

Combined Effect of Knowledge Management and Entrepreneurial Orientation on Performance of Small and Medium Enterprises

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ABSTRACT

The aim of this research is to determine the effect of knowledge management and entrepreneurial orientation on performance of small-medium enterprises (SMEs) in Malaysia. The study also seeks to examine the mediating role of entrepreneurial orientation on the knowledge management and SME performance relationship. Data were collected by means of a mail survey questionnaire completed by the owner/managers who were randomly selected from a sampling frame of registered SMEs. A total of 115 usable responses were received. The findings reveal that significant relationships exist between knowledge management and performance, and also between entrepreneurial orientation and performance, while entrepreneurial orientation was found to partially mediate the relationship between knowledge management and performance.

Keywords: SMEs, knowledge management, entrepreneurial orientation, performance

1 INTRODUCTION

The importance of small and medium enterprises (SMEs) to most developed and developing nations has been well established (Noor Hazlina & Seet, 2009). In Malaysia SMEs contribute to 32.5 percent of GDP, 59 percent of employment and make up 19 percent of total exports (Singh & Mahmood, 2014). Of the total business established, 99.2 percent are SMEs. However, the performance level of SMEs in Malaysia has been much lower than larger firms and those of developed countries (Abd Aziz & Mahmood, 2011; Mahmood & Hanafi, 2013). The SMEs need to be resilient in today's dynamic and highly competitive business environment, and this could be achieved through mobilization of resources in the form of knowledge management. In addition, these firms need to refigure their entrepreneurial strategies that enable them to sense and seize the new opportunities. Thus the objective of this research is to investigate the relationships between knowledge management,

entrepreneurial orientation and performance of SMEs. Specifically the study aims to determine (i) significant relationship between knowledge management and SME performance, (ii) significant relationship between entrepreneurial orientation and SME performance, and (iii) mediating effect of entrepreneurial orientation on the knowledge management and performance relationship.

II LITERATURE REVIEW AND HYPOTHESES

Knowledge Management and Firm Performance

Knowledge management (KM) plays as a significant role in improving firm performance (Chen & Huang, 2007). There has also been an increasing interest in examining the relationships between knowledge management and performance (Choi & Lee, 2003; Darroch 2005; Gosh & Scott, 2007; Lee & Sukoco, 2007) and many of the researchers have claimed that the efficiency of KM will influence the organizational performance (Dollinger, 1985; Brush, 1992; Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995; Zack et al., 2009). In Rasula, Vuksic and Stemberger's (2012) study, result shows that KM dimensions of information technology, organization and knowledge have positive influence on organizational performance. Gharakhani and Mousakhani (2012) also state that all three factors of KM; capabilities, comprising of knowledge acquisition, knowledge sharing, and knowledge application have positive and significant effects on SMEs' organizational performance, thus suggesting that appropriate investments in KM initiatives can enhance organizational performance.

Gholami, Asli, Shirkouhi and Noruzi (2013) further claim that KM practices directly influence the organizational performance of SMEs.

Nonetheless, a review of management literature by Mushref and Ahmad (2011) found that the relationship between KM and business performance is still unclear. Thus, the following hypothesis is posited

H1: There is significant relationship between KM and SME performance.

Entrepreneurial Orientation and Performance

Entrepreneurial orientation (EO) can be described as entrepreneurship at the firm level (Lee, Lee & Pennings, 2001), and it is also an important factor for firm performance. Over the years, several authors have described EO as a main mindset and a strategic behavior of organizations (Hitt & Ireland, 2000). Thus, EO has been considered a valid concept in the field of entrepreneurship because it is an efficient tool for acquiring evidence of entrepreneurial actions and decision-making across multiple organizational and geographic contexts (Kemelgor, 2002; Kreiser, Marino & Weaver, 2002). Awang, Khalid, Kassim, Ismail, Zain and Madar (2009) did a study on the relationship between EO and performance, and they found that autonomy and innovativeness have a significant relationship with firm performance. However, risk taking does not influence firm performance. Tang and Tang (2010) reveal that EO has a significantly positive relationship with firm performance in China, while Idar and Mahmood (2011) who investigated the relationships between EO, market orientation and SME performance in Malaysia found significant relationship exists between EO and firm performance. Meanwhile Fairoz, Hirobumi and Tanaka (2010) confirm that 52 percent of SMEs shows significantly moderate level of EO and there are positive relationships between proactiveness and EO with business performance. They also found that the dimensions of EO; pro-activeness, innovativeness, and risk taking are positively associated with market share growth. In another study by Balan, Lindsay and Vnuk (2011), a positive relationship was found between innovation capability and performance, but a weak positive relationship between EO and business performance. Similarly Pratono, Wee, Syahchari, Tyaz Nugraha, Nik Mat and Fitri (2013) who used samples of SMEs from Malaysia and Indonesia found positive correlation between EO and firm performance, and Campos and Valenzuela's (2013) exploratory study to examine the influence of time orientation on EO and performance in small businesses through a contingency model shows that EO influences performance. However, an investigation by Arief, Thoyib, Sudiro, and Rohman (2013) found the significance of the direct effect of EO on firm performance is reduced when the indirect effect of EO through strategic flexibility is integrated in a total effect model. As a result, EO is positively related to firm performance. Accordingly, this study also proposes that EO provides positive contributions to firm performance. Hence, it is hypothesized that;

H2: There is significant relationship between entrepreneurial orientation and SME performance.

Knowledge Management, Entrepreneurial Orientation and Performance

Although there is a rich literature on KM, relatively few researches have investigated the relationship between EO and KM (Matin, Nakhchian & Kashani, 2013). Gupta and Moesel (2007) found that EO did not have a significant impact on knowledge creation or knowledge acquisition in key supplier alliance. It is surprising that although EO had a significant positive impact on knowledge creation and acquisition in key customer alliances, there was no support for a direct impact in key supplier alliances. Madhoushi et al., (2011) who studied the effect of EO on KM in SMEs in Iran have proved that EO has a significant effect on KM. Meanwhile several studies have also used EO as a mediator such as self concept characteristics and performance (Poon, Ainuddin & Junit (2006), leadership style and performance (Yang 2008), cultural background and performance (Zainol & Ayudurai, 2011; Arhama & Muenjohn, 2012), transformational and transactional leadership and performance. Given a limited research on EO as a mediator, the following hypothesis is formulated;

H3: Entrepreneurial Orientation mediates the relationship between KM and SME performance

Figure 1 below illustrates the proposed model that hypothesizes the relationships between the KM, EO and SME performance.

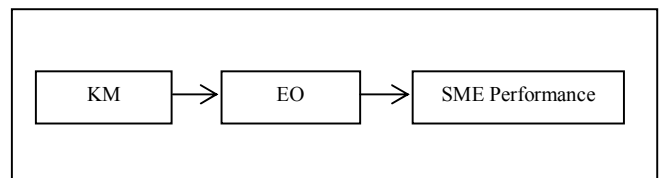


Figure 1: The Theoretical Framework

III METHODOLOGY

This research employed quantitative approach and data were collected using a survey method. The sample targeted was the owner/manager of the SMEs because they are the key informants of the businesses. A total of usable 115 responses were received in this study. The number of respondents is considered adequate where according to Sekaran (2009) the sample size that is larger than 30 and less than 500 is appropriate for most research.

Measures and Instrumentation

The knowledge management scale was adapted from previous study by Rasula, Vuksic and Stemberger (2012), and eight items were used to measure knowledge which includes questions on accumulation, utilization, sharing practices and knowledge ownership identification. The items were then rated using a 5-point Likert scale, ranging from (5) for strongly agree to (1) for strongly disagree.

Lumpkin and Dess (1996) reckon that most entrepreneurship research based on Miller's (1983) concept of innovativeness demonstrates a common weakness, that is, Miller (1983) focused exclusively on product-market and technological aspects of innovation and lacked measures for a firm's overall propensity of innovative behavior. This study adapted two items from Miller and Friesen (1983) and one item from Hurt et al. (1977) to measure firm innovativeness.

For measuring performance, the questionnaires were adopted from Wiklund (1999) who suggests that performance measures should include growth and financial performance. To measure the firms' growth, this study utilized four items such as sales growth rate, employment growth rate, and sales growth relative to competitors.

IV RESULTS

Demographic profile

Table 1 shows that 52.2 percent of the respondents are female and 47.8 percent of the respondents are male. This means that the numbers of female respondents are slightly higher than male respondents. Majority of the respondents are married that is 75.7 percent followed by single respondents with 21.7 percent and others 2.6 percent. 32 percent of the respondents also hold Sijil Pelajaran Malaysia (SPM) qualification, followed by 24 percent of respondents with Sijil Tinggi Pelajaran Malaysia (STPM). For respondents who hold first degree and Diploma, the percentage is the same with 21 percent, respectively. There is also a respondent with a PhD qualification. In terms of years in operation, 51.3 percent of the respondents' firms have been established between 5-10 years and 34.8 percent of the respondents' firms have been established less than 5 years. Another 8.7 percent of the firms have been in operation between 11-15 years, and 2.6 percent each of the respondents' firms were established between 16 to 20 years and for more than 20 years, respectively. With regard to number of employees, 53.9 percent have less than 5 workers, 42.6 percent have between 5-50 workers, and two firms each have between 51-150 workers and more

than 150 workers, respectively. The percentage of types of industry shows the highest percentage is Food and Beverages industry with 38.3 percent, followed by Textile and Cloth industry with 33.9 percent and other industries with 17.4 percent. The Wood and Furniture industry and Electric and Electronic represent only 2.6 percent. The chemical industry, Metal product and Rubber and plastics share the same percentage which is 1.7 percent.

Table 1: Profile of respondents

<i>Characteristics</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>		
Male	55	47.8
Female	60	52.2
<i>Education</i>		
PhD	1	0.9
Master	2	1.7
Bachelor	25	21.7
Diploma	30	26.1
SPM/ STPM	57	49.6
<i>Status</i>		
Single	25	21.7
Married	87	75.7
Others	3	2.6
<i>Years in Operation</i>		
Less than 5 years	40	34.8
5-10 years	59	51.3
11-15 years	10	8.7
16-20 years	3	2.6
More than 20 years	3	2.6
<i>Number of employees</i>		
Less than 5	62	53.9
5-50	49	42.6
51-150	2	1.7
Above 150	2	1.8
<i>Types of Operation</i>		
Textiles and apparels	39	33.9
Wood and furniture	3	2.6
Food and Beverages	44	38.3
Chemicals	2	1.7
Metal product	2	1.7
Electric and electronic	3	2.6

Rubber and plastics	2	1.7
Others	20	17.4

Reliability and Factor Analysis

A reliability test was conducted to determine the internal consistency of the measures used. Table 2 shows that KM, EO and firm performance have Cronbach Alpha values of more than 0.7, which is higher than that recommended by Hair et al., (2010). Therefore, the entire construct were considered to have adequate reliability. Next, the variables in this study were validated using principal component analysis (PCA) with varimax rotation from exploratory factor analysis. Before performing the analysis, the suitability of the data was assessed through two tests; Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's Test of Sphericity. The KMO has to be more than 0.50 and Bartlett's Test of Sphericity has to be significant (Kaiser, 1974). From the factor analysis, it has been suggested that items with factor loadings lower than 0.50 should be eliminated (Hair et al., 2010). The varimax rotated principle component factor analysis applied has resulted in single factor loading in each of the two variables; KM and EO that explained 48.67 percent and 47.14 percent of the variance, respectively (See Table 3). Only factors with a loading value of 0.50 and above were considered, and therefore no items from KM and EO were deleted.

Table 2: Reliability Analysis for All Variables

Variable	Number of item	Cronbach's Alpha
Knowledge management	8	0.845
Entrepreneurial Orientation	9	0.854
Firm Performance	8	0.901

Table 3: Factor Loading For KM and EO

Items	Factor Loading
Employees in our firm obtain a good extent of new knowledge from external sources	0.804
Employees in our firm obtain a good extent of new knowledge from business partners.	0.763
Employees in our firm exchange knowledge with their co-workers	0.680
In their work, employees in our firm rely on skills and knowledge.	0.599
In their work, employees in our firm rely on written sources.	0.720
Employees in our firm share their	0.633

knowledge orally at meetings or informal gatherings.	
Employees in our firm share their knowledge through formal procedures.	0.656
Employees in our firm consider their knowledge as an organizational asset and not their own source of strength.	0.675
Percentage of variance explained: 48.667%	
KMO=0.842, Bartlett's Test of Sphericity Sig p < 0.001	

Items	Factor Loading
Our firm favors a strong emphasis on research & development and innovations.	0.719
In the past five years, our firm has marketed a large variety of new lines of products/ services.	0.597
In the past five years, changes in our firm products or service lines have been mostly of a minor nature.	0.681
In general, our firm has a strong propensity for high-risk projects (with chances of very high return	0.776
Our firm believes owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve our objectives.	0.619
When there is uncertainty, our firm typically adopts a "wait and see" posture in order to minimize the probability of making costly decisions	0.671
Our firm actively responds to the adoption of "new ways of doing things" by main competitors	0.776
Our firm is willing to try new ways of doing things and seek unusual, novel solutions.	0.558
Our firm encourages employees to think and behave in original and novel ways.	0.756
Percentage of variance explained: 47.142%	
KMO=0.875, Bartlett's Test of Sphericity Sig p < 0.001	

Testing of Hypotheses

Regression analysis was used to test the relationship between KM and performance (H1) and the relationship between EO and performance (H2). The regression analysis result in Table 4 indicates that KM is positively and significantly related to performance. This finding supports H1. The result also indicates that EO is positively and significantly related to performance, and this supports H2.

Table 4: Regression of KM and EO

	Beta	t-Value	Sig
KM and Performance	0.491	5.991	0.000*
KM and EO	0.646	8.987	0.000*
EO and Performance	0.694	10.241	0.000*
KM, EO and performance	0.794	0.831	0.408

*Sig $p < 0.001$

The mediating effect of EO on the relationship between KM and performance was tested based on a regression procedure specified by Baron and Kenny (1986). According to this procedure, it must be demonstrated that KM (which is a predictor variable) is related independently to both EO (which is a mediator variable) and performance (which is the outcome variable). To prove the mediating effect, it must be demonstrated that the regression coefficient associated with the KM-performance relationship is significant when EO, as a mediator, is added to the equation. If the effect is not significant when the mediator is added then, full mediation has taken place. However, if the effect is still significant in the presence of the mediator, then partial mediating has occurred. Based on the results above, there is a significant relationship between KM –Performance ($\beta = 0.491$, $p < 0.01$), and KM – EO is significant ($\beta = 0.646$, $p < 0.01$). EO-Performance is also significant ($\beta = 0.694$, $p < 0.01$) and the effect of KM on performance is not significant when EO, as mediator, was added in the regression ($\beta = 0.794$, $p > 0.01$). Partial mediation was registered because the effect of KM on performance is not significant. Thus, EO plays a role as a mediator between KM and Performance.

V CONCLUSION

This study makes contribution to the literature by investigating and testing the relationship between KM and the mediating effect of EO to SMEs performances. Even though there were numerous studies on the relationships between KM and performance, it is still rare for studies using EO as a mediator between KM and performance. The role of EO as a mediator was tested based on a regression procedure specified by Baron and Kenny (1986). The finding indicates that there is partial mediating effect of EO on the relationship between KM and performance. Thus, EO plays a role as a mediator between KM and performance. Besides that, the findings reveal that significant relationships exist between KM and performance, and also between EO and performance.

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