

# THE MEDIATING ROLE OF KNOWLEDGE MANAGEMENT IN E-BUSINESSES IN MALAYSIA

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## ABSTRACT

This paper aims to investigate the mediating role of knowledge management (KM) in the relationship between entrepreneurial orientation (EO) and organizational performance of e-businesses in Malaysia. Although knowledge management (KM), entrepreneurial orientation (EO) and organizational performance are primarily studied in business organizations, these issues are still important for e-business. However, few attempts have been made to investigate the relationship between KM and EO, particularly in the context of Malaysian e-businesses. The present study fills this research gap by examining the effects of KM towards EO and organizational performance of owner/founder e-businesses. A quantitative approach via a self-administered questionnaire was used. Structural equation modelling using partial least squares (PLS-SEM) was performed to test the hypotheses. The findings indicate that EO has a positive effect on KM and KM has a positive effect on organizational performance. An analysis of the indirect effects suggests that KM mediates the relationship between EO and organizational performance. The current findings strongly indicate that KM leads to more effective decision making in order to achieve better performance. The findings have implications for academics and practitioners.

**Keywords:** entrepreneurial orientation, knowledge management, organizational performance, e-business, Malaysia

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## **INTRODUCTION**

The need for a KM study in the Malaysian e-business sector is due as Malaysia is confronting the challenges of the new economy which is derived from the digital economy. Clearly, the trend is now shifting towards more intangible goods, services and assets such as knowledge and innovation. The concept of KM has been perhaps the most important phenomenon to emerge in recent years in management studies. In the organizational context, managing knowledge has always been part of general management activities, even though some of the practices are not labeled as knowledge management (Mustapha, 2016).

Knowledge is recognized as an important asset for decision makers in an organization, Ineffective implementation of knowledge management, will result in problematic decision making, thus delaying organizational growth. Effective implementation of KM results in good decision making which is known as EO towards achieving success in any business. EO has proven to be a useful construct that enables organizations to maintain their performance trajectories (Covin & Lumpkin, 2011). Furthermore, adopting EO in any organization, requires an individual to have creative and risk taking abilities to drive an effective KM initiative. (Matin, Nakhchian, & Kashani, 2013). In e-business strategies, there are a lot of possible opportunities as well as risks that should be critically identified for implementing a good strategy or decision making. Leveraging knowledge is one of the success factors for an e-business approach in the new economy in order to achieve business success (Lipińska, 2015).

Choy, Yew, and Lin (2006) have raised concerns and highlighted the issue that most organizations are aware of KM and its benefits; however they found that the level of implementation and the level of awareness were not equal. The implementation of KM in this country is not up to the expected level despite the huge efforts put forth by the government. The same issue was highlighted by Pandey, Vandana, Mishra and Rai (2013). The authors stressed that the KM is normally overlooked even though the stakeholders are aware of the significance of KM implementation. Previous studies have highlighted that, such ignorance of KM will result in out of date information, poor decision making, communication breakdown, high transaction costs and lack of customer knowledge or information that can weaken customer loyalty towards an organization (Rahman, 2004; Pandey



et al., 2013). Hence, there is an urgent call for entrepreneurs to enhance and strengthen e-businesses in Malaysia through effective implementation of KM.

Successful organizations now understand why they must manage knowledge, develop plans as to how to accomplish this objective and devote time and energy to these efforts (Omotayo, 2015). It is recommended for future research to have a better understanding of the relationship between EO and the KM process as proper KM can bring contributions to the field of study (Martens et al., 2016). It is maintained that in reality KM could enhance EO and organizational performance and it attention should be given to KM implementation among e-businesses in Malaysia (Martens et al., 2016).

Previous studies have investigated the relationship between KM, EO and business performance in a variety of contexts, including in manufacturing industries (Nawaz, Hassan, & Shaukat, 2014; Tan & Nasurdin, 2011), and small and medium enterprises (SMEs) (Madhoushi, Sadati, & Delavari, 2011; Shehu Aliyu, Rogo, & Mahmood, 2015). KM studies have also been conducted among Japanese managers (Nonaka, Byosiere, Borucki, & Konno, 1994), HR professionals (Zheng, Yang, & McLean, 2010) and among owners or senior managers of small and medium sized enterprises (SMEs) (Daud & Yusoff, 2011). However, few attempts have been made to investigate how KM affects EO and organizational performance in the context of e-businesses in Malaysia. Therefore, the current study attempts to fill this void by examining the relationship between KM, EO and organizational performance in e-businesses.

Madhoushi et al., (2011) examined the relationship between KM in the relation to EO and innovation performance in Iranian SMEs. Using a self-report questionnaire, top executives (i.e., President, Vice-President, Director or General Manager) were asked to respond to questions related to KM, EO and innovation performance. The use of a self-report questionnaire, however, may present a methodological issue, predisposing data collection and responder bias. Moreover, the LISREL software was employed to test the hypotheses. Madhoushi et al., (2011) revealed that entrepreneurial orientation affected innovation performance, both directly and indirectly, through KM. Although the present study validates the

Madhoushi et al., (2011) model of EO, KM and performance, it differs in several key aspects. First, the context of the current study differs from that of Madhoushi et al., (2011) with the present study being conducted in a e-business setting in Malaysia. Second, the outcome variable in this study measured organizational performance (financial and non financial). Third, from a methodological perspective, this study adopted the partial least squares structural equation modelling (PLS-SEM) approach to test the hypotheses. Most specifically, the PLS-SEM has been recommended for a complex model with many relationships, both the direct and mediating models (Nitzl, Roldan, and Carrion, 2016; Ritcher et al., 2016; Memon et al., 2017). In addition, probability sampling was used for data collection to ensure data quality and to enhance the generalisability of the results (Cooper and Schindler, 2011). The findings of this study have practical implications for practitioners of e-business aiming to foster KM in implementing good decision making to achieve business success.

## **LITERATURE REVIEW**

### **Entrepreneurial Orientation and Knowledge Management**

EO is an important competency in becoming an entrepreneur and managing firm performance. The role of EO is crucial due to its positive influence on a firm's business performance (Covin & Slevin, 1989; Lumpkin & Dess, 1996). Firms with high levels of EO tend to constantly scan and monitor the activities of entrepreneurship in order to find new opportunities and strengthen their competitive positions (Covin & Miles 1999). Marr and Schiuma (2001) conceptualized KM as the fundamental activity for obtaining, growing and sustaining intellectual capital in organizations. Several organizations establish KM in order to improve performance. Improving organizational performance by using KM initiatives is a kind of an investment (Theriou, Maditinos, & Georgious, 2011).

The link between EO and KM was lauded through the research done by Madhoushi et al., (2011). They studied the effect of EO on KM in SMEs in Iran and have proven that EO has a significant effect on KM. The development of new products and processes involves extensive and intensive knowledge activities. Firms with EO tend to depend on employees'

knowledge and skills as key inputs in the knowledge process (Lumpkin and Dess, 1996). The significant role of knowledge in the discovery of opportunities and new ideas is acknowledged and therefore it needs to be managed (Madhoushi et al., 2011). Gupta and Moesel (2007) who studied the impact of EO on KMin strategic alliances have revealed that EO is positively related to knowledge creation and acquisition in key customer alliances.

A similar relationship was also proposed by Moon and Desouza (2011), who opined that critical to the success of decision making is the ability of individuals in an organization to leverage upon the knowledge that is available. They further state that the more accurate the knowledge that is available to the owner or manager, the better are the chances they have in making decisions that will give a positive result for the organization (Omotayo, 2015). The present study holds to the belief that KM will help enhance EO in e-business organizations. Hence, the following hypothesis is postulated:

**H<sub>1</sub>:** Entrepreneurial orientation (EO) is positively related to knowledge management (KM).

## **Knowledge Management and Organizational Performance**

A good understanding and the effective implementation of an appropriate knowledge management model have become crucial in achieving a company's long-term goals, such as efficiency and effectiveness in carrying out operations internally and to achieve a higher performance and competitiveness. The link between KM and organizational performance was lauded through the research by Liu and Deng (2015) who found that each dimension of KM has a positive effect on the business process outsourcing performance. They concluded that KM is an effective tool to enhance performance as it provides organizations with competitive advantages which competitors could find difficult to imitate. In addition, Kimaiyo, Kapkiyai and Sang (2015) mentioned that all KM processes are very important for enhancing firm performance. Firms have been urged to apply KM continuously by creating new knowledge, converting knowledge into a new design or strategy, learning from previous experiences, and protect their knowledge in order to achieve better performance.

Daud (2012), has revealed that a significant positive effect is present in this relationship, indicating that firm performance is improved when knowledge is acquired, converted, and applied. It is reported that firm performance is influenced by the implementation of KM in two main ways. Firstly, KM can help create knowledge, which can contribute to improved firm performance. Secondly, KM can directly make improvements in firm performance. Adoption of KM is emphasized in relation to firm performance as it plays a very crucial role (Chen and Huang 2009). Several studies have also reported that KM leads to an increase in organizational performance (Theriou, Maditinos, and Georgious, 2011; Nawaz, Hassan and Shaukat, 2014; Bakar, Mahmood & Ismail, 2015). Based on the discussion, the following hypothesis is proposed:

**H<sub>2</sub>:** Knowledge management (KM) is positively related to organizational performance.

## **Entrepreneurial Orientation, Knowledge Management and Organizational Performance**

There is increasing recognition of the importance of KM in the current business strategy and performance, but previous studies have ignored the mediating effect of KM. KM is not only served as the predecessor to organizational performance, but also an intervening mechanism between organizational factors and organizational outcomes. KM is identified as a framework for designing an organization's strategy, structures, and processes so that the organization can use what it knows to learn and to create economic and social value for its customers and community (Omotayo, 2015). Successful organizations now understand why they must manage knowledge, develop plans as to how to accomplish this objective and devote time and energy to these efforts. This is because KM has been described as a key driver of organizational performance (Bousa and Venkitachalam, 2013), and one of the most important resources for the survival and prosperity of organizations (Tece, Pisano, and Shuen, 1997; Kamhawi, 2012).

EO acts as a catalyst in enhancing creativity and innovation in organizations (Gupta & Moesel, 2007). In other words, organizations require people with the ability to take risks and think creatively to implement effectual KM (Matin et al., 2013). It is plausible, for the purpose of this

study, to conclude that an effective KM results in good decision making processes, methods and practices among owners/founder of e-businesses, which in turn enhances organizational performance. According to Hunt and Arnett (2006), the top management can improve their employees' knowledge-based activities by engaging them with EO.

The main reason why KM was chosen as a variable in this study is because many organizations are suffering from information overload, and looking for a suitable representation of information (knowledge) to benefit from. (ALhawamdeh, 2007). Since the early 1990's, many organizations are moving towards the implementation of KM to achieve competitive advantage. (Suhaimie et al., 2006). However, in Malaysia, the evolution and implementation of KM practices is still in its infancy stage (Chua et al., 2010; Mustapha, 2016). It is therefore hypothesized that:

**H<sub>3</sub>:** Knowledge management (KM) mediates the relationship between entrepreneurial orientation (EO) and organizational performance.

Figure 1 demonstrates the research model based on the preceding discussion. According to this model, EO is positively related to KM (H<sub>1</sub>); and KM is positively related to organizational performance (H<sub>2</sub>). Moreover, it is conceptualized that KM mediates the relationship between EO and organizational performance (H<sub>3</sub>).

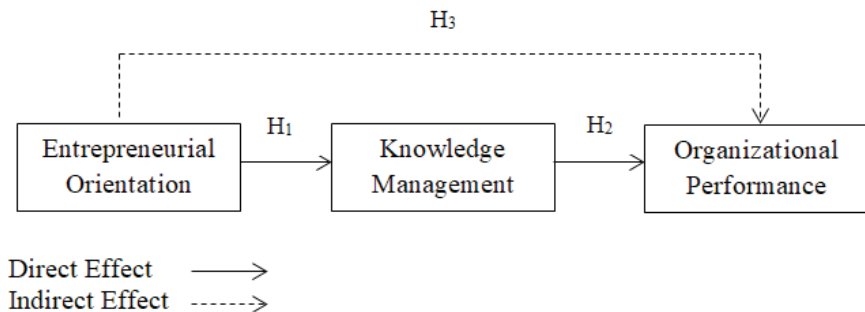


Figure 1: Research Model

## **METHODOLOGY**

The population of this study consisted of all active e-businesses registered in Malaysia. The researchers drew the sample from the Companies Commission of Malaysia (CCM). The Krejcie and Morgan (1970) sampling table was used to determine a minimum sample size to ensure adequate statistical capacity to investigate and explain the variables under investigation. A total of 381 active e-businesses in Malaysia were suggested based on the sampling table and was deemed appropriate to assess the accessible population of the study.

A quantitative approach using a self-administered questionnaire was adopted. All statements pertaining to EO, KM and organizational performance were adopted and adapted from past literature (Bolton and Lane, 2012; Lumpkin and Dess, 2001; Lumpkin, Coglisier and Schneider, 2009; Liao & Wu, 2009; Wang, Ahmed, and Rafiq, 2008; Lo, Wang, Wah & Ramayah, 2016; Arshad, 2016). All key variables were measured by multiple statements, as this would afford a greater degree of freedom when partitioning the data into groups. It would also allow for adjustment of measurement error, thus increasing reliability and predictive validity (Hair et al., 2014). Statements were also organized in sections without randomization based on the common objectives and contexts of the statements (Burns and Bush, 2005). A post hoc Harman single-factor analysis was also performed after data collection to ensure that the variance in the data was not explained by one single factor, thus addressing common method bias (Chang et al., 2010; Podsakoff et al., 2003). Except for demographic information, a five-point Likert scales where 1 indicated strongly disagree to 5 indicating strongly agree was adopted to measure the statements. Expert validation and a pre-test were administered to secure face validity of the questionnaire. Besides, a pilot test was also conducted using the target respondents to finalize the usability of the questionnaire (Bryman & Bell, 2011).

The stratified sampling technique was adopted to distribute the questionnaire to the e-business owners. In all, 400 copies were distributed, and 381 completed and usable copies were collected within a month in November 2017, indicating that non-response bias was not a major issue. The data was then keyed in into the SPSS and imported to the SmartPLS to perform a latent variable analysis (Ringle et al., 2015). The latter software



utilizes structural equation modelling of partial least squares (PLS-SEM) approach to enhance predictive relevance by maximizing the variance of key target variables by different explanatory variables (Hair et al., 2014; Henseler et al., 2009).

## DATA ANALYSIS

### Respondent Demographics

Table 1 shows the demographic information of 381 owners/founders of e-businesses included in this study. Most of the respondents have a Bachelor's Degree and the their e-business establishment is between 1-10 years.

Table 1: Respondent Profiles

Demographic Characteristics		Frequency (f)	Percentage (%)
<b>Gender</b>	Male	139	39.7
	Female	211	60.3
<b>Ethnicity</b>	Malay	329	94.0
	Chinese	4	1.1
	Indian	14	4.0
	Bumiputera	3	0.9
<b>Academic Qualification</b>	SPM	5	1.4
	Diploma	90	25.7
	Bachelor Degree	240	68.6
	Master Degree	15	4.3
<b>Number of Employees</b>	1-49	313	89.4
	50-59	37	10.6
<b>Years of Establishment</b>	1-10 years	328	93.7
	10 years above	22	6.3

### Measurement Model

The PLS-SEM method and the statistical software SmartPLS 3 (Ringle, Wende, and Becker, 2015) were used to estimate the hypothesized model. In this study, the PLS-SEM was used for several reasons. First, the exploratory nature of the research (Richter et al., 2016) as the study was to investigate the relationship between EO, EE and organizational performance. Second, the PLS-SEM can handle complex frameworks (Ramayah et al., 2018; Hair

et al., 2017; Richter et al., 2016), and is recommended for the moderating model (continuous moderator) (Ramayah et al., 2018). Given that in the present research the EE is a continuous moderator, the PLS-SEM approach was deemed suitable.

In terms of analysis, Andersen and Gerbing (1988) had stated that the PLS-SEM is a two-step process involving assessment of the measurement and structural model (Memon, Salleh & Baharom, 2017). First, the measurement model was assessed by examining internal consistency, reliability, convergent validity (CV), and discriminant validity (DV) (Hair et al., 2017). Internal consistency reliability measures the degree to which the items measure the latent construct (Hair et al., 2006); it was assessed through composite reliability (CR) scores.

Table 2 depicts the assessment of construct reliability as well as convergent validity for the variables in this study. The composite reliability (CR) values of 0.934 (entrepreneurial orientation), 0.927 (knowledge management) and 0.877 (organizational performance) were obtained and this demonstrated that these constructs have high levels of internal consistency. Similarly, the variables in this study demonstrated good convergent validity. All the constructs achieved a minimum threshold value of 0.5 for the average variance extracted (AVE) which is an indication that the items explain more than 50 per cent of construct variances (Hair et al., 2014).

**Table 2: Internal Consistency and Convergent Validity**

Construct	Item	Loading	CR	AVE
Entrepreneurial Orientation	EO1	0.763	0.934	0.703
	EO2	0.730		
	EO3	0.714		
	EO4	0.800		
	EO7	1.00		
	EO9	0.870		
	EO10	0.738		
	EO11	0.800		
	EO12	1.00		
	EO15	0.840		
	EO16	0.854		
	EO17	0.794		
	EO18	0.750		



Construct	Item	Loading	CR	AVE			
Knowledge Management	KM3	0.621	0.927	0.719			
	KM4	0.773					
	KM5	0.850					
	KM6	0.799					
	KM7	0.827					
	KM8	0.801					
	KM9	0.818					
	KM12	0.853					
	KM13	0.864					
	KM14	0.819					
	KM15	0.828					
	Organizational Performance	NF1			0.846	0.877	0.641
		NF2			0.833		
		NF3			0.846		
		NF4			0.915		
F1		0.805					
F2		0.765					
F3		0.770					
F4		0.753					

Note: CR = composite reliability; AVE = average variance extracted

Next, factor loadings and the average variance extracted (AVE) were assessed to determine convergent validity of the constructs. Convergent validity is the “extent to which a measure correlates positively with the alternative measures of the same construct” (Hair et al., 2017, p. 112). The factor loading should be 0.708 or higher, and, 0.7 can be considered close enough to be acceptable (Hair, Ringle, and Sarstedt, 2011). However, indicators with weaker factor loadings (i.e., 0.40 to 0.70) can be retained if other indicators possess high loadings, and the overall construct should explain at least 50% variance (AVE = 0.50) (Hair et al., 2017). In this study, the AVE scores for all constructs were all above 0.50 after deleting 4 items (KM10, KM11, F5 and F6). As such, the entire three constructs met the threshold where all CRs were above the 0.7 cut-off value and the AVEs were above the 0.5 cut-off values (Hair et al. 2014).

Discriminant validity is “the extent to which a construct is truly distinct from other constructs by empirical standards” (Hair et al., 2017). Henseler, Ringle, and Sarstedt (2015) suggested that the Heterotrait-Monotrait ratio of correlations (HTMT) approach to determine the DV of the constructs. To achieve DV, the HTMT value should not be greater than the HTMT.85 value

of 0.85 (Kline, 2015), or the HTMT.90 value of 0.90 (Gold, Malhotra, and Segars, 2001). As shown in Table 3, all values passed both the HTMT.85 and the HTMT.90 measures (Gold et al., 2001; Henseler et al., 2015; Kline, 2015), hence, discriminant validity was ascertained. This indicates that, each construct in the model measures a unique subject and captures phenomena not presented by other constructs in the model.

**Table 3: HTMT Criterion**

	EO	KM	OP
EO			
<b>KM</b>	0.116 CI.90 (0.131,0.195)		
<b>OP</b>	0.103 CI.90 (0.133,0.214)	0.577 CI.90 (0.511,0.671)	

*Note: Criteria Discriminant Validity is established at HTMT0.85*

## COLLINEARITY ASSESSMENT

Before assessing the structural model, it is important to ensure that there are no collinearity issues in the structural model. According to Kock and Lynn (2012) although the criteria of discriminant validity are met, the lateral collinearity issue may sometimes mislead the findings in a cautious way, because it can mask the strong causal effect in the model. This study included using variance inflation factors (VIF) to examine multicollinearity. A VIF value greater than 5 indicates multicollinearity (Hair et al., 2014). In this study, the VIF values were below 5 (entrepreneurial orientation=1.660, knowledge management=1.653) indicating that multicollinearity was not an issue in this study.

### Structural Model

After looking into the measurement model, this section proceeds to the assessment of the structural model. The structural model was assessed to test the causal relationships between entrepreneurial orientation and organizational performance. To assess the structural model, Hair et al.,



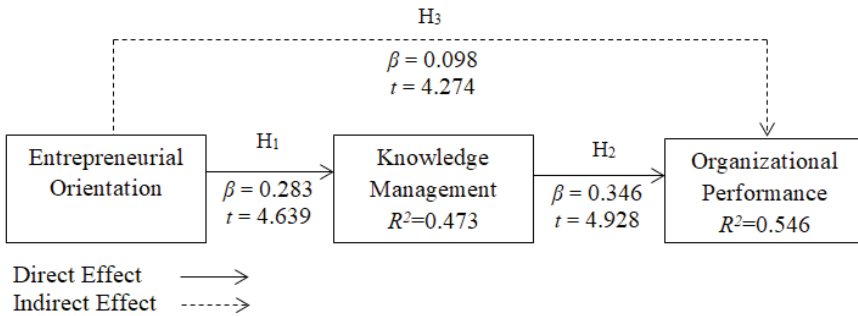
(2017) recommended looking at the coefficient of determination ( $R^2$  value), path coefficient ( $\beta$  value) and the corresponding t-values via the bootstrapping procedure with 5,000 interactions to confirm statistical significance (Hair et al. 2014).

**Table 4: Hypothesis Testing**

Hypotheses	Path	$\beta$	t-value	Decision
H <sub>1</sub>	Entrepreneurial Orientation à Knowledge Management	0.283	4.639**	Supported
H <sub>2</sub>	Knowledge Management à Organizational Performance	0.346	4.928**	Supported
H <sub>3</sub>	Entrepreneurial Orientation à Knowledge Management à Organizational Performance	0.098	4.674**	Supported

Note: \*p < 0.05

Table 4 illustrates the results of the path coefficient assessment using the bootstrapping procedure for each of the hypothesized relationship in the model. The proposed relationships are all significant whereby all two relationships were found to have t-value > 1.645, thus significant at the 0.05 level of significance. Specifically, EO ( $\beta=0.283$   $t=4.639$ ,  $LL=0.172$ ,  $UL=0.371$ ) was also positively related to KM supporting H1. This result explained that a high level of EO results in an increased level of KM. Meanwhile, KM ( $\beta=0.346$ ,  $t=4.928$ ,  $LL=0.221$ ,  $UL=0.453$ ) was positively related to organizational performance supporting H2. This result explained that a high level of KM, increased organizational performance. Hence, it is suggested that EO and KM have a positive effect on organizational performance among e-businesses in Malaysia. The two hypotheses are subsequently supported. As shown in Figure 2, entrepreneurial orientation explains 47.3 percent of variances in KM ( $R^2=0.473$ ), whereas KM explains 54.6 percent of variances in organizational performance ( $R^2=0.546$ ).



**Figure 2: Structural Model**

The Preacher and Hayes (2008) approach of the indirect effect was employed to test the mediating effect of KM between EO and organizational performance, as posited in the third hypothesis (H3). According to Hayes and Rockwood (2016) and Rucker et al., (2011), recent developments in quantitative methods suggest that the total or direct effects are of less importance while examining mediating models. Thus, the indirect effect was the center of attention. The results of the bootstrapping analysis  $\beta = 0.098$  with a significant t-value ( $t = 4.274, p < 0.05$ ), 95% Boot CI: [LL = 0.037, UL = 0.159], did not straddle a 0 in between indicating that there is mediation (Preacher and Hayes, 2008). Thus, it can be concluded that the mediation effects are statistically significant. The relationship between EO and organizational performance operates via KM thus supporting H3 (Table 4).

Hair et al., (2017) also suggested that in addition to these basic measures (path coefficient) predictive relevance ( $Q^2$ ) as well as the effect sizes ( $f^2$ ) should also be reported (Ramayah et al., 2017). To measure the effect size ( $f^2$ ), the Cohen (1988) guideline was used where the values of 0.02, 0.15 and 0.35 represent small, medium and substantial effects respectively (Ramayah et al., 2016). The  $f^2$  value as in Table 5 shows a small effect on EO towards KM ( $f^2 = 0.062$ ), and the result also indicated a small effect on KM towards organizational performance ( $f^2 = 0.084$ ). In addition, the predictive relevance ( $Q^2$ ) was examined using the blindfolding procedure. Fornell and Cha (1994) and Hair et al., (2014), suggested that a  $Q^2$  value larger than 0 indicates that the model has predictive relevance for a certain dependent construct. As shown in Table 5, the  $Q^2$  value of 0.391

and 0.414 represent KM and organizational performance, demonstrating an acceptable predictive relevance.

**Table 5: Determination of Coefficient ( $R^2$ ), Effect Size ( $f^2$ ) and Predictive Relevance ( $Q^2$ )**

Path	Coefficient of determination ( $R^2$ )	Predictive relevance ( $Q^2$ )	Effect size ( $f^2$ )	
Entrepreneurial Orientation			0.062	Small
Knowledge Management	0.473	0.391	0.084	Small
Organizational Performance	0.546	0.414		

## DISCUSSION

The results show that KM mediates the relationship between EO and organizational performance. This finding explains that KM serves as a key leverage point in organizations as it enables the fulfillment of e-business desires towards practicing an effective KM which results in good decision making, methods and practices in enhancing employees' job satisfaction, which in turn influences their organizational citizenship behavior that directly contributes to organizational performance. Employees with a high expectation on their life goal enhance personal talent and improve the quality of their work to enhance their job satisfaction that indirectly encourages them to show a positive behavior such as having full attendance, and this in turn would benefit the organization as it moves forward to compete in the market. The current research provides support for the use of KM as a mediator in the relationship between EO and organizational performance among e-businesses in Malaysia. KM is indirectly important to the promotion of EO and to achieve business success.

The finding corroborates previous research by Madhoushi et al., (2011) on SME entrepreneurs revealed that KM plays a mediator role to increase the positive relationship between EO and firm innovation and performance. The findings in the study demonstrated that KM is not only an independent managerial practice, but also a central mechanism that leverages the influence of EO on innovation performance. Studies by Tan

and Nasuridin (2011) and Zheng, Yang, and McLean, (2010) also evidenced that KM plays a mediator role. Findings in this research support previous research and confirm the mediator role of KM in the relationship between EO and organizational performance among e-businesses in Malaysia.

This study also found that EO influences KM and the effect, then disseminates causally to organizational performance with KM as mediator. The mediating effect of KM represents the mechanism by which EO transmits its effect to organizational performance. This finding is something new in this area and provides an important theoretical implication for the performance of e-businesses context. This study demonstrated the effectiveness of KM that is practiced by e-businesses to enhance the EO and organizational performance relationship. This study thus enriches the body of knowledge in relation to academic and practical knowledge of KM. This research continued and extended this line of inquiry within the e-business setting and also contributes to the extended theory of KBV as it posits that knowledge is the most strategically significant resource for a firm to achieve superior performance and competitive advantage (Chin, 2014). This research had demonstrated the effectiveness of KM that is implemented in the e-business setting in Malaysia to enhance the EO and organizational performance relationship.

## **CONCLUSION**

This research investigated the mediating role of KM and the relationship between EO and organizational performance among e-businesses in Malaysia. The results showed EO has a significant effect on KM and KM has a significant effect on organizational performance in the Malaysian e-business context. An analysis of the indirect effects showed that KM mediates the relationship between EO and organizational performance among e-businesses in Malaysia. The current findings prove that an effective KM results in better decision making, methods and practices in order to achieve better performance. This is actually parallel with findings in Martin et al., (2013) where an effective KM directly contributed to being able to implement EO in nurturing business success. In addition, the owners or founders of e-businesses can use these findings as a basis in their decision making with regard to EO and KM implementation. This in turn will



encourage employees to enhance their behavior towards practicing KM which can enable them to foster better decision making, methods and practices within their respective organizations to meet business success.

## **RECOMMENDATION**

The growing importance of knowledge has motivated businesses to adopt KM as an important practice in developing their decision making, methods and practices (EO) to achieve superior performance in e-business practices. The findings from this research can be used to inform an extension of this study with the same variables to examine the relationship between KM and management accounting practices. Such a study will be valuable to management practice as it investigates the comparisons between management accounting and KM in terms of their contribution to improving organizational performance. By extending the boundary of KM to include management accounting, the researchers believe that such a study will benefit practicing communities by drawing on the results of such a study to inform their specific needs. Furthermore, results emerging from future comparative researches that empirically study the mediation effect of KM in different contexts or specific business sectors will enhance the ability of practicing communities to sustain improved organizational performance.

## **REFERENCES**

- Arshad, A. S. (2016). Leadership styles, entrepreneurial orientation and business performance of technology-based small medium enterprises in Malaysia. Universiti Teknologi Malaysia.
- ALhawamdeh, M. A. (2007). The role of knowledge management in building e-business strategy. Proceedings of the World Congress on Engineering and Computer Science 2007. Retrieved from <https://pdfs.semanticscholar.org/bdbc/775331f68ec3f84e2384040dfe9f0e6d7bfd.pdf>.
- Andersen, J. C., & Gerbing, D. W. (1988). Structural equation modelling in practice. a review and recommended two-step approach. *Psychological Bulletin*, 103, 411-23.

- Bolton, D. L., & Lane, M. D. (2012). Individual entrepreneurial orientation: Development of a measurement instrument. *Education Training*, 54(2/3), 219-233.
- Bakar, H. A., Mahmood, R., & Ismail, H. (2014, August). Combined Effect of Knowledge Management and Entrepreneurial Orientation on Performance of Small and Medium Enterprises. Paper presented at the *Knowledge Management International Conference (KMICe) 2014*. Retrieved from [http://www.kmice.cms.net.my/ProcKMI Ce/KMICe2014/PDF/PID201.pdf](http://www.kmice.cms.net.my/ProcKMI%20Ce/KMICe2014/PDF/PID201.pdf).
- Burns, A. C. & Bush, R. F. (2005). *Marketing research*. New Jersey, USA: Pearson Prentice-Hall.
- Bryman, A. & Bell, E. (2011). *Business research methods*. Oxford, NY: Oxford University Press.
- Bousa, R. & Venkitachalam, K. (2013). Aligning strategies and processes in knowledge management: A framework. *Journal of Knowledge Management*, 17(3), 331-346.
- Covin, J. G. & Miles, M. P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship: Theory and Practice*, 23(3), 47-63.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory & Practice*, 35(5), 855-872.
- Cooper, D. R., & Schindler, P. S. (2011). *Business research methods* (11th ed.). New York: McGraw-Hill.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environment. *Strategic Management Journal*, 10(1), 75-87.
- Chua, J. L. Y., Eze, U. C., & Goh, G. G. G. (2010). Knowledge sharing and Total Quality Management: A conceptual framework. Paper presented

at 2010 IEEE International Conference on Industrial Engineering and Engineering Management. Retrieved from <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5674310>.

- Chen, C. J., & Huang, J. W. (2009). Strategic human resource practices and innovation performance — The mediating role of knowledge management capacity. *Journal of Business Research*, 62(1), 104–114.
- Chin, T. A. (2014). Supply chain integration and operational capability effects on performance in Malaysian small and medium enterprises. Universiti Teknologi Malaysia.
- Chang, S. J., van Witteloostuijn, A. & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies*, 41(2), 178-184.
- Choy, C. S., Yew, W. K. & Lin, B. (2006). Criteria for Measuring KM Performance Outcomes in Organisations. *Industrial Management & Data Systems*, 106(7), 917- 936.
- Daud, S. (2012). Knowledge management processes in SMES and large firms: A comparative evaluation. *African Journal of Business Management*, 6(11), 4223–4233.
- Daud, S., & Yusoff, W. (2011). How intellectual capital mediates the relationship between knowledge management processes and organizational performance. *African Journal of Business Management*, 5(7), 2607–2617.
- Fornell, C., & Cha, J. (1994). Partial least squares. In R. P. Bagozzi (Ed.), *Advanced Methods of Marketing Research* (pp. 52-78). Cambridge: Basil Blackwell.
- Gold, A. H., Malhotra, A. & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214.
- Gupta, V. K., & Moesel, D. M. (2007) The impact of entrepreneurial orientation on knowledge management in strategic alliances: Evidence

- from high-technology SMEs. Paper presented at the *Annual USASBE Conference, Florida*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.577.5877&rep=rep1&type=pdf>.
- Hair, J. F., Hult, G. T. M., Ringle, C. M. & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Thousand Oaks, CA: Sage.
- Hair, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2014). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks, CA: SAGE Publications, Incorporated.
- Hair, J. F., Ringle, C. M. & Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-151.
- Hayes, A. F., & Rockwood, N. J. (2016). Regression-based statistical mediation and moderation analysis in clinical research: Observations, recommendations, and implementation *Behaviour Research and Therapy*, 98, 39-57.
- Hunt, S. D., & Arnett, D. B. (2006). Does marketing success lead to market success?, *Journal of Business Research*, 59(7), 820-828.
- Henseler, J., Ringle, C. M. & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20(1), 277-319.
- Henseler, J., Ringle, C. M. & Sarstedt, M. (2015). A new criterion for assessing discriminant validity. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Kamhawi, E. M. (2012). Knowledge management fishbone: A standard framework of organisational enablers. *Journal of Knowledge Management*, 16(5), 808-828.
- Kock, N., & Lynn, G. S. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546–580.

- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Kimaiyo, I. K., Kapkiyai, C., & Sang, J. C. (2015). Effect of knowledge management on firm performance in commercial banks in Nakuru, Eldoret and Kisumu. *European Journal of Business and Management*, 7(3), 207-216.
- Kline, R. B. (2015). Principles and practice of structural equation modeling. New York, USA: Guilford Publications.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Liu, S., & Deng, Z. (2015). Understanding knowledge management capability in business process outsourcing. *Management Decision*, 53(1), 124 -138.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5), 429–451.
- Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and measuring autonomy: An entrepreneurial orientation perspective. *Entrepreneurship: Theory and Practice*, 33(1), 47–69.
- Liao, S., & Wu, C. C. (2009). The relationship among knowledge management, organizational learning, and organizational performance. *International Journal of Business and Management*, 4(4), 64–76.
- Lo, M. C., Wang, Y. C., Wah, C. R. J., & Ramayah, T. (2016). The critical success factors for organizational performance of SMEs in Malaysia: A partial least squares approach. *Review of Business Management*, 18(61), 370–391.

- Lipińska, A. (2015). Knowledge management in a virtual organization. *Jagiellonian Journal of Management, 1*(1), 65–76.
- Matin, E. K., Nakhchian, A., & Kashani, B. H. (2013). Effect of employees' entrepreneurial orientations on knowledge management in small and medium enterprises in Iran. *Journal of Basic and Applied Scientific Research, 3*(3), 608–617.
- Marr, B. & Schiuma, G. (2001). Measuring and Managing Intellectual Capital and Knowledge Assets in New Economy Organizations. In M. Bourne (Ed.), *Handbook of Performance Measurement*. London: Gee.
- Mustapha, I. (2016). The mediating effect of process-based management on the relationship between knowledge quality, knowledge sharing, self-efficacy and quality management system maintenance. Universiti Teknologi Malaysia.
- Martens, C. D. P., Lacerda, F. M., Belfort, A. C., & Freitas, H. M. R. de. (2016). Research on entrepreneurial orientation: Current status and future agenda. *International Journal of Entrepreneurial Behavior & Research, 22*(4), 1–28.
- Madhoushi, M., Sadati, A., & Delavari, H. (2011). Entrepreneurial orientation and innovation performance: The mediating role of knowledge management. *Asian Journal of Business Management, 3*(4), 310–316.
- Memon, M. A., Salleh, R., & Baharom, N. R. (2017). The mediating role of work engagement between pay satisfaction and turnover. *International Journal of Economics, Management and Accounting, 25*(1), 43–69.
- Moon, J. T. & Desouza, K. C. (2011). The concept of management. In K. C. Desouza and S. Paquette (Eds.), *Knowledge Management: An Introduction* (pp. 73-96). New York: NY: Neal- Schuman Publishers, Inc.
- Nawaz, M. S., Hassan, M., & Shaukat, S. (2014). Impact of knowledge management practices on firm performance: Testing the mediation role

- of innovation in the manufacturing sector of Pakistan. *Pakistan Journal of Commerce and Social Sciences*, 8(1), 99–111.
- Nitzl, C., Roldan, J. L., & Carrion, G. C. (2016). Mediation analysis in partial least squares path modelling: Helping researchers discuss more sophisticated models. *Industrial Management & Data Systems*, 116(9), 1849-1864.
- Nonaka, I., Byosiere, P., Borucki, C. C., & Konno, N. (1994). Organizational knowledge creation theory: A first comprehensive test. *International Business Review*, 3(4), 337–351.
- Omotayo, F. O. (2015). Knowledge management as an important tool in organisational management: A review of literature. *Library Philosophy and Practice (E-Journal)*, Paper No. 1238.
- Pandey, A., Vandana, Mishra, S., & Rai, S. (2013). Relationship between e-commerce & knowledge economy and their role in risk assessment process. *Journal of Global Research in Computer Science*, 4(4), 50–57.
- Podsakoff, P. M., MacKenzie, S. M., Lee, J. & Podsakoff, N. P. (2003). Common method variance in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- 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), 879-91.
- Ramayah, T., Cheah, J, Chuah, F, Ting, H. & Memon, M. A. (2018). *Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0: An updated guide and practical guide to statistical analysis*. Kuala Lumpur, Malaysia: Pearson.
- Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2016). *Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0 (1st ed.)*. Kuala Lumpur, Malaysia: Pearson.

- Ringle, C. M., Wende, S. & Becker, J. M. (2015). *SmartPLS 3*. Boenningstedt: SmartPLS GmbH. Retrieved from [www.smartpls.com](http://www.smartpls.com) (accessed 10 October 2016).
- Richter, N. F., Sinkovics, R. R., Ringle, C. M., & Schlägel, C. (2016). A critical look at the use of SEM in international business research. *International Marketing Review*, 33(3), 376-404.
- Rahman, B. A. (2004). Knowledge management strategy in Malaysia. *Journal of American Academy of Business*, 4(1/2), 330-335.
- Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5(6), 359-371.
- Suhaimee, S., Zaki, A., Bakar, A., & Alias, R. A. (2006). Knowledge Sharing Culture in Malaysian Public Institution of Higher Education: An Overview. *Proceedings of the Postgraduate Annual Research Seminar 2006*. 354-359. Retrieved from <https://core.ac.uk/download/pdf/11779720.pdf>
- Shehu Aliyu, M., Rogo, H. B., & Mahmood, R. (2015). Knowledge management, entrepreneurial orientation and firm performance: The role of organizational culture. *Asian Social Science*, 11(23), 140-152.
- Teece, D. F., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tan, C. L., & Nasurdin, A. M. (2011). Human resource management practices and organizational innovation: Assessing the mediating role of knowledge management effectiveness. *Electronic Journal of Knowledge Management*, 9(2), 155-167.
- Theriou, N., Maditinos, D., & Georgious, T. (2011). Knowledge management enabler factors and firm performance: An empirical research of the Greek medium and Large firms. *European Research Studies*, 14(2), 97-134.



- Wang, C. L., Ahmed, P. K., & Rafiq, M. (2008). Knowledge management orientation: Construct development and empirical validation. *European Journal of Information Systems*, 17(3), 219–235.
- Zheng, W., Yang, B., & McLean, G. N. (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *Journal of Business Research*, 63(7), 763–771.

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