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Incorporating Organizational Innovation as a Missing Link in the Examination of the Eo-performance Linkage

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Abstract: Drawing from resource-based view (RBV), this study generally aimed to investigate the relationship between entrepreneurial orientation (EO), organizational innovation, and organizational performance. It also examined the mediating effect of organizational innovation on the relationship between EO and organizational performance. To achieve these objectives, data were gathered from the owners/managers of manufacturing SMEs in the west coast of Peninsular Malaysia. Of 531 questionnaires distributed, only 331 (60.5%) were analyzed PLS-SEM. Significance levels of 0.05 and 0.01 were used as the critical level for decision making on the hypotheses. All hypotheses on the direct and indirect relationships between the EO and organizational performance of SMEs was supported. The finding strongly supported the RBV theory when the main effect of EO and mediating effects of organizational innovation displayed significant change in the relationship.

Keywords: Entrepreneurial Orientation (EO), Organizational Innovation, Organizational Performance and Small and Medium Enterprises

INTRODUCTION

In Malaysia, SMEs are considered the backbone of industrial development. In the future, SMEs are expected to undertake a bigger role in the economy, not only as an enabler of growth by providing the support to large firms but also as a key driver of economic growth as Malaysia progresses to become a high income nation (NSDC, 2012b). However, the above statistics indicate that the contribution of SMEs is still low and they are yet to reach their full potential. This suggests that further efforts are required to increase the performance of SMEs in order to expand the sources of the national economic growth. Therefore, the SME Masterplan 2012-2020 introduced in July, 2012 was the 'game changer' in directing the new development path for SMEs through all sectors until 2020. The question is what kinds of resources and capabilities are

needed for SMEs to survive and remain competitive? Perhaps the answer lies in their own competencies particularly their internal resources such as strategies of firm-level entrepreneurship. SMEs have to optimize the use of limited resources in order to become more innovative and competitive (Ngah & Ibrahim, 2009).

To improve the performance of SMEs, various issues of SMEs need to be analysed. Several issues faced by SMEs such as their performance is low, their fragility and more vulnerable to the external environment as well as the extremely high of failure rate (NSDC, 2012a), resulting to indicate that SMEs suffered from lack of competitiveness, have a long way to being independent as they still rely much on the government support to cope with any possible contingencies in the future especially during the economic crisis. Therefore, empirical work is needed to overcome this shortcoming. Hence, drawing from resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984), this paper generally aimed to examine the relationship between organizational resources and capabilities specifically EO, organizational innovation, and organizational performance.

LITERATURE REVIEW

Organizational Innovation and Performance

A large number of empirical studies have examined the impact of OI on organizational performance (Avlonitis & Salavou, 2007; Baker & Sinkula, 1999a, 1999b; Jimenez-Jimenez & Sanz-Valle, 2008; Keskin, 2006; Kok & Hartog, 2006; Lopez-Cabrales, Perez-Luno, & Cabrera, 2009; Rhee, Park, & Lee, 2010; Wang & Ahmed, 2007). Most researchers found a positive impact of OI on the overall performance of an organization (Yamin, Mavondo, Gunasekaran, & Sarros, 1997). Many measures of organizational performance have been considered such as share market, profitability, productivity, and customer satisfaction (Jimenez-Jimenez & Sanz-Valle, 2008), productivity and turnover (Kok & Hartog, 2006), marketing effectiveness, operational efficiency, and financial performance (Mavondo, Chimhanzi, & Stewart, 2005), profits, growth in sales, and market share (Hult, Hurley, & Knight, 2004), changes in market share, sale revenue and profits (Baker & Sinkula, 1999a, 1999b), and others.

The performance consequence of OI is not only relevant for larger organizations, but also SMEs (Kok & Hartog, 2006). In a meta-analysis of SMEs with less than 500 employees in the United States, Rosenbusch, Brinckmann, and Bausch, 2011, found that the performance and innovation relationship was context-dependent. Factors such as the firm's age, innovation type, and cultural context influenced the innovation-performance relationship to a large extent. Their results also indicated that the correlation between innovation and performance was significantly higher in new ventures than in mature ventures. The SME Masterplan 2012-2020 has highlighted the role of innovation as the key factor affecting the performance of Malaysian SMEs particularly to drive productivity (NSDC, 2012a). However, SMEs do not participate in implementing various initiatives to create a national innovation system to facilitate innovation. SMEs also often lack of funds, and time to carry out research and development (R&D) activities and upgraded technology is likewise viewed as a cost instead of an investment which results in poor technology commitment by SMEs (NSDC, 2012b). Hence, to address these constraints, the entrepreneur or owners/managers of SMEs should have the advantage of innovation to compete with larger established businesses in order to succeed in business (Rosenbusch *et al.*, 2011).

EO and Performance

Generally, the EO has been conceptualized as predictor of organizational performance (Coulthard, 2007; Covin & Slevin, 1988; Lumpkin & Dess, 1996; Wang, 2008; Wiklund, 1999). According to Helm, Mauroner, and Dowling (2010), EO is important as the foundation for an entrepreneur to play their key roles in entrepreneurship, such as an idea generator, internal entrepreneur, project leader, technological gatekeeper, and project sponsor. They also argue that EO reflects the basic orientation of the entrepreneur and the new spin-off venture. Here, EO highlights the intentions and actions of an entrepreneur in aiming for a new entry creation. Rauch, Wiklund, Lumpkin, and Frese (2009) considered EO as a firm-level process of strategy making that is used to achieve the company's goals and vision, and build competitive advantages.

Scholars argue the importance of EO in increasing firm performance (Covin & Slevin, 1988; Wiklund, 1999; Wiklund & Shepherd, 2005). Davis, Bell, Payne, and Kreiser (2010) contended that managers with a stronger EO will help toward achieving better organizational performance (Covin & Slevin, 1991; Kreiser & Davis, 2010; Lumpkin & Dess, 1996). Madsen (2007) found that a firm that developed a higher value of EO over time appeared to have better performance than its competitors with the same EO, or a lower value of EO. Other researchers also found the positive effect of EO on the performance of small- and medium-sized enterprises (SME) (Moreno & Casillas, 2008; Wiklund & Shepherd, 2005).

EO, Organizational Innovation and Performance

Literatures also indicate a direct EO-performance relationship and various internal and external factors that affect this relationship. Yet, to date, the main debate remains within the area of EO research, particularly a missing link in the investigation of the EO-performance linkage. Looking at the Malaysian context, the role of innovation has been highlighted as the key factor affecting the performance of SMEs, particularly to drive productivity (NSDC, 2012a). To remain relevant, competitive, and successful, SMEs should engage in entrepreneurship that encourages innovation. Entrepreneurial style can be a key determinant of innovations, especially for SMEs, since managers or top management plays an important role in influencing innovativeness in a firm (Avlonitis & Salavou, 2007; Salavou & Lioukas, 2003). Although the investigation of EO in SMEs is not new, debate remains as to what extent EO affects organizational performance (Covin, Green, & Slevin, 2006). In fact, to the best of the researcher's knowledge, very few studies integrated EO with organizational innovation. Hence, organizational innovation is critical to maximize the effect of the EO on firm performance. Accordingly, this study seeks to contribute the EO-performance literature by incorporating OI as a missing link in the examination of the relationship.

Furthermore, from the above discussions, innovation activities are considered a catalyst to enhance organizational performance (Jimenez-Jimenez & Sanz-Valle, 2008; Vincent, Bharadwaj and Challagalla, 2004). However, very few studies looked into the antecedents and outcomes of innovation (Vincent *et al.*, 2004). To the researcher's knowledge, a few studies have examined organizational innovation as the main mechanism through which EO enhance organizational performance (Avlonitis & Salavou, 2007; Jimenez-Jimenez & Sanz-Valle, 2008; Vincent *et al.*, 2004). Given this limitation in the literature, this study aims to investigate how the implementation of EO affects organizational performance, with organizational innovation as the mediating variable.

RESEARCH MODEL

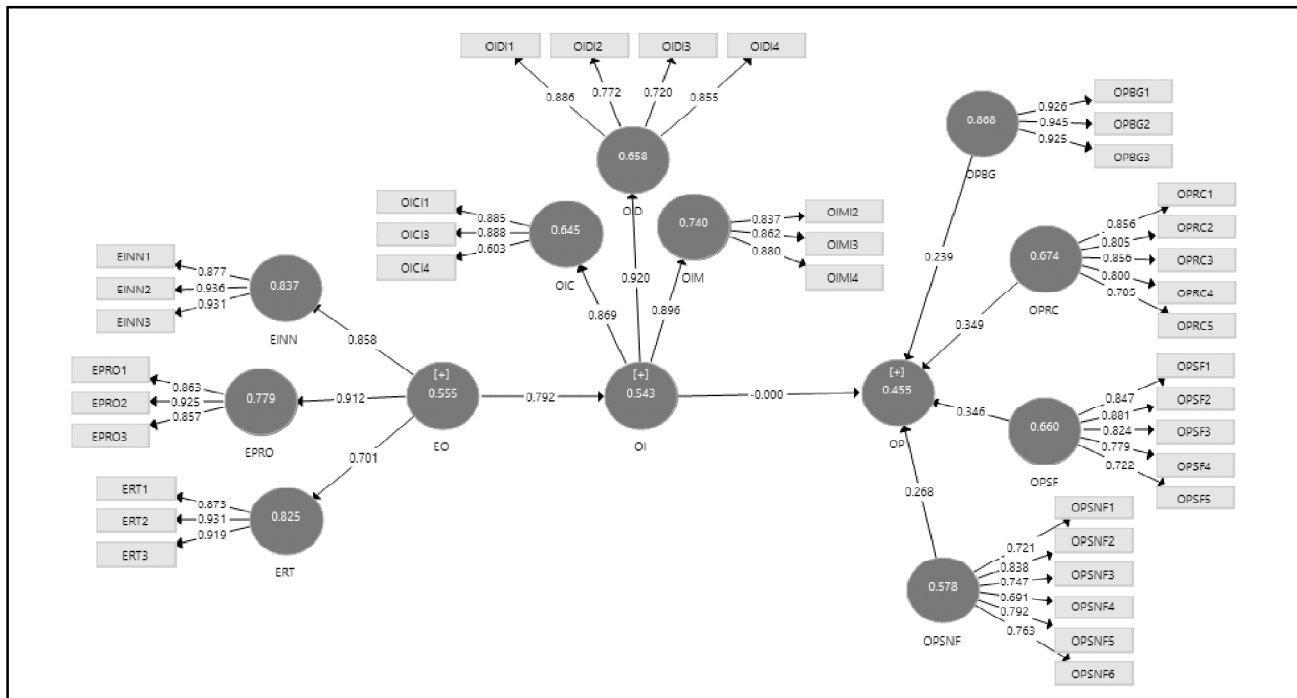


Figure 1: Research Model of the study

Based on the above discussion on the existing gaps in the literatures, the hypothesized relationship was based on resource-based view that suggests firms are able to achieve better performance through the effective use of their organizational resources and capabilities compared to their competitors. Basically, the research model of this study as presented in Figure 1, postulates that the owners/managers' perceptions of an organization's EO will directly and positively influence organizational innovation, which will directly and positively influence organizational performance. The model also postulates that organization innovation mediates the relationship between the perceptions of EO and the performance of the organization in SMEs. Accordingly, the following hypothesis was postulated:

- H1: Entrepreneurial orientation is positively related to organizational innovation.
- H2: Organizational innovation is positively related to organizational performance
- H3: Organizational innovation mediates the relationship between EO and organizational performance.

RESEARCH METHODOLOGY

Sampling Design

This study was correlational in nature, cross-sectional and was undertaken within a non-contrived setting in which intervention to the employees' work was minimum. Data on all variables under study were collected using a self-administered questionnaire.

Population and Sample Size

The population of this study was 4,303 SMEs in manufacturing sectors, including manufacturing, manufacturing-related services and agro-based industries with full-time employees between 5 to 150 in West Peninsular of Malaysia (Kedah, Penang, Selangor, Wilayah Persekutuan and Johor). The west coast of the peninsular was chosen due to high concentration of SMEs. A survey method was used for data collection. The data were collected from the list of companies which was based on the SME Corp. Directory (SME Corp. Malaysia, 2012). The manufacturing sector was chosen due to their average productivity which was much higher than other sectors (NSDC, 2012b). Out of 531 questionnaires distributed, 321 were returned and usable, amounting to a response rate of 60.5%. The unit analysis in this study was the firm. The owners/managers of SMEs were the key respondent to represent the top management of the firm. They were considered because the owner or top management of SMEs was primarily responsible for making key decisions of the firm as well as developing strategic orientations of the organization (Covin & Slevin, 1989; Knight, 1997; Kreiser, Marino, & Weaver, 2002; Lumpkin & Dess, 1996; Miller, 1983; Miller & Friesen, 1982; Zahra & Covin, 1995).

Instrument Development

This study was conceptualized organizational performance as a second-order formative construct with four first-order reflective constructs (Ahmad, Ramayah, Wilson, & Kummerow, 2010; Ahmad, Wilson & Kummerow, 2011; Gholami, Sulaiman, Ramayah, & Molla, 2013; Rai, Patnayakuni, & Seth, 2006). A scale adapted by Ahmad *et al.* (2011) with four dimensions of perceived organizational performance was used. The four dimensions were: (a) Satisfaction with financial performance; (b) Satisfaction with non-financial performance; (c) Performance relative to competitors; (d) Business growth. Respondents assessed their satisfaction with financial and non-financial performance of their business on a five-point Likert-type scale, ranging from 1 = “not at all satisfied” to 5 = “very satisfied.” In addition, respondents were asked to compare the performance of their business with that of their major competitors over the past 12 months, using a five-point Likert-type scale, ranging from 1 = “significantly lower” to 5 = “significantly higher.” Finally, the respondents were asked about their firm’s business growth over the past 12 months, using a five-point Likert-type scale that ranged from 1 = “decreasing” to 5 = “increasing significantly.” As reported in Ahmad *et al.* (2011), all dimensions of organizational performance construct possessed a strong internal consistency of more than 0.8 and the composite reliability values were above 0.7. These values verified the reliability of the dimensionality of the construct.

Meanwhile, organizational innovation was determined as a unique construct. Jimenez-Jimenez and Sanz-Valle (2008) found that a second-order factor analysis indicated that the three dimensions could be modeled by higher-order construct. Hence, organizational innovation was captured by three types of innovation: product innovation, process innovation, and managerial innovation. This scale was adapted from Che-Ha and Mohd-Said (2008; 2012). Respondents were asked to indicate their degree of agreement or disagreement on a six point Likert scale, ranging from 1 = “strongly disagree” to 6 = “strongly agree”.

In this study, EO was conceptualized as a second-order construct that has three first-order constructs, namely, innovativeness, proactiveness, and risk taking (Hakala & Kohtamaki, 2011; Li, Huang, & Tsai, 2009; Moreno & Casillas, 2008; Stam & Elfring, 2006, 2008). The scale comprised nine items adapted

from Covin and Slevin (1989) and was widely accepted and utilized (e.g., Atuahene-Gima & Ko, 2001; Brown, Davidsson, & Wiklund, 2001; Covin, Green, & Slevin, 2006). A seven-point Likert scale, ranging from 1 = “strongly disagree” to 7 = “strongly agree” was used to measure the items. Previous studies also reported an accepted level of reliability (Chadwick, Barnett, & Dwyer, 2008; Kreiser, Marino, & Weaver, 2002; Stam & Elfring, 2008; Wiklund & Shepherd, 2003), ranging from 0.75 to 0.84.

DATA ANALYSIS

Smart PLS 3.0 was used to analyze the data (Ringle, Wende, & Becker, 2014). There were two type of assessment involved; the assessment of measurement model and the assessment of structural model. The goodness of measurement was assessed for the purpose of confirming the validity and reliability of the measurement items through the determination of composite reliability (CR), average variance extracted (AVE) and discriminant validity. All the item loadings exceeded the recommended cutoff value of 0.5, which indicated that more than half of the variance in the observed variable is explained by the constructs. The CR values of two reflective latent constructs also exceeded the recommended cutoff value of 0.7 (Hair, Black, Babin, & Anderson, 2010). Therefore, all constructs showed high level of internal consistency reliability. The AVE values of all latent constructs were greater than the acceptable threshold of 0.5 specified that the latent construct explained more than half of the variance of its indicators. Table 1 summarizes the result of the measurement model. The result showed that all constructs, namely, EO, organizational innovation, and organizational performance were valid measures of their respective constructs based on their parameter estimates and statistical significance (Chow & Chan, 2008). Hence, the model constructs had sufficient convergent validity. The measurement model also displayed adequate discriminant validity as shown in Table 2, where all the square root of the AVE exceeded the correlations with other variable.

This study was modeled organizational performance as second-order formative constructs. To asses formative measures, the weight significant, the multi-collinearity and the correlation of the indicators with the latent construct were determined. This study found that all specified paths between the constructs had significant path coefficients. The statistical significance of weights implies the relative importance of indicators in forming a latent construct. The correlation of the indicators with the latent construct was tested to find out their absolute contribution. Result revealed that all items had a significant weight and were correlated to the latent constructs. Finally, to examine multi-collinearity, variance inflation factor (VIF) was determined by using SPSS. Researchers propose that VIF should not be greater than 5 (Hair, Hult, Ringle & Sarstedt, 2014). The analysis demonstrated that all items had VIF of less than 5, indicating no threat of multi-collinearity between the different indicators (Luk, Yau, Sin, Tse, Chow, & Lee, 2008; Moreno & Casillas, 2008). Consequently, all items in the formative construct were retained for further analysis as shown in Table 1.

Table 1
Results of Measurement Model

Performance	Reflective	OPRC1	0.856	0.674	0.912	
Relative to			OPRC2	0.805		
Competitor			OPRC3	0.856		
(OPRC)			OPRC4	0.800		
			OPRC5	0.785		
Satisfaction	Reflective	OPSF1	0.847	0.66	0.906	
Financial		OPSF2	0.881			
Performance		OPSF3	0.824			
(OPSF)		OPSF4	0.779			
		OPSF5	0.722			
Satisfaction	Reflective	OPSNF1	0.721	0.578	0.891	
Nonfinancial		OPSNF2	0.838			
Performance		OPSNF3	0.747			
(OPSNF)		OPSNF4	0.691			
		OPSNF5	0.792			
		OPSNF6	0.763			
<i>First Order Construct</i>	<i>Second Order Construct</i>	<i>Scale Type</i>	<i>Item</i>	<i>Weights</i>	<i>VIF</i>	<i>T-value</i>
	Organizational	Formative	OPBG	0.239	2.867	20.975**
	Performance	OPRC	0.349	2.812	25.593**	
	(OP)		OPSF	0.346	2.873	30.799**
			OPSNF	0.268	1.415	18.623**

Table 2
Fornell-Lurker Criterion Analysis for Checking Discriminant Validity

	<i>EINN</i>	<i>EPRO</i>	<i>ERT</i>	<i>OIC</i>	<i>OID</i>	<i>OIM</i>	<i>OPBG</i>	<i>OPRC</i>	<i>OPSF</i>	<i>OPSNF</i>
EINN	0.915									
EPRO	0.698	0.883								
ERT	0.341	0.533	0.908							
OIC	0.703	0.59	0.19	0.803						
OID	0.777	0.636	0.437	0.701	0.811					
OIM	0.806	0.665	0.211	0.695	0.718	0.86				
OPBG	0.727	0.613	0.224	0.603	0.601	0.644	0.932			
OPRC	0.554	0.469	0.361	0.432	0.475	0.44	0.683	0.821		
OPSF	0.542	0.574	0.433	0.402	0.501	0.429	0.667	0.763	0.812	
OPSNF	0.303	0.312	0.476	0.187	0.413	0.291	0.326	0.46	0.509	0.76

Diagonals (in bold) represent the square root of AVE while the other entries represent the correlation

FINDINGS

Hypothesis Testing

All three hypotheses on the direct and indirect relationships between EO, organizational innovation and organizational performance of SMEs showed empirical support. Result from the output of the algorithm and bootstrapping PLS-SEM showed a positive and significant association between entrepreneurial orientation and organizational innovation ($\beta = 0.792$, $t = 40.522$, $p < 0.01$), supporting Hypothesis 1. Since the path coefficient from organizational innovation to organizational performance was positive and significant ($\beta = 0.697$, $t = 25.401$, $p < 0.01$), Hypothesis 2 received empirical support. Meanwhile, as indicated by Preacher and Hayes (2008), the indirect effect 95% Boot CI: [LL = 0.487, UL = 0.600], did not straddle a 0 in between, indicating there is mediation. Thus, the result revealed that the mediation effect of organizational innovation on the relationship between entrepreneurial orientation and organizational performance was statistically significant ($\beta = 0.553$, $t = 19.052$, $p < 0.01$). For that reason, Hypothesis 3 was supported. The finding strongly supported the RBV theory when the main effect of EO and mediating effects of organizational innovation displayed significant change in the relationship. Detailed results are as shown in Table 3 and Figure 2.

Table 3
Path Coefficients and Hypotheses Testing

<i>H</i>	<i>Relationship</i>	<i>Beta</i>	<i>SE</i>	<i>t-value</i>	<i>Bootstrapped Confidence Interval (Boot CI)</i>		<i>Decision</i>
					<i>95% LL</i>	<i>95% UL</i>	
H1	EO -> OI	0.792	0.020	40.522**			Supported
H2	OI -> OP	0.697	0.027	25.401**			Supported
H3	EO -> OI -> OP	0.553	0.029	19.052**	0.487	0.600	Supported

Note: * $p < 0.05$ ($t > 1.645$); ** $p < 0.01$ ($t > 2.33$) – one tailed

Note: * $p < 0.05$ ($t > 1.96$); ** $p < 0.01$ ($t > 2.58$) - two tailed

EO- Entrepreneurial Orientation; OI –Organizational Innovation; OP – Organizational Performance; SE – Standard Error; LL – Lower Limit; UL – Upper Limit

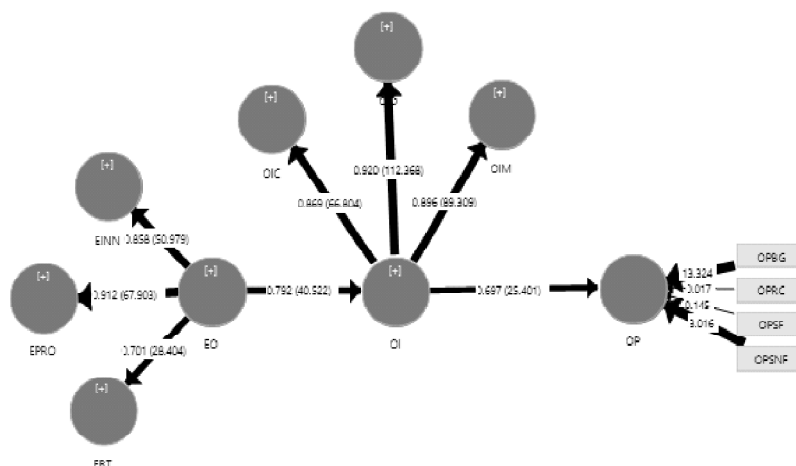


Figure 2: Results of the path analysis

DISCUSSION AND IMPLICATION

In this study, EO was found to enhance organizational performance through organizational innovation. Theoretically, the mediation role of the organizational innovation can be explained via RBV theory. According to RBV theory, the SMEs can strategize their superior resources to gain competitive advantage and increased performance (Runyan, Huddleston, & Swinney, 2007). The ability of the SME to use their EO to influence the capability of SME to innovate will then can foster the SMEs to gain competitive advantage and hence improved their organizational performance (Davis, Bell, Payne, & Kreiser, 2010; Kreiser & Davis, 2010). This finding is also in line with previous (e.g. Hoq & Ha, 2009; Hult *et al.*, 2004; Lee & Hsieh, 2010; Nasution, Mavondo, Matanda, & Ndubisi, 2011; Rhee *et al.*, 2010). For example, Hult *et al.* (2004) found that innovativeness, defined as the capability of organization to introduce some new process, product, or idea in the organization, appeared to be a key mediator in the EO and business performance linkage.

Innovation is one of the key processes in which SMEs can contribute to the improvement of the economic dynamism of each industry (Keizer *et al.*, 2002). Therefore, innovation was selected to explain performance. In entrepreneurship, innovation is an intrinsic condition that facilitates the success of a firm (Avlonitis & Salavou, 2007; Garcia-Morales, Llorens-Montes, & Verdu'-Jover, 2006). Helm *et al.* (2010) also considered entrepreneurial innovation as the mediator between motivation and entrepreneurial success. The model shows that entrepreneurial orientation of entrepreneurs affects the performance of a new venture through the organization's capability of generating innovation.

Overall, the result showed that the owners/managers' perception about entrepreneurial orientation is critical in driving organizational innovation in SMEs. When the owners/managers of SMEs are high in EO, they produce creative ideas that accelerate innovation activities in product, process, and management, which in turn, boost SME performance. Even though innovation involves risks and uncertainty despite the high initial investment, the benefits of competitive differentiation, customer loyalty, premium prices for innovative products and barriers to entry for potential imitators can offset the costs. Taken together, the innovative activities enhance productivity and hence better firm performance. This means that SMEs need to improve their entrepreneurial orientation strategy to stay innovative for improved organizational performance.

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