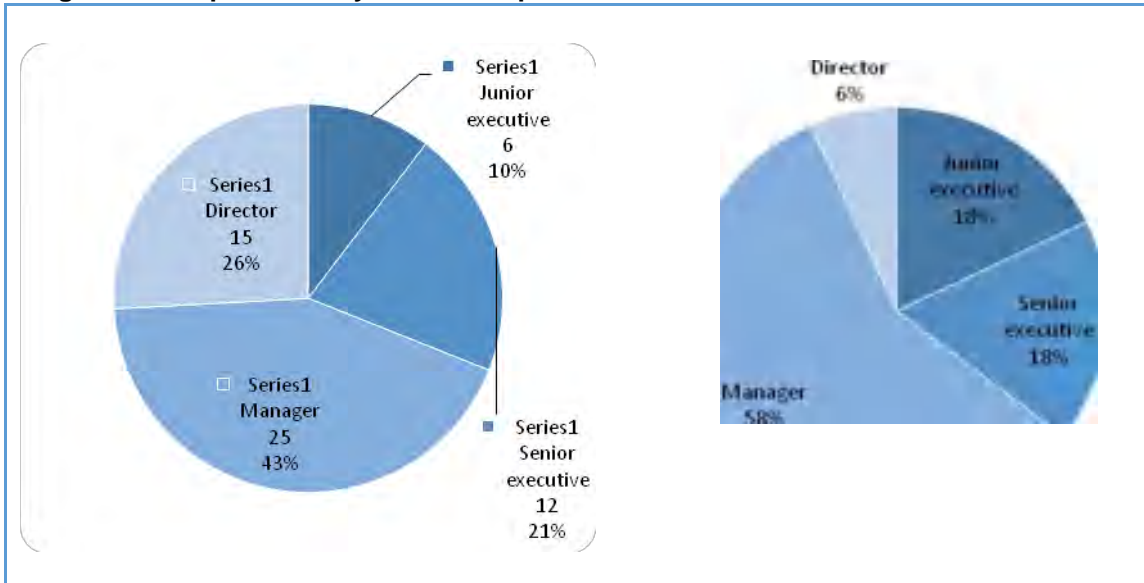
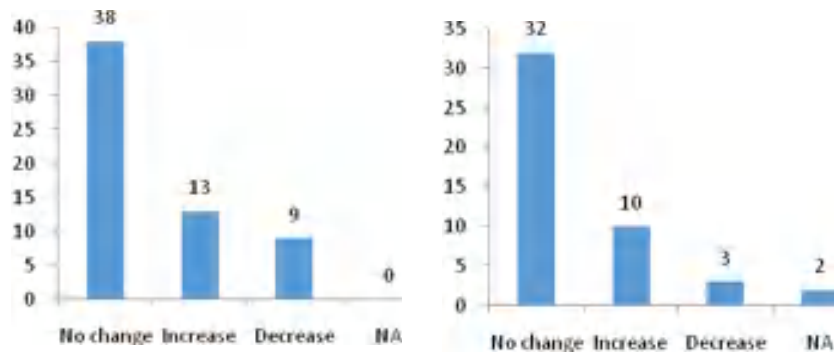


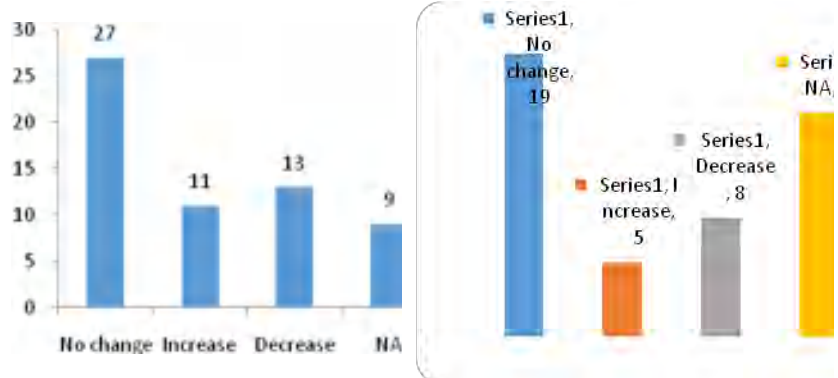
Figure 1 :Action taken following the implementation of minimum wage policy

Wood and wood-based Furniture products

a) Number of Malaysian workers

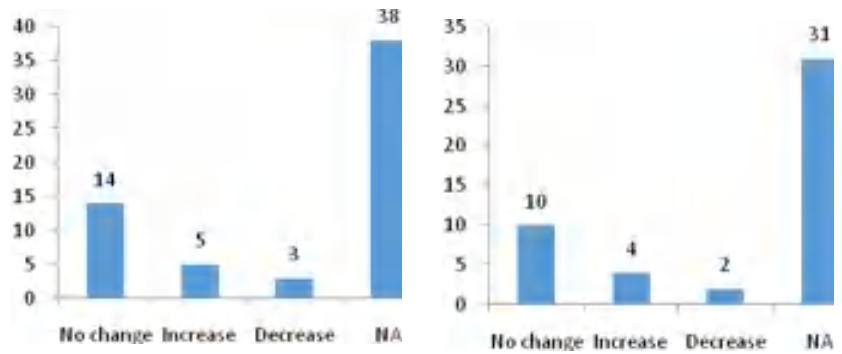


b) Number of foreign workers

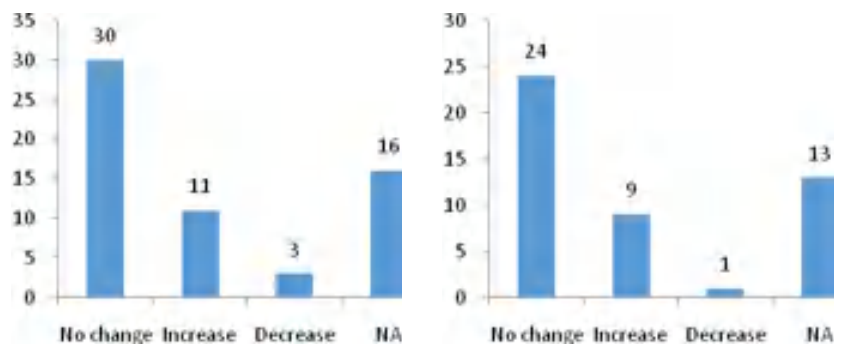


c) Number of part-time workers

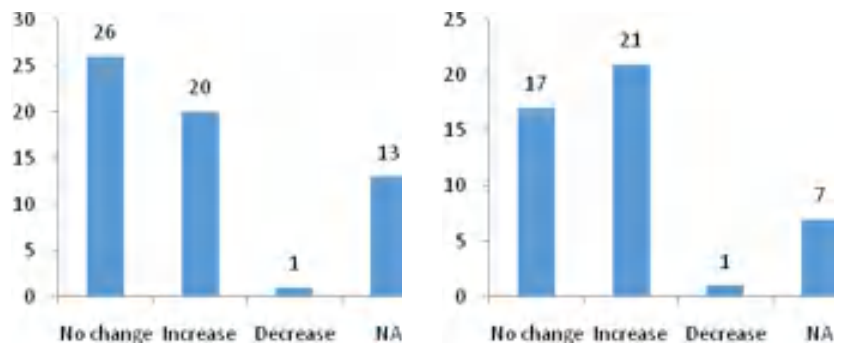
Wood and wood-based Furniture products



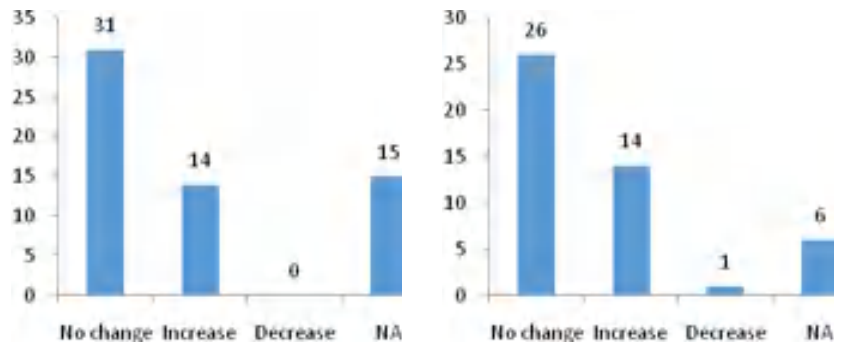
d) Recruitment of skilled workers



(e) Automation or improvement in production method

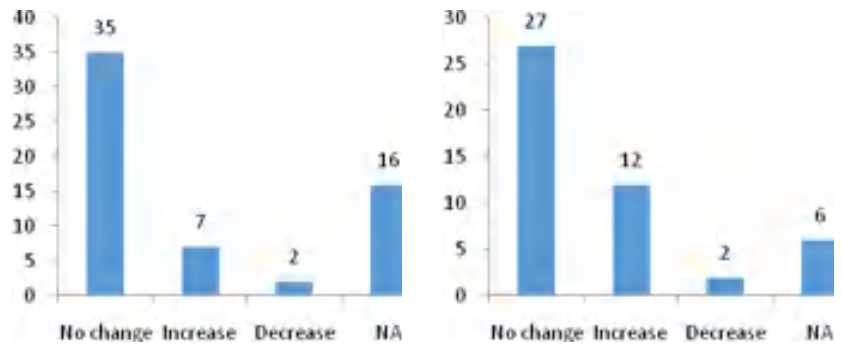


e) Training of existing workers

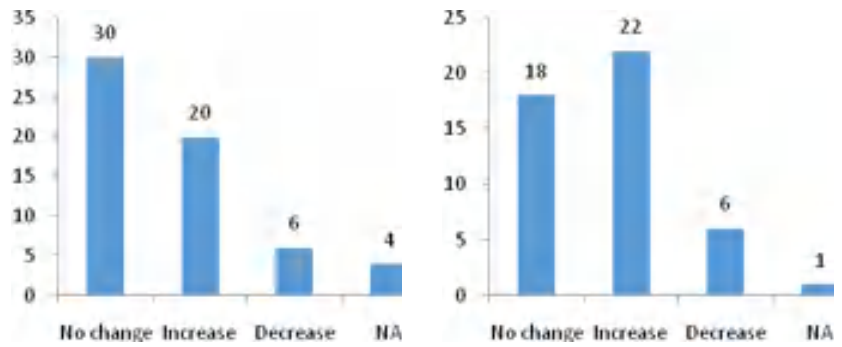


f) Non-wage benefits

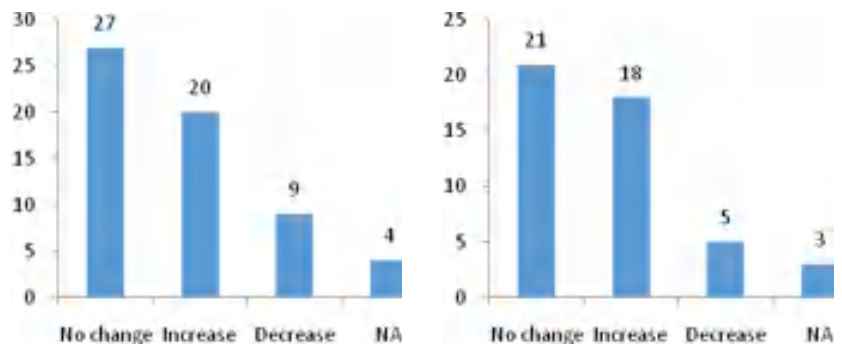
Wood and wood-based Furniture products



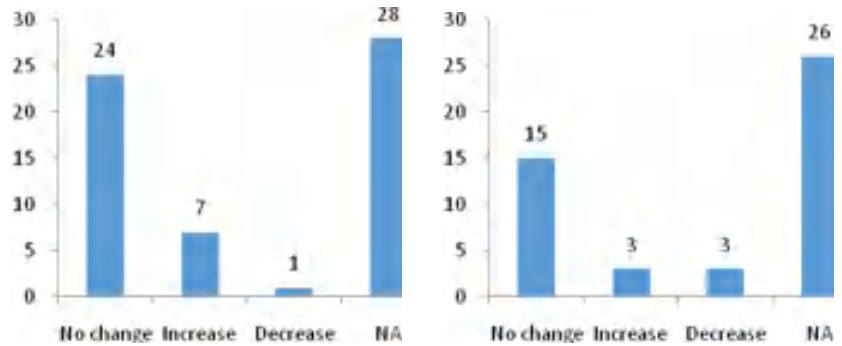
g) Selling price or goods



h) Overtime for full-time workers

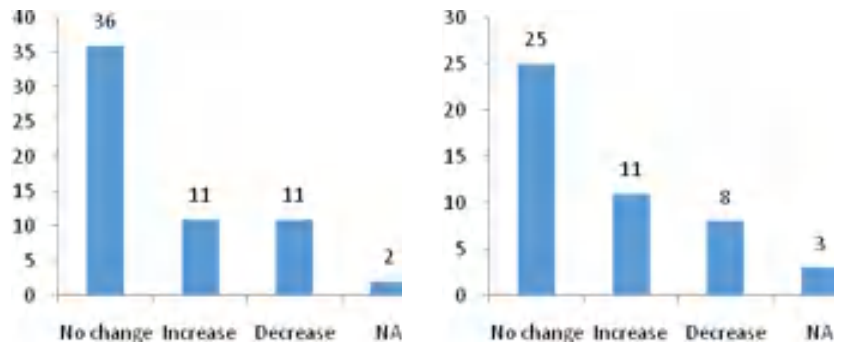


i) Night shift

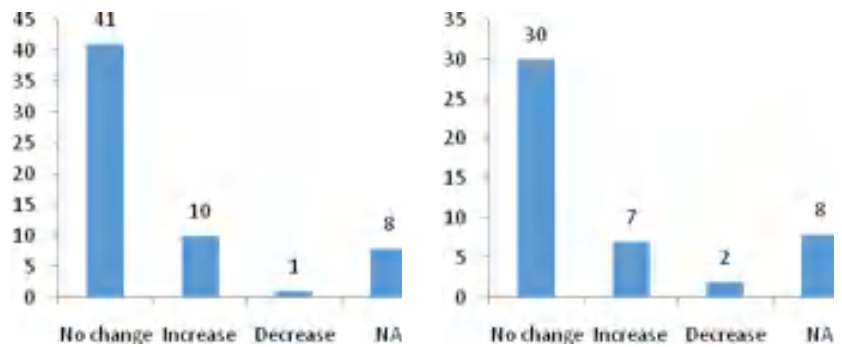


j) Total number of workers

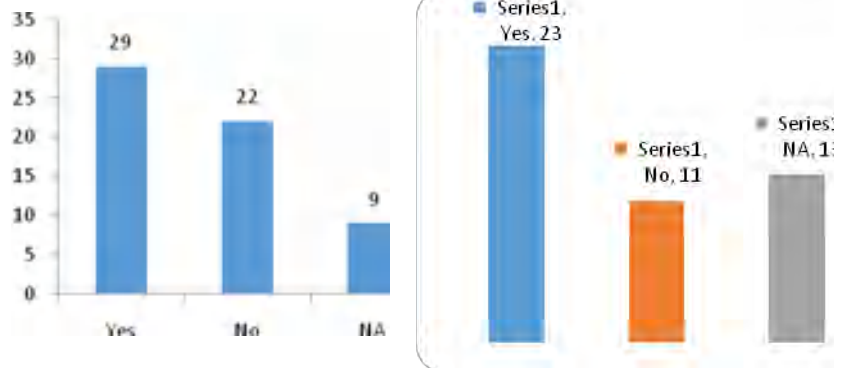
Wood and wood-based Furniture products



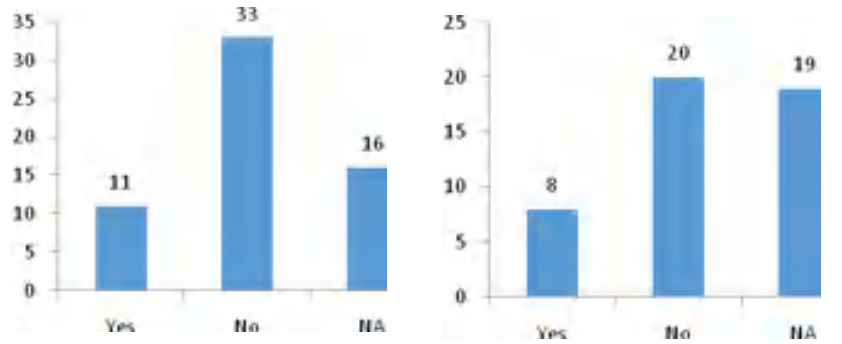
k) Other benefits of healthcare workers



l) Productivity-linked wage system

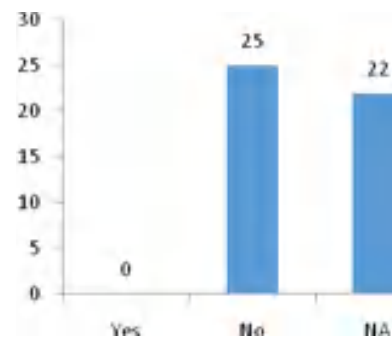
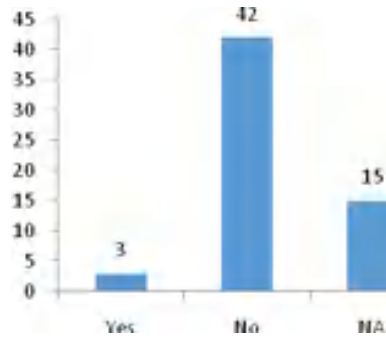


m) Relocation of operation



n) Ceased operations

Wood and wood-based Furniture products



o) Curtailed/reduced operation

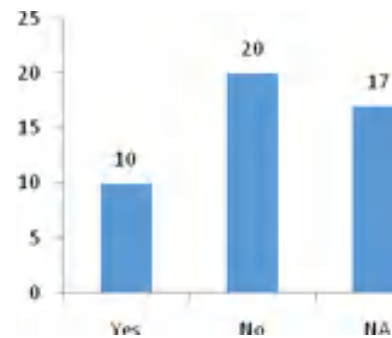
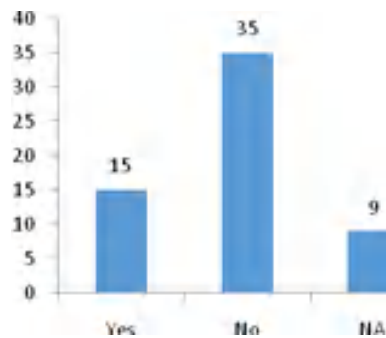


Figure 2 Impact of minimum wage on productivity

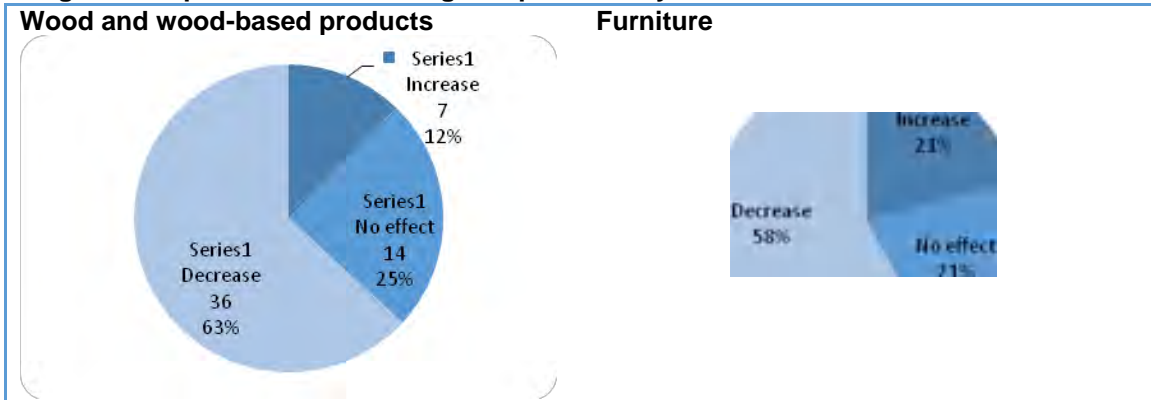


Figure 3 : Expectations of Wood and Wood-based Products Sector on government's assistance for productivity improvement

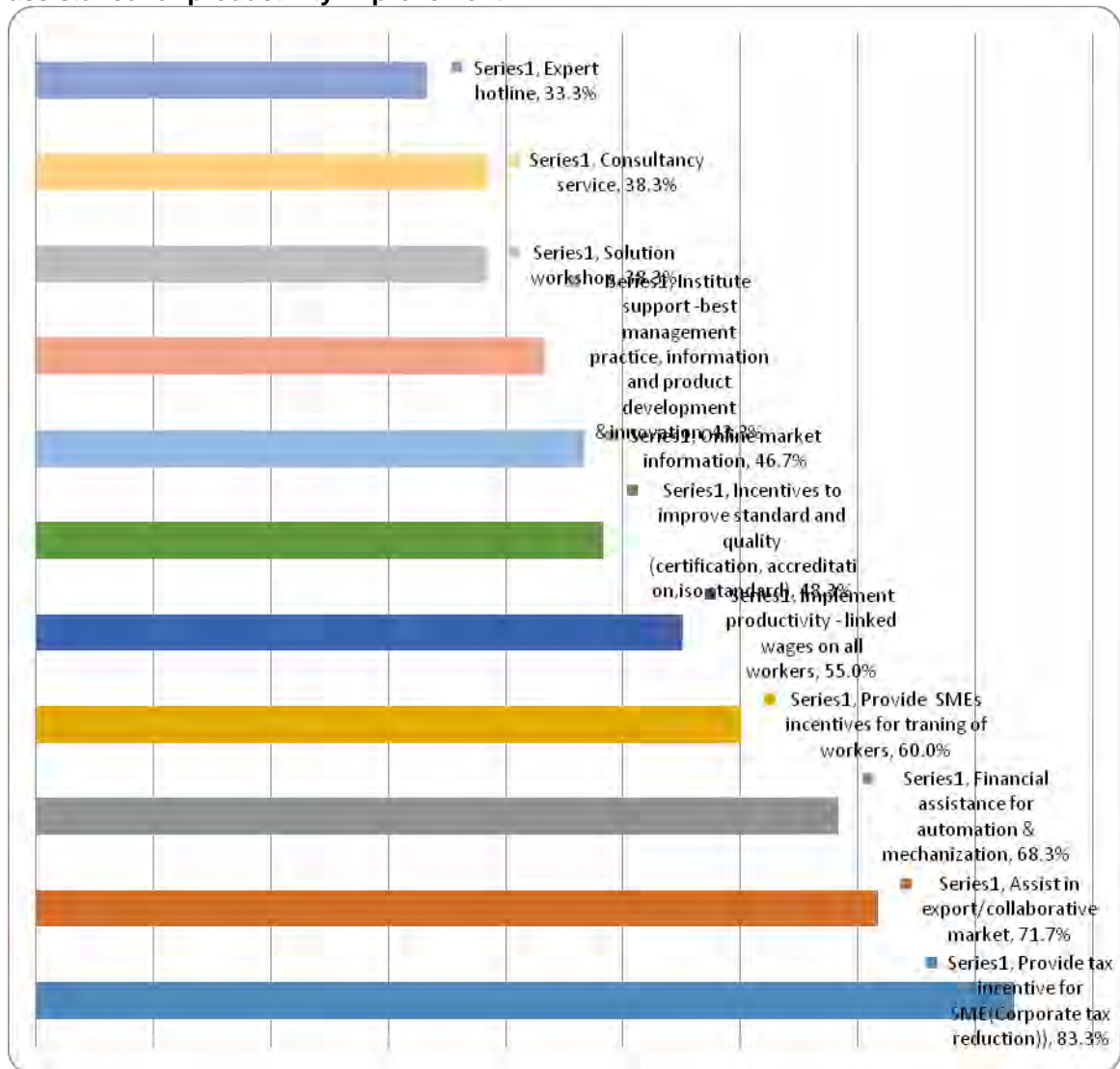


Figure 4 Expectations of Furniture Sector on government's assistance for productivity improvement

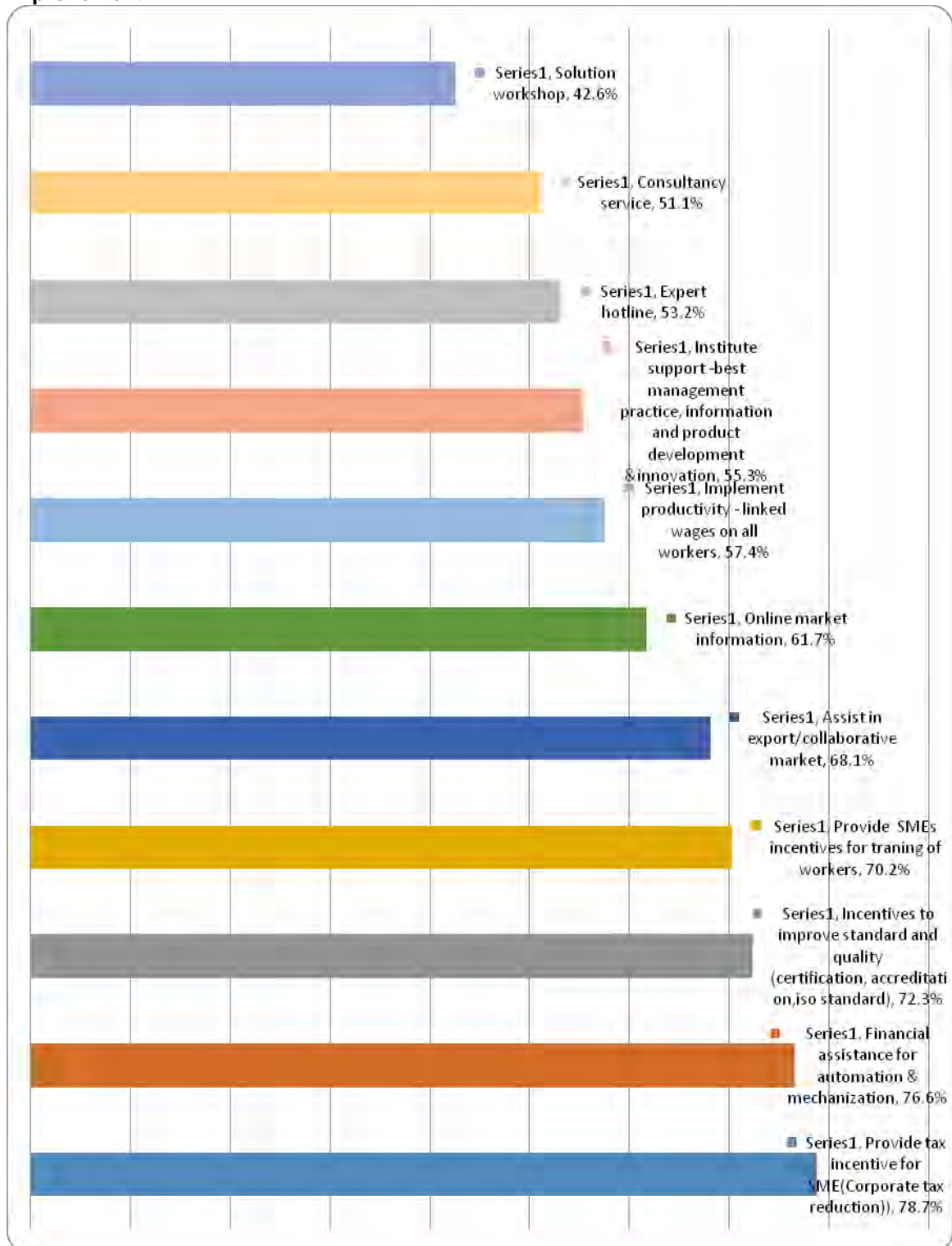


Figure 5 Change of productivity after implementation of minimum wage



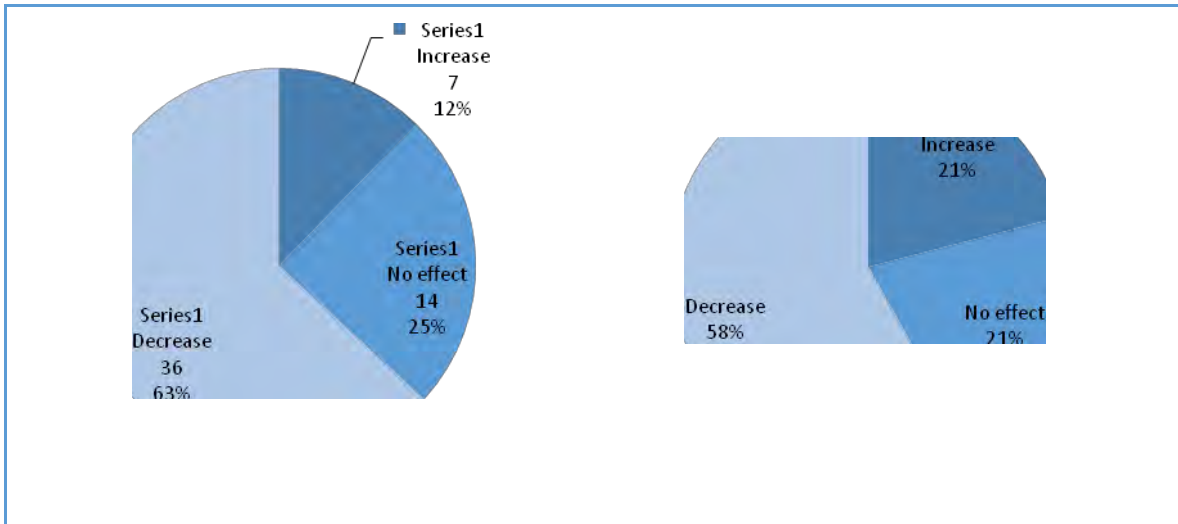
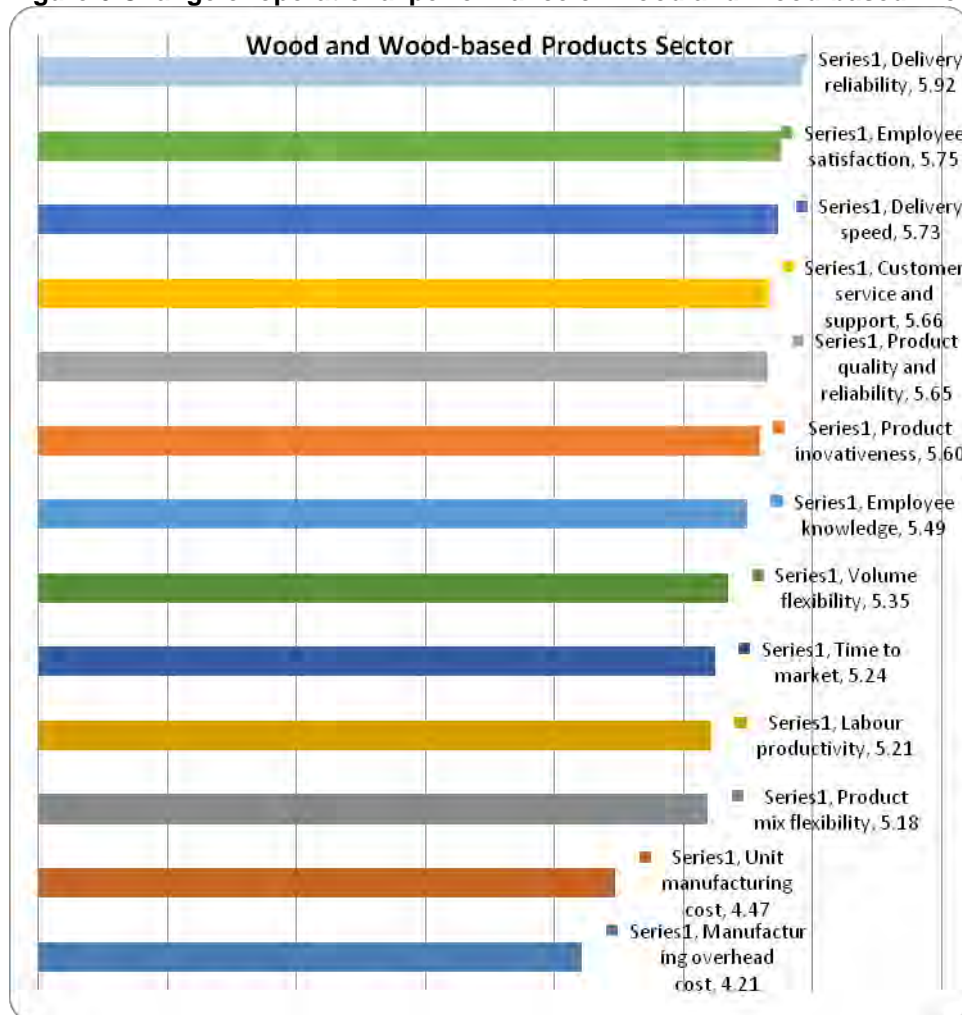
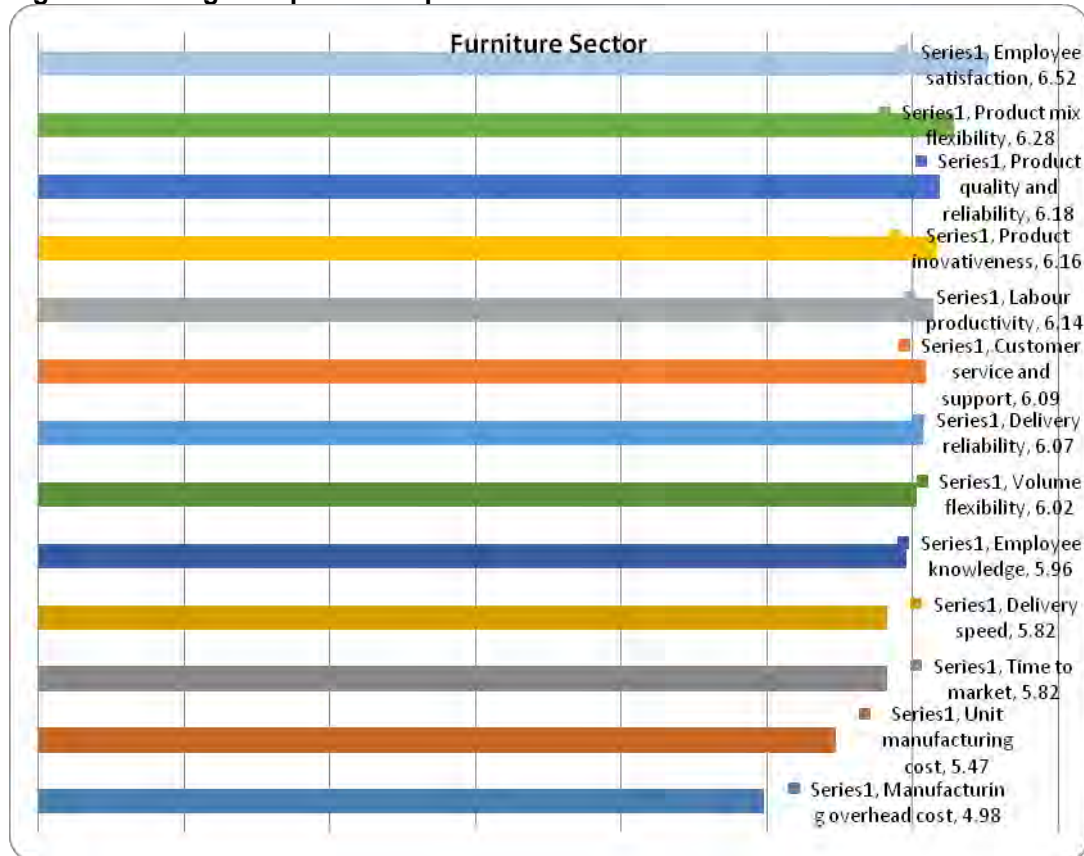


Figure 6 Change of operational performance of Wood and Wood-based Products Sector



Note: 1 = Much Worse; 10=Much better

Figure 7 :Change of operational performance of Furniture Sector



Note: 1 = Much Worse; 10=Much better

Table 1: The impact of minimum wage implementation on firms' labour cost

	Wood and wood-based products	Furniture	Total
No impact	6	2	8
1-5%	6	5	11
6-10%	11	10	21
11-20%	21	13	34
21-30%	10	14	24
31-40%	2	1	3
Above 40%	4	2	6
Total	60	47	107