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Degree of Internationalization and Performance: Mediating Role of Innovation and Moderating Role of Knowledge Management System

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ABSTRACT

This study examines the relationship between degree of internationalization (DoI) and performance. Drawing on the inconclusive results in the DoI-performance relationship literature, this study draws attention to the mediating role of innovation. Despite a large body of literature on the relationship between innovation and performance, there is no consistent conclusion for this relationship. Hence, moderating role of knowledge management system (KMS) was empirically investigated in this study. The hypotheses were tested using 226 Malaysian internationalized firms. The results show a positive linear relationship between DoI and performance. Besides, the mediating role of innovation and the moderating role of KMS were empirically supported.

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INTRODUCTION

As more and more internationalizing firms compete in a dynamic and challenging global marketplace, firms' degree of internationalization (DoI) has become a critical success strategy for firms and is believed to have a considerable positive impact on firms' performance (Assaf et al., 2012; Karasiewicz and Nowak, 2014). Internationalization of firms has been widely researched for many years and it covers one of the broadest scopes of research today (Ruzzier et al., 2006).

Specifically, understanding the performance outcomes of firms' internationalization has been known as a major issue in the strategic management (Marano et al., 2016) and international business literature (Riahi-Belkaoui, 1996), and it has been recognized as a "one big question" (Karabag and Berggren, 2014). Despite the fact that many researchers have been trying to find a consistent answer for it (Bowen and Rugman, 2007), the degree to which this internationalization movement is contributing to overall performance of a firm is questionable (Garbe and Richter, 2009) and the findings are inconsistent and contradictory (Ruigrok et al., 2007; Marano et al., 2016).

Given the inconsistent results in DoI and performance (DoI-P) relationship, researchers have called for more studies (e.g., Marano et al., 2016) to consider the impact of intervening variables (e.g., Hitt et al., 2006; Ruigrok et al., 2007). This may help crystallize our understanding of the boundary conditions in which the relationship is true and the mechanism that drives internationalization to performance. Hence, this study is motivated by the abovementioned issue in the results of DoI-P relationship and the need to consider intervening variables that can better explain the relationship with less ambiguity. This study examines the mediating role of innovation in the DoI-P relationship.

In today's hyper-competitive business environment, innovation has been considered as one of the important drivers of internationalization. Despite a large body of literature on the relationship between firm innovation and performance, there is no reliable conclusion for this relationship (Koc and Ceylan, 2007). Some scholars found a positive (e.g., Zahra et al., 2000; Camisón and Lopez, 2010), negative (e.g., Oxley and Sampson, 2004), and no direct relationship (e.g., Zhang et al., 2007) between innovation and performance. Given this conflicting findings, researchers (e.g., Overall, 2015) called for study considering intervening variables. There are studies investigating the effect of moderating variables between innovation and performance (e.g., Alegre and Chiva, 2008), but the moderating role of KMS has not been addressed adequately. Knowledge as a unique asset that needs to be well-managed, is fundamental to a firm's innovation capability.

Recently, internationalization of firms from developing countries has increased and these nations have become important players in the outward FDI (OFDI) of the global market (Ahmad et al., 2015). According to Kaynak et al. (2007) in the next two decades, most of the world's trade growth (75%) will come from developing countries. According to the World Investment Report (2015), Malaysia was ranked 17th in terms of OFDI in the top 20 list, reflecting Malaysian firms' foray into the global arena to seek new market opportunities. The contextual characteristics of this study may further enhance the usefulness of the study. In fact, hundreds of studies on firms' internationalization are mainly from developed countries (e.g., Almodóvar, 2012) and very little is understood about the DoI-P relationship of firms from developing countries. This study attempts to fill this void. Hence, the main objectives of this study are:

- To investigate the direct and indirect DoI-P relationship of Malaysian internationalized firms while testing the mediating role of innovation;
- To test the moderating role of KMS between innovation and performance in the context of Malaysian internationalized firms.

Whilst this study is not exploratory, to our knowledge, it is one of the first attempts to disentangle the complex DoI-P relationship in the light of mediating role of innovation. A majority of prior studies have postulated linear and non-linear DoI-P relationship while proposing various moderating variables. Drawing on the literature, not all internationalized companies are able to benefit from innovation. The substantial contribution of this study is in the framing of a theoretical framework where DoI drives performance, but innovation acts as a full mediator. This argument is supported by empirical evidence and is congruent with Uppsala theory and the resource-based view (RBV) perspective.

Besides, this study attempts to address the conflict in the innovation and performance relationship. According to Kotabe et al. (2002), one of the key objectives of firms is to decrease the cost related to innovation activities and internationalization may help to reduce such cost if firms use the well-designed KMS effectively. This study indicates that KMS positively moderates the relationship between innovation and performance.

As Ripollés-Meliá et al., (2007) argued, firms vary in their international activities in terms of degree and scope which these two dimensions can be considered as the most important representative factors of firms' internationalization commitment. Elango (2006) offered a broad definition of DoI. It is described as the degree to which firms' revenue, sales or operations comes from outside of their home country borders. This definition assumes that DoI is a continuum that ranges from low foreign market commitment (e.g., exporting) to high foreign market commitment (e.g., FDI such as wholly owned subsidiaries). Generally, foreign direct investment (FDI) and exporting are two significant strategies of internationalization which are not mutually restricted and in reality many internationalized firms undertake both these types of entry modes (Lu and Beamish, 2006). This study follows Elango's (2006) definition of DoI and because in the context of this study firms with different type of entry mode strategies are considered, DoI in this context can be defined as firms' degree and scope of all international business activities which create competitive advantage, increase sales and revenue, and accordingly lead to higher performance.

Besides, as Kirby (2005) and Richard et al., (2009) noted, the definition of "performance" is an open question in management literature. Firm performance has been defined as a multidimensional construct (Naman and Slevin, 1993) and multiple measures (Damanpour, 1991). Moreover, Hult et al. (2008) noted that the assessment of performance in IB literature is relevant to three dimensions including types of performance measurement (financial, operation and overall effectiveness), level of performance analysis (firm, subsidiary or strategic business unit, and interorganisational level), and types of source of data (secondary and primary). As Hult et al. (2008) and Gomes and Ramaswamy (1999) suggested, whilst in the IB domain knowledge is deepened, it is significant to imply multiple types of performance to acquire a complete understanding of nature of performance in all dimensions. Hence, in the present study, firm performance definition refers to firm financial, operational and overall effectiveness performance. This study contends that ultimately the net influences of internationalization should be reflected in firm's financial and non-financial achievements and its position in the market.

Furthermore, literature provides various definitions for knowledge management (KM). KM has been defined by Beckman (1999) as "formalization of an access to experiences, knowledge, and expertise that creates new capabilities, enables superior performance, encourages innovation, and enhances customer value." Chow et al. (2005) also defined KM as the set of important activities that facilitate knowledge creation, storage, diffusing and implementation in organizations. According to Gloet and Terziovski (2004), KM practices are highly subjective in natures and are subject to different interpretations. Moreover, Rastogi (2000) contend that "KM is an integrative and systematic approach of coordinating organizational activities such as creating, obtaining, storing, sharing, utilizing, and deploying knowledge in order to pursuit important organizational objectives" (p. 22). Hence, considering and following the KM definitions offered by Beckman (1999) and Rastogi (2000), this study considers KM as one of the fundamental and important factors which supports all other performance enhancement elements such as innovation, increases efficiency and leads to a sustainable competitive advantage for a firm. Accordingly, based on the objectives of present study, this study attempts to provide a better understanding of role of KM process and systems by investigating the moderating role of KM practices in enhancing the effects of firm-level innovation on internationalized firm performance and showing that strong KM practices in a firm enhance positive effects of innovation on performance.

This paper is structured as follows. Section two explains the theoretical background of the study and develops hypotheses. Section three explains the research methodology, the operationalization of constructs, and data collection procedure. The results are indicated in section four. The research findings and discussions are presented in section five. The last section is devoted to the conclusion, implications, limitations, and future research directions.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Based on Hennart (2007), there is no one theoretical basis that can completely explain the complex DoI-P relationship. There are various theories explaining internationalization. Depending on which aspects of firms are being investigated, relevant theories can be selected. This study attempts to examine the DoI-P relationship from the perspective of experiential knowledge. Knowledge, as firms' critical resource, has been recognized as a key determinant of internationalization (Zhou et al., 2007). Hence, this study draws on insights from the Uppsala theory and RBV.

According to Hadjikhani and Johanson (2002), in the firms' internationalization debates the most important theory which contributes more to justify firms' successful internationalization is Uppsala theory. Uppsala theory is one of the classic and dominant internationalization behavioral theories and its main concepts are psychic distance, experiential learning and market knowledge, as well as market commitment (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1990). Relying on Uppsala theory, due to lack of knowledge which impacts on the level of uncertainty at the beginning of internationalization, firms enter countries with less psychic distance. Ultimately, through acquiring experiential knowledge firms tend to increase their international involvement and market commitment through expanding into more distant markets (Johanson and Vahlne, 2009).

RBV (Wernerfelt, 1984; Barney, 1991) with its focus on the relation between firms' resources and performance helps to justify the DoI-P relationship. According to RBV, firms that possess and exploit the collection of superior resources (non-substitutable, rare, valuable, and inimitable) can achieve sustainable competitive advantage and succeed over competitors in foreign markets (Barney, 1991; Camisón and Villar, 2009). In the RBV, firms' knowledge is seen as an important and strategic resource which could be a potential source of sustainable competitive advantage (Barney, 1991). In this study, the RBV view is considered to explain the DoI-P relationship as we believe firms possessing unique and valuable resources (e.g., knowledge) obtain specific capabilities across foreign markets and enjoy superior performance while their DoI increases.

Innovation is an effectual way to develop company's productivity (Lumpkin and Dess, 1996) and increase firm's capabilities through exploitation of potential opportunities in the market and thereby, achieve competitive advantage (Bakar and Ahmad, 2010). According to RBV, exploitation of valuable knowledge and intellectual capabilities has become the major sources of firms' competitive advantage. Knowledge has been acknowledged as the most strategically important organizational asset to attain innovation competitive advantage and performance (Teece, 1998). Based on RBV, we believe that the inclusion of innovation as a mediating variable in DoI-P relationship and KMS as a moderating variable toward innovation and performance can help us understand better the impact of DoI on performance. The conceptual

framework is given in Figure 1.

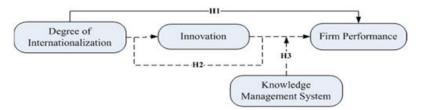


Figure 1 Research Theoretical Framework

DoI and Firm Performance

The DoI-P relationship has been researched extensively. The literature shows inconsistency in the findings and the relationship has seen many forms; no relationship (e.g., Geringer et al., 1989; Hoskisson and Hitt, 1990), positive (e.g., Pangarkar, 2008), negative (e.g., Collins, 1990), U-shaped (e.g., Assaf et al., 2012), inverted U-shaped (e.g., Hitt et al., 1997; Capar and Kotabe, 2003; Brida et al., 2016), S-curve or sigmoid model (e.g., Lu and Beamish, 2004; Contractor et al., 2003), inverted S-curve or reverse sigmoid (e.g., Ruigrok et al., 2007), M-curve (Lee, 2013), and a W-curve model (Fernández-Olmos et al., 2016).

According to prior studies (e.g., Nachum, 2004; Chiao and Yang, 2011), the performance implication of internationalized firm from developing nations is determined by the firms' DoI. But very few studies (e.g., Chelliah et al., 2010) have attempted to empirically explain the DoI-P relationship, particularly, in the Malaysian context. Researchers (e.g., Meyer and Xia, 2012; Wu and Chen, 2014) have noted that firms from developing countries lack specific resources (e.g., advanced technologies, international experience, and knowledge) and hence have a weak competitive advantage compared to their counterparts from developed countries. Given that knowledge is one of the critical resources in firms' early stage of internationalization (Knight and Liesch, 2016), scholars have argued that firms from developing countries are still in their initial stage of internationalization (Sim, 2006; Marinov and Marinova, 2011) and lack critical knowledge.

In the context of Malaysia, researchers (e.g., Ahmad, 2009; Mulok and Ainuddin, 2010) believe that Malaysian firms are young, relatively new to international markets and still in their initial stage of internationalization. They lack competitive resources, technologies, international experience and foreign market knowledge while attempting to internationalize. Therefore, these firms prefer to enter foreign markets that are geographically close and culturally similar to their home markets, particularly Southeast Asian countries (Reiner et al., 2008; Ahmad, 2009; Sim, 2012). Malaysia has some close linguistic and cultural similarities with countries such as Singapore, Thailand, and Indonesia. These may facilitate their initial foreign market entry with

lower entrance costs. According to Ahmad (2009), Philippines, Indonesia Thailand, and Singapore have been among the most important trading markets of Malaysia since the 1990s because of physical and cultural proximity.

Particularly among studies investigating DoI-P relationship in developing countries, the majority of these studies focused on SMEs and proposed a positive linear DoI-P relationship (e.g., Chelliah et al., 2010; Pangarkar and Hussain, 2013; Yeoh, 2014). According to Nachum (2004), the positive DoI-P relationship in developing countries (including Asia and South-East Asia) may be due to their early internationalization stage as they have not reached the threshold point (or turning point) where the internationalization costs conquer its benefits. Based on the above arguments, we hypothesize as follows:

H1: There is a positive linear relationship between the degree of internationalization (DoI) and performance of Malaysian internationalized firms.

Mediating Role of Innovation

Given the ambiguity and lack of consensus among scholars about the DoI-P relationship, Zhou et al. (2007) contended that this inconsistency could be due to the fact that the role of possible mediating variables has been neglected. Therefore, researchers (e.g., Ray, 2009) called for more studies focusing on the role of mediating factors in the indirect DoI-P relationship. However, to the knowledge of author, very few studies (Zhou et al., 2007; Boermans and Roelfsema, 2016) attempted to investigate the indirect effect of DoI on performance. This study investigates the mediating role of innovation in the context of Malaysian internationalized firms.

Innovation has been defined by Joseph Schumpeter as a concept consisting of creativity elements, R&D, advanced technologies, new systems, new processes, and new service or products (Lumpkin and Dess, 2001). In fact, innovation has been seen as the main factor for competitiveness in industries and economic development in a country (Alegre and Chiva, 2008) which can be directed towards exploring new knowledge and exploiting firms' existing knowledge (Verwaal, 2017). Researchers noted that due to resource constraint issues, innovation is an effectual way to increase a firm's capability through the exploitation of potential opportunities in the market and achieve competitive advantage (Bakar and Ahmad, 2010).

Internationalization has been indicated as the key dimension of firms' ongoing strategy process (Melin, 1992) and is considerably vital in the development of innovation (Williams and Shaw, 2011). Earlier economists supported the argument that innovation increases with internationalization of firms, however, scholars have proposed strong arguments that support the positive impact of internationalization on innovation (e.g., Hitt et al., 1997). Boermans and Roelfsema (2016) have mentioned that there is an increasing literature arguing that internationalization not only improves performance but also spurs the firms' innovation. Firms with high DoI, in terms of the number of

countries penetrated, are exposed to different environment, cultures and best business practices. These enable the firms to learn a new way of doing business in diverse contexts, develop and exploit resources, core competencies and networks, and increase their innovation (e.g., Hitt et al., 1997; Zahra et al., 2009; Boermans and Roelfsema, 2016).

Scholars (e.g., Williams and Shaw, 2011) have argued that in today's turbulent business environment successful internationalization is highly related to firms' innovation capability. A large body of literature ascertains that innovation is one of the critical organizational success factors which facilitates acquiring core competencies and competitive advantage in global markets and transferring these advantages into performance (e.g., Hitt et al., 1997; Rodriguez and Rodriguez, 2005; Varis and Littunen, 2010). According to Boermans and Roelfsema (2016), for innovation to increase firms' performance, internationalization is an essential condition.

Based on Uppsala theory, there is empirical evidence that explains the concept of "learning-by-doing". Internationalization increases firm's knowledge and enables it to acquire new ideas thereby enhancing its ability to innovate (e.g., Vila and Kuster, 2007; Zhang et al., 2010). Internationalization enhances firms' innovation capability by increasing their learning ability, enabling firms to access technical expertise, and by acquiring more advanced technologies and market knowledge.

As firms' DoI and their foreign market commitment increase they need to spend more resources and be more innovative in order to obtain a sustainable competitive advantage. Given the fast-growing global competition and internationalization, particularly international presence of firms from developing countries (Sim, 2012), firms with high DoI have higher foreign involvement in term of resource commitment (Kumar and Subramaniam, 1997; Lotayif, 2003) which this may provide necessary resources to sustain a large-scale R&D operation and provide greater opportunities to increase firm-level innovation. Thus, high DoI enhances firm's presence in different foreign markets with different cultures, which facilitates their access to new ideas and knowledge, and subsequently lead to higher innovation capability.

Moreover, congruent with Hitt et al., (2016), internationalization provides benefits for firms in the form of learning new knowledge, knowledge dissemination and increasing innovation capabilities. Based on the RBV, relying on firms' heterogeneity in terms of capabilities and specific resources, it can be stated that internationalized firms are a bundle of critical and valuable resources and capability which leads to development and maintenance of competitive advantage through innovation capabilities. The basic idea of the RBV is that generally firms' specific resources and capabilities enhance the firms' effectiveness and efficiency, provide core competency and sustainable competitive advantage (Barney, 1991; Sirmon, Hitt and Ireland, 2007), and particularly helps to improve and develop new products and business services (Bello et al., 2016). Firms may derive potential competitive advantage through 3 exploitation of specific resources and so forth. Accordingly, firm innovation capability as reviewing the existing literature reveals that several studies have pointed out the positive effect of innovation on firms'performance (e.g., Koc and Ceylan, 2007; Jiang and Li, 2009; Rosli and Sidek, 2013; Overall, 2015). Based on the above arguments, we hypothesize as follows:

H2: Innovation mediates the relationship between degree of internationalization and firm performance among Malaysian internationalized firms.

Moderating Role of KMS

Reviews of the existing innovation-performance literature indicate that evidence frequently show the inconclusive, mixed and conflict findings (Li and Atuahene-Gima, 2001; Rosenbusch et al., 2011). According to Rosenbusch et al. (2011), prior studies (e.g., Li and Atuahene-Gima, 2001; Thornhill, 2006) suggested that the relationship between innovation and performance is a moderated relationship and empirical findings show the existence of moderating variables more notably firm-level and firm-environment specific elements. Thus, conflicting findings in innovation and performance relationship suggest that this is more complex than what has been generally assumed by scholars (Coombs and Bierly, 2006), and thereby, need to be investigated within the context that it occurs (Zhang et al., 2007) where there could be moderators between innovation and performance. As it is mentioned above, despite studies examining intervening variables in innovation-performance relation, the moderating role of KMS has not been adequately addressed.

In fact, in this fast-changing global business arena, Knowledge-based competition is happening rapidly leading to a fast technology-changing and value-creating sources shifting from tangible to intangible resources which are mainly knowledge-based elements (Andersson et al., 2016). Based on Andersson's et al., (2016) Meta-analysis, the focus of international business researches are shifting to the new sources of value creation like firms' innovation and knowledge, indicating the important role of knowledge and knowledge elements in the firms' internationalization and performance maximization. As it is stated, internationalized firms' learning and knowledge elements of firms' internationalization causes, development, and outcomes (De Clercq et al., 2012).

The ability to obtain and exploit new knowledge is very important and needs an organized system to transfer and share knowledge across individuals in firms and encourage them to implement it effectively (Assaf et al., 2012). Therefore, internal (tacit and explicit) knowledge sharing has been known as an essential factor to attain efficient coordination in internationalized organizations (e.g., Michailova and Minbaeva, 2012; Pla-Barber and Alegre, 2014). Accordingly, firms with better KM practices share, organize, and exploit knowledge effectively and are better able to transfer their innovation capability into higher performance. Some prior studies have explained that

KM can lead to increased competitive advantage and positively impact performance (e.g., Chadha and Kapoor, 2010). Prior researchers have argued that firms with effective KM have a KM orientation, in which KM practices become an effective guiding philosophy that affect business strategies undertaken in the firms and ultimately improve firm performance (e.g., Darroch and McNaugton, 2002). Some studies highlighted the crucial role of KM practices in creating an effective internal working environment which positively fosters innovation and enhances performance (e.g., Gloet and Terziovski, 2004; Du Plessis, M., 2007).

According to the learning perspective (Johanson and Vahlne, 1977), internationalization is an incremental process that promotes organizational learning and creates valuable knowledge (e.g., Barkema and Vermeulen, 1998). The dominant premise for this theory is that knowledge is the basic and primary intangible resource of a firm which includes information and also capability to utilize it (Krist, 2009; Assaf et al., 2012). As this theory explains, through gradual acquisition, integration, and implementation of knowledge acquired in foreign markets, internationalization leads to create competitive advantage (Johanson and Vahlne, 1977/1990; Krsit, 2009). In internationalization context, the significant type of knowledge is experiential knowledge acquired through learning and that can be occurred by transferring experiences from a foreign market into valuable knowledge (e.g., Johanson and Vahlne, 1977; Eriksson et al., 1997; Krist, 2009). Experiential new knowledge can be classified into specific foreign market knowledge and general internationalization knowledge. Johanson and Vahlne (1977) acknowledged these two types of knowledge as aspects of the firms' human resources which impacts on new products and services development and ultimately contribute to higher performance.

Furthermore, the RBV clearly explains the importance of firms' KM practices and capability. Based on the resource-based view of KM, knowledge is an imperative strategic intangible resource which leads firms' long-term sustainability and success as it is valuable, unique and not easy to imitate (e.g., Grant, 1991). Relying on this perspective, KM practice helps firms to acquire and create additional value through more actively utilization of knowledge by harnessing employees' intellectual capabilities (eg., Gold et al., 2001; Chen and Huang, 2009).

Indeed, firms' KM can be defined as their ability to identify, organize, and implement knowledge management-based resources with other capabilities and critical resources, and help to provide a framework for managers to improve and develop their organizational capability and increase innovation and create higher performance (Darroch, 2005). Based on knowledge-based view (KBV), scholars have argued that differences in firms' performance are due to differences in their knowledge, knowledge processors (human and computer-based) and knowledge practices (e.g, Holsapple and Wu, 2011). As Holsapple and Wu (2011) noted, successful firms intentionally manage their knowledge resources and design KM practices to create value and improve performance.

Accordingly, a company's performance stems from the well-organized innovation process in which the effectiveness may be greater once the knowledge resources of firms are high and well-managed. A firm's existing knowledge and ongoing process of new knowledge acquisition, sharing and transferring can support firms to utilize innovation capability more effectively and achieve superior performance. Therefore, based on the above discussion we contend that impact of innovation on firm performance would be much stronger in the presence of capable and appropriate KMS in companies and accordingly the following hypothesis is formulated:

H3: Knowledge management system moderates the relationship between innovation and firm performance in the context of Malaysian internationalized firms. That is, under high KMS situation, the strength of relationship between innovation and performance is stronger while under low KMS situation, the strength of the relationship is weaker.

METHODOLOGY

Research Design and Sampling

The population for this study encompasses all Malaysian internationalized firms in all industries. Of the target population in this research, samples selected to study were originally drawn from companies listed in Bursa Malaysia (Kuala Lumpur Stock Exchange, KLSE). As reported in KLSE, there were 981 firms listed in the Bursa Malaysia at the time of this study (Bursa Malaysia, 2014). All the firms (981) were considered as sample for this study. During data collection process, correct email addresses of 670 out of 981 listed firms were identified. A total of 311 firms could not be reached through email due to outdated or incorrect email address and therefore, 80 questionnaires were posted to the address. In addition, 65 companies were visited personally. Finally, 815 questionnaires were distributed and 226 firms completed and returned the questionnaires (the response rate of 27.73%). The respondents were upper-level managers (e.g., CEO).

Measures

In this study DoI was measured by using a composite measurement model following the prior studies (Contractor et al., 2003; Thomas and Eden, 2004; Assaf et al., 2012). The Sullivan's (1994) DoI measurement includes the relation between external sales to firm's total sales (FSTS), the ratio of foreign assets to total assets of firm (FATA), the ratio of firm's overseas subsidiaries to total subsidiaries (OSTS), the psychic countries and international experience of top managers (TIME). According to Thomas and Eden (2004). FSTS indicates the firm's foreign market penetration, FATA and OSTS represent the firm's foreign production presence, and the geographic dispersion reflects

the firm's foreign country scope as expressed by the number of foreign countries where firms have subsidiaries

Innovation was assessed by adapting multiple items from Knowles et al. (2008) in the form of interval scale (where 1= strongly disagree and 7= strongly agree). These items capture the intensity (degree and type) of firm's product/service, process, and business innovation capabilities and reflect a broader innovation's conceptualization which includes both firms' technological and non-technological innovations. Unlike other studies, the measurement scales proposed by Knowles et al. (2008) distinguishes between the adoption and creation of innovative ideas in firms.

To measure KMS construct, this study used 25 items adapted from Abd Rahman et al. (2013). In fact, these items represent the four sub-dimensions including knowledge acquisition, conversion, implication, and protection. Each of these components was assessed with six items for knowledge acquisition, seven items for knowledge conversion, five items for knowledge implication, and seven items for knowledge protection, using a seven-point Likert-scale (ranging from 1= strongly disagree to 7= strongly agree).

The dependent variable of this study, firm performance, was measured by using measurement instrument adapted from Pangarkar (2008) and Pangarkar and Hussain (2013) which used a composite subjective measure using six items (ROS, ROA, sales growth, profit growth, and ratio of foreign profits to total profits, and acquired experiential knowledge while internationalizing). Respondents were asked to rate their extent of satisfaction during last five years (Yeoh, 2014) with regard to their firm's performance outcomes.

Nature of Constructs: Formative versus Reflective

The Confirmatory Tetrad Analysis (CTA-PLS) utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) as proposed by Gudergan et al. (2008) was used along with the guidelines by Jarvis et al. (2003). The CTA analysis helps to evaluate the cause and effect relationships of a latent variable and facilitates specification of indicators' measurements model. In the current study, CTA analysis was performed and to confirm the measurement models of constructs, t-statistics results were evaluated. For each construct, if the majority of the indicators are significant (if t-value > 1.64, one-tailed), then it is formative, and if majority of the indicators of the construct are not significant (if t-value < 1.64, one-tailed), then the construct is reflective. In this study it has been found that DoI, performance, and innovation are formative constructs and KMS is considered as a second order formative construct with 25 indicators.

Selection of Analysis Technique

In this study the data were analyzed using partial least square structural equation Modelling (PLS-SEM) in order to identify the best-fit model of performance implication of Malaysian internationalized firms (Hair et al., 2014). Based on the objectives of this research, PLS approach is considered to be the more appropriate analytical technique due to following reasons (Hair et al., 2014):

- It is a variance-based method which is oriented toward the predictive aspects of the proposed model;
- In terms of sample size, it involves minimal demands;
- It does not assume multivariate normality and when assessing the structural model it considers the measurement model as well;
- Where the model contains formative variable (Diamantopoulos and Winklhofer, 2001); and
- It works well where a robust analysis is required while the model is complex.

RESULTS

Descriptive Statistics

Descriptive analyses were performed to understand the profile of 226 Malaysian internationalized firms and the results are given in Table 1. The important findings are: (1) the average international sales of firms are between 31%-40% of total sales; (2) about 69.91% of the firms have international business activities in South-East Asia and 59.73% in Eastern Asia. More specifically, a great number of the sampled firms (71%) have international business activities in Singapore, China, Thailand, Indonesia, Vietnam and Cambodia.

Moreover, in the questionnaire there were some open-ended questions regarding Malaysian firms' international expansion and entry mode strategy such as their main objectives for internationalization, the type of entry mode strategy firms use to enter their first foreign country, the types of entry mode strategy have firms used since beginning of their internationalization until now, and the name of very first foreign country the company entered and the reasons they choose that country as their first foreign market. The results show that increasing sales and profit (82%), accessing to know-how and expertise (77%), and gaining market share (65%) as the main objectives for internationalization of Malaysian firms.

Moreover, the findings show that the majority of the sampled companies (78%) used exporting (through agents, distributors, or export agencies) as their first entry mode strategy and 84% of the sampled firms highlighted factors such as geographic proximity, socio-cultural and psychic distance, similarity in business environment and language, as well as availability of low cost resource as the main reasons to select the

neighboring countries as their first foreign markets. This is not surprising as many prior studies have shown that in the case of developing countries, particularly Malaysia, these factors play an important role in the selection of target foreign markets (e.g., Sim, 2012; Ahmad and Kitchen, 2008; Reiner et al., 2008). The mean, standard deviation, and correlation between constructs are given in Table 2. Overall average scores' value of the constructs in this study falls in the medium range (3.01 and 5), while KMS' mean value tends to be on the higher side compared to other constructs used, indicating that Malaysian internationalizing firms have higher tendency to provide effective KMS while attempting to expand their business into foreign markets.

	Table 1 Companies' Profile	
Firm Age	Firm Size	Firm International
Filli Age	(number of employees)	Experience Mean: 17 years
Mean: 36 years		
	Information and communication technology	19.46%
	Mining and quarrying (including oil and gas)	6.65%
	Textiles and wearing apparels	3.53%
	Food, beverage and tobacco	5.75%
	Wood and paper products	2.65%
	Machinery and Industrial equipment	8.85%
	Electrical equipment	2.21%
Industrial Sector	Pharmaceutical*	3.53%
(%)	Chemicals and chemical products	4.42%
	Rubber and plastic products	2.65%
	Real estate activities	3.53%
	Financial services and insurance	9.73%
	Construction	5.75%
	Agriculture	5.75%
	Automotive	3.09%
	Other industries	12.45%
	South-Eastem Asia	69.91%
D 1	Eastem-Asia	59.73%
Regional Internationalization	Middle East	23.89%
	Oceania	29.20%
of Sampled Companies (%)	Europe	25.66%
Companies (70)	America	19.91%
	Africa	4.42%
Average Volume	Domestic sales	60-69%
of Firms' Sales	31-40%	

Table 2 Descriptive Statistics and Correlations

	Descriptive Statistics			Correlation		
Variables	Mean	Std. Deviation	DOI	FP	INN	KMS
DOI	3.6829	1.98444	1			
FP	4.4971	0.92496	0.690*	1		
INN	4.5062	0.60638	0.610*	0.549*	1	
KMS	4.8942	0.95250	0.530	0.686**	0.492**	1

**. Correlation is significant at the 0.01 level. *. Correlation is significant at the 0.05 level. N=226

Measurement Model

While using PLS-SEM approach, the first step is to assess the measurement model (outer model) of the constructs which is required to ensure reliability and validity of the instrument. In this study, to assess measurement models since all the variables are formative, based on Hair et al. (2014) the collinearity among indicators as well as indicators' outer weights (significance of outer weights) were examined. Multicollinearity between indicators of formative construct was tested by running PLS algorithm. Based on Hair et al. (2010), items with VIF below 10 can be used for further analysis. In this study, all the VIF scores are below 10, suggesting that multicollinearity is not a concern. Outer weight assessment is another essential criterion to evaluate the formative measurement models. The outer weights of formative indicators (items) were assessed using the bootstrapping procedure in PLS. Andreev et al. (2009) have suggested that desirable outer weights of the indicators should not be less than 0.10. In this study, each indicator's outer weight is greater than 0.10 indicating the relevancy of the indicators.

Structural Model

After the measurement model was validated, the structural model assessment was conducted. The direct DoI-P relationship was tested followed by testing the mediating role of innovation performing PLS algorithm and bootstrapping approach. The results supports hypothesis H1 and shows strong direct DoI-P relationship (R2 = 0.657, t-value = 11.874, p-value = 0.000). In order to examine the mediating role of innovation, this study followed the "bootstrapping the indirect effect" procedure proposed by Preacher and Hayes (2008). The results are presented in Tables 3 and 4. Based on the results, the direct effect between DoI and innovation (t-value = 22.623; p-value = 0.000), and direct innovation and performance relation (t-value = 2.469, pvalue = 0.014) both were found to be statistically significant. Besides, the indirect effect between DoI and performance was also found to be significant (t-value = 2.321; p-value = 0.021). The results indicate that innovation mediates the DoI-P relationship (hypothesis H2 supported).

Relationship	0 1	Sample Mean	Standard	T-value	P- values	95% Confidence Interval	
			Deviation			Lower	Upper
DOI→INNO	0.708	0.728	0.031	22.623	0.000	0.64724	0.76876
INNO→FP	0.235	0.298	0.095	2.469	0.014	0.0488	0.4212
Table 4 I	ndirect Effe	ect between	DoI and Perfo	ormance in	the Presence		
	ndirect Effe Original	ect between Sample	DoI and Perfo			95% Co	nfidence
Table 4 I Relationship	Original			ormance in T-value	the Presence P-values	95% Co Inte	nfidence rval
		Sample	Standard			95% Co	nfidence

Table 3 Direct Effects between DoI-Innovation and Innovation-Performance

The interaction effect procedure was used to test and interpret the moderating effect of KMS. Based on the PLS algorithm and bootstrapping methods, the results of structural model evaluation for moderating role of KMS are given in Table 5. The results show that interaction effects of innovation and KMS on performance was statistically significant (t-value= 2.630; p-value=0.004).Hence, in the context of Malaysia, KMS positively moderates the innovation-performance relationship (hypothesis H3 supported). Further, following Dawson's (2014) recommendation the interaction effect was plotted and is given in Figure 2. In low KMS situation, even when innovation increases from low to high, performance does not change. However, in high KMS situation, increase in innovation (low to high), increases performance.

Table 5 Structural Model	Testing Results, I	Moderating Role of KMS	

Relationship	Original	Sample	Standard	T-value	P-values
Relationship	Sample	Mean	Deviation	1-value	1-values
Acquisition→KMS	0.211	0.211	0.009	22.931	0.000
Application→KMS	0.248	0.248	0.006	41.642	0.000
Conversion→KMS	0.293	0.292	0.007	39.847	0.000
Protection→KMS	0.338	0.338	0.009	39.334	0.000
KMS→FP	0.422	0.412	0.078	5.425	0.000
INNO*KMS→FP*	0.136	0.120	0.052	2.630	0.004

*Interaction effect of innovation and KMS on firm performance, significant at p-value<0.05, one-tailed test.

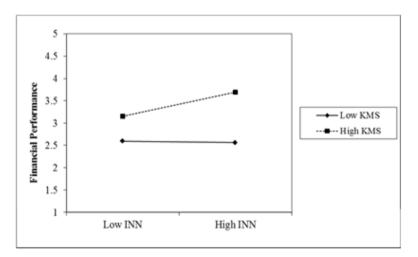


Figure 2 Moderating Effect of KMS on Innovation-Performance Relationship

DISCUSSIONS

The findings of this study reveal a significant positive DoI-Performance relationship. This finding is consistent with previous research conducted in Malaysia by Chelliah et al. (2010) and researches in other countries (e.g., Pangarkar and Hussain, 2013; Karasiewicz and Nowak, 2014). According to Nachum (2004), the positive DoI-P relationship observed among firms in developing countries may be due to their early internationalization stage as they have not reached the threshold point where the internationalization costs conquer its benefits.

The results of descriptive statistics in this study reveal that the majority of companies participated in this research have expanded their business into South-Eastern Asia (about 70%) and Eastern Asia (about 60%), particularly 71% of the sampled firms have business activities in neighboring countries such as Singapore, China, Thailand, Indonesia, Vietnam and Cambodia. Besides, the results show that the majority of the sampled companies (78%) used exporting (through agents, distributors, or export agencies) as their first entry mode strategy and neighboring countries as their first foreign markets.

These findings are consistent with Uppsala theory and several studies in the context of developing countries, particularly Malaysia (e.g., Ahmad and Kitchen, 2008; Chang, 2007; Reiner et al., 2008; Sim, 2012/2014) and other countries (e.g., Conconi et al., 2016; Zeng et al., 2013). These studies show that internationalizing firms mostly expand their business into foreign markets gradually as they accumulate knowledge, international business experience and vital resources. In other words, during their initial stage of internationalization, firms mostly prefer to enter their neighbouring foreign markets that are geographically and culturally close to their home markets.

The results show that about 82 percent of the companies selected increased sales and profit, accessing to know-how and expertise (77%), and gaining market share (about 65%) as their main objectives to enter foreign markets. As Senik (2010) clearly explained, some of the characteristics of the incremental internationalization process of firms are to have incremental international expansion pattern, gradual or slow pace of internationalization, focusing on psychic markets and using agent or distributors as well as direct export to customers as their major entry mode strategies.

Accordingly, it can be said that in the context of Malaysia, internationalizing firms follow a gradual internationalization process by selecting exporting as their first and main entry mode strategy and neighboring countries as their first target foreign market in which they initially expand into nearby countries without (or with less) suffering from liability of foreignness and incurring higher reconfiguration and entrance costs. The benefits of internationalization (e.g., accessing to critical resources, knowledge and technologies) provides opportunities for firms to acquire sustainable competitive advantage and ultimately increase their performance. However, contrary to the Uppsala model, and finding of this study and the abovementioned studies explaining incremental internationalization process of firms, some studies noted the phenomenon of "rapid" internationalization process and "born global" firms, and argued that internationalizing firms may be able to gain advantages from a rapid process instead of gradual expansion while internationalizing (e.g., Cuervo-Cazurra, 2011; Coviello, 2015; Knight and Liesch, 2016; García-García et al., 2017). The rapid internationalization model shows that firms can expand their business into distant foreign markets right after their establishment.

The rapid internationalization model is recognized by some criteria like the total turnover of firm, and speed and scope of internationalization. For example, the salient characteristics of born global firms are: (1) most of the revenue comes from overseas rather than home market, (2) enjoy strong networking relationships, (3) operate in international market within three years after their birth and have almost 25 percent of their international sales in their total turnover, (4) possess high level of skills, international orientation, confidence and diverse experience, and (5) are vigorously engaged in business activities in many foreign countries around the world while disregarding the psychic distance (Senik et al., 2010).

With regards to the role of innovation, finding of this study is significant and indicates that innovation mediates the DoI-P relationship in the context of Malaysia. Consistent with extant literature (Hitt et al., 1997; Kafouros et al., 2008; Dordević, 2016) highly internationalized firms are exposed to different environment and cultures which requires them to reconsider their strategies and do some modifications in the way they operate once they enter a new foreign market. Hitt et al., (1997) contended higher DoI not only enable firms to access rich source of knowledge and information, but also allows them to acquire novel ideas from greater number of different international markets with new and different cultural viewpoints. This exposure creates higher opportunities to gain valuable knowledge from various sources, enables them to learn more, allows them to acquire novel ideas, and hence leads to increase in innovation and efficiencies

Besides, innovation of firms reflects the combination of firms' resources and is developed gradually over the firm's lifetime (Monreal-Pérez et al., 2012). Given the fast growing global competition and internationalization, particularly international presence of firms from developing countries (Sim, 2012), firms with high DoI have higher foreign involvement in term of resource commitment (e.g., Lotayif, 2003). This may provide necessary resources to sustain a large-scale R&D operation and provide greater opportunities to increase firm-level innovation.

As Mitja et al., (2006) mentioned, internationalization represents geographic expansion of firms' economic activities across foreign boarders. Through geographically disperse R&D activities, firms can utilize various knowledge and ideas from different sources and subsequently improve their innovation capabilities (e.g., Hai, 2012). According to Filippetti et al. (2012), higher DoI of firms with activities in many diverse foreign markets, increase innovation of firms by exposing them to (1) strong competition of various foreign markets, (2) different innovation environment and (3) requirements of foreign markets and customers. The exposure enhances firms' ability to accumulate essential technological know-how through increasing R&D activities, and

ultimately develop the innovation. Thus, firms with high DoI have a greater chance to learn and improve their innovation.

The impact of innovation on performance shows a positive significant result in this study. This result is consistent with previous findings of research done by Hitt et al., (1997), Zahra and Gorge (2002), Hult et al., (2004), Rosli and Sidek (2013), and Naranjo-Valencia et al., (2016). Congruent with these studies and based on the RBV, innovation is a critical success factor in order to acquire core competence and competitive advantage and contributes to the firms' superior performance and high effectiveness in foreign markets. The ultimate purpose of firms to take innovative actions is to obtain higher benefits and profits (Varis and Littunen, 2010). Firms' innovation enhances performance by reducing the transaction and administrative costs, enhancing employees' satisfaction and accordingly their performance, organizing and managing corporate retreats, decreasing supplies' cost and accessing to non-tradable resources (e.g., Abdul Rahim et al., 2015; Overall, 2015).

The moderating role of KMS towards innovation-performance relation is another significant contribution of this research. The finding indicates that under stronger KMS the innovation-performance relationship is stronger than when the KMS is weaker. In the present study, the result of KMS assessment as a moderating variable supports the proposal of Uppsala theory, pointing that internationalization as a regular behaviour of firms (Hadjikhani et al., 2014) is an incremental process that promotes organizational learning and creates valuable knowledge in every stage (Forsgren, 2015). The dominant premise for this theory is that knowledge is the basic and primary intangible resource of a firm which comprises information and ability to utilize this information (e.g., Assaf et al., 2012). As this theory explains, through gradual acquisition, integration and knowledge implementation of critical (e.g., foreign markets knowledge), internationalization leads to create competitive advantage and increases firm performance. And, firms with higher capabilities in KMS are better able to sustain the innovation capability within the firm, and hence have better firm performance. In other words, KMS and innovation together takes performance to a higher level. Thus, higher innovation capability of an internationalized firm generates better competitive advantage when firms use KMS effectively. This finding contributes to the IB and knowledge management literature and addresses the call by researchers to integrate moderating variables while testing the innovation and performance relationship.

Therefore, this research contributes to the literature and body of knowledge by introducing and providing supportive confirmation for innovation as an intervening factor mediating DoI and performance relationship in the context of Malaysia. It addresses the necessity of considering mediating variables on DoI-performance relationship as suggested by Hitt et al., (2006), Zhou et al. (2007), and Ray (2009) due to the ambiguity and conflicting results about the shape of DoI and performance among empirical studies and the IB scholars (Geringer et al., 2000; Capar and Kotabe, 2003; Lu and Beamish, 2004). Additionally, this study contributes to the internationalization and knowledge management literature via assessing and providing supportive evidence

regarding the moderating role of KMS on the innovation-performance relationship. Thus, the research gap raised by prior studies pertaining to the inconsistent results on the innovation-performance relationship (Li and Atuahene-Gima, 2001; Koc and Ceylan, 2007; Rosenbusch et al., 2011) was addressed in this study.

Moreover, the results of investigating DoI and performance relationship advances the literature in international business field and indicate that Uppsala theory and RBV provide a good understating of the DoI and performance in the current research setting. The findings provide supportive evidences that existing theories applied in this study were able to justify proposed relationships DoI, and performance, mediating role of innovation and moderating role of KMS. It shows the applicability of these theories in developing countries, particularly Malaysia. Notably, in this study, the theoretical basis of why internationalization should impact on firm performance has strong support based on the traditional theory of internationalization process stage, Uppsala theory (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977). The findings indicate that internationalization on its own does not lead to firms' superior performance, and congruent with Uppsala theory, it is the increase in innovation as a result of internationalization that leads to improved firm performance.

CONCLUSION, IMPLICATIONS AND LIMITATIONS

This study analyzed (1) the mediating role of innovation between DoI and performance and (2) the moderating role of KMS in the innovation-performance relationship among Malaysian internationalized firms. The important findings of this study are: (1) there is a strong positive DoI-performance relationship, (2) innovation mediates the DoIperformance relation, and (3) KMS positively moderates the innovation-performance relationship.

The findings clearly add to the body of knowledge and provide empirical insights that can help managers. Managers should notice that internationalization per se may not lead to higher performance and innovation capabilities and effective KMS are highly important while doing business abroad. As documented in the Eleventh Malaysian Plan (2016-2020), one of the important issues that affected Malaysian firms, particularly manufacturing sector, during 2011-2015 is lack of competitiveness and innovation. As it is reported, the majority of Malaysian firms, particularly manufacturing firms are typically adapters or adopters rather than being innovators and struggle to survive in international markets while evidence indicates lack of innovation among them. Hence, the clear implication of this study by indicating the significant role of innovation and effective KMS is for managers to strive to be innovative, conduct effective KMS and be successful in foreign markets.

This research is not without limitations. First, in this study, all industries were considered without stratification. Hence, it is not possible to model the dynamic influences on specific industries, sub-industry or even individual companies. Future studies should distinguish different industries to find out how DoI impact firms' performance differently in various industries. Second, due to difficulties in accessing financial information (accounting-based data) and also the respondent anonymity issue, using objective performance measurement was not possible. Hence, future research may use objectives or combination of objectives and subjective performance measurements. Lastly, in this study control variables were not considered, therefore, future research could use control variables such as firm's size, age and industry type.

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