Does the Innovation Capability and Competency Affect the Innovation Performance of Malaysian's SMES?

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Abstract

This paper intends to address how SMEs perceive the importance of the innovation-based capability and competency elements in their operations. Before any effort is made on improvising the SMEs' performance, their perceptions of the importance of the innovation-based capability and competency elements must be understood by the change agents. Only upon understanding their perceptions can appropriate remedial and advisory steps be taken to assist them in their businesses. The issues of innovation have attracted much attention from research and industry in recent years; however, research has mostly focused on large enterprises with more resources, infrastructure, and capabilities, which leads to establishing innovation management. The combination of organisational, financing, owner, product or process, performance, and creative output elements has been considered significant in achieving success in SME businesses. The methodology used in this study includes purposive sampling involving 213 SME owners/managers selected from the Ministry of International Trade and Industry's (MITI) list as the respondents of the study. The data were collected through survey questionnaires, while the frequency and descriptive analysis were used to derive the findings. The findings indicated that SME owners place the right importance on the elements of innovation capability, innovation competency. Meanwhile, for innovation output, they place the right importance on performance but less importance on creative output. Hence, the change agents must develop more awareness among SME owners regarding the importance of creative outputs as the most important determinant in the sustainability of innovation in their businesses.

1. Introduction

Innovation issues have attracted much attention from research and industry in recent years; however, research has mostly focused on large enterprises with more resources, infrastructure, and capabilities as well as those that are more established at managing innovation. Based on prior literature, very few studies, if not none at all, are focusing on less established SMEs and micro businesses. Hence, most of those researches have not greatly benefited SMEs due to the key differences in industry practice between large, medium, and small enterprises. The resulting innovation index was also more geared towards measuring innovation practices among large business entities as opposed to the SMEs and smaller business entities.

Although several studies have focused on the continuous improvement of SME performance, there is a lack of in-depth studies on innovation in affecting SME innovation (Gibson, Gibson, Duncan, & Humphreys, 2013). It cannot be assumed that the principles of innovation in large organisations are directly transferable to SMEs, where SMEs are considered as a measure to large organisations. Hence, there is a need for studies on how innovation is implemented within the constraints and characteristics of SMEs. Certain scholars have concluded that there is a paucity of studies on the implementation of innovation in organisations, which is particularly noticeable in the area of SMEs and longitudinal studies. They also stressed the need for further innovation research in these areas, covering a broad approach to innovation (e.g. Humphreys, McAdam, & Leckey, 2005; Pantano, 2014; Sahut & Peris-Ortiz, 2014). As indicated by Siddiquee et al. (2015), the innovative dimensions can be measured and classified as capabilities and competencies of research and development (R&D), marketing, manufacturing, and organisational capability. Besides, it was further suggested that the elements of organisational, financing, owner, product or process, performance, and creative output be studied for the development of innovation among SMEs. Thus, the purpose of this study is to investigate SME owners' perceptions of importance with respect to the elements of innovation-based capability and competency in their business operations. The findings can be used to guide the change agents to emphasise appropriate remedial and advisory steps to be taken in order to assist SME owners in enhancing their business innovation and sustainability.

2. Literature Review

Innovation and SMEs

Innovation is a complex phenomenon that involves the production, diffusion, and translation of knowledge in new or modified products and services. It also refers to the development of new production or processing techniques for the SME industry. Broadly, the innovation process can be understood as a complex activity in which current and new knowledge are applied for commercial ends (Bigliardi, 2013; Ekpe et al., 2016). Regardless of its definition and classification, innovation is considered a firm's core value creation capacity and regarded as one of the most important competitive weapons not only for larger firms, but also SMEs (Andries & Czarnitzki, 2012). Previous scholars, for example, Schumpeter (1934), initially recommended that SMEs are likely to be the source of most innovation (Ekpe et al, 2015; Mamun et al, 2017). Since then, the SME industry holds a significant share in the field of innovation (Abereijo, Ilori, Taiwo, & Adegbite, 2007). However, some authors argued that although SMEs typically face considerable resource constraints, they are efficient innovators (Bigliardi, 2013).

According to Van Auken, Madrid-Guijarro, & Garcia-Pérez-de-Lema (2008), in the past few years, there is a growing interest in both academic and business communities towards the relationship between innovation and SME performance. In fact, innovation drives SMEs to a superior competitive level. In the long run, it is technological innovation capability that constitutes a major source of competitive advantage. Accordingly, the term innovation has been described as ''the engine that drives revenue growth'' (Galvez, Camargo, Rodriguez, & Morel, 2013). At the same time, it also has been considered as the basis for business survival. As such, there is a need to understand the mechanisms driving the innovation process in order to manage and further support the constant growth of businesses (Galvez et al., 2013). In addition, much emphasis has been placed on building innovation and the management of the innovation process as they are the crucial elements of organisational survival. Hence, according to Humphreys et al. (2005), small and medium-sized enterprises (SMEs) increasingly need to develop their innovation capabilities beyond technical innovation.

Innovation Process and SME Performance

The innovation process is a step up to the SME industry. According to Gibson et al. (2013), there is a lack of studies on the implementation of innovation among entrepreneurs, which is especially
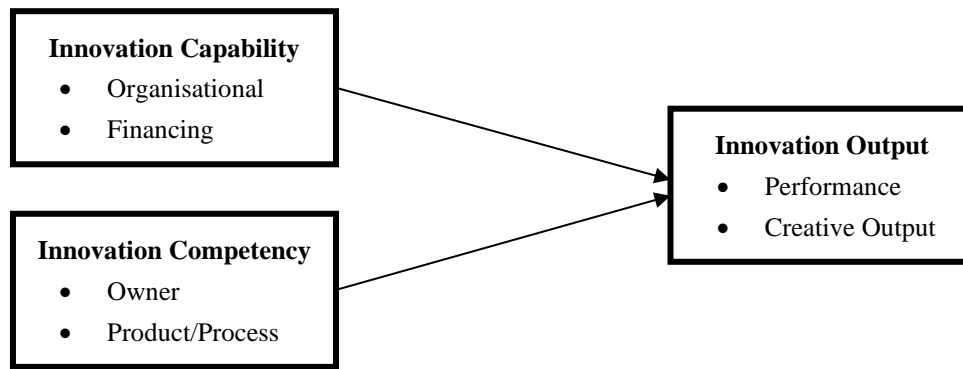
noticeable in the SME field. Consequently, many researchers opined that emphasis should be placed on further innovation research in this area, which covers a broad approach to innovation so as to implement such guidance in aieving a satisfactory performance in this field. Galvez et al. (2013) also believed that the scale that measures the performance of large companies can be adapted in SME businesses. This is because the innovation process requires constant maintenance to ensure the ability to generate innovation. The implementation of this process requires a supportive organisational structure, where it is essential to design an organisational structure. This structural issue is important for the development of SMEs where an owner or manager may have an all-pervasive influence (Humphreys et al., 2005: Zakaria et al, 2017). Thus, it has been suggested that the most innovative organisations tend to be those that develop the most suitable fit between structure, operating contingencies, and flexibility. Innovation is not only aimed at increasing research in the departments in large organisations, but it is also important to small businesses in ensuring their sustainability (Galvez et al., 2013; Samengon et al., 2020).

There are four important elements to be considered by SME managers for the development of an effective innovation process, namely products, technology, processes, and the culture of the organisation (which refers to its norms, values, and beliefs) (Humphreys et al., 2005: Hashim et al, 2020). At the same time, there is a need to develop a climate that is conducive to the creation of creativity with a strong external focus on multiple stakeholders. However, the creation of innovation also requires understanding based on customer or user needs. Meanwhile, the importance of culture is also considered as one of the consistent themes in previous literature (Abereijo et al., 2007; Nik Hashim et al, 2019). The attention of practitioners and academics has, for many years, been preoccupied with the quality movement in SMEs, focusing on product and process improvements through an evolutionary incremental process. Hence, more studies are needed based on the implementation of innovation, which is mostly related to continuous improvement (Pantano, 2014; Wan Zulkiffli et al., 2021).

3. Model Development

Based on the previous studies related to innovation and SMEs, the framework and hypotheses for this study have been formed. Figure 1 shows the research model applied in this study.

Figure 1 - Conceptual Framework


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┌─────────────────────────────┐
│   Innovation Capability     │
│   • Organisational          │
│   • Financing               │
└─────────────────────────────┘
                                        ┌─────────────────────────────┐
                                        │   Innovation Output         │
                                        │   • Performance             │
                                        │   • Creative Output         │
┌─────────────────────────────┐         └─────────────────────────────┘
│   Innovation Competency     │
│   • Owner                   │
│   • Product/Process         │
└─────────────────────────────┘
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4. Methodology

This study used the survey approach, which refers to a quantitative study (Creswell, 2017). Cross-sectional surveys are assumed to be a suitable method for collecting primary data to clarify the population that is too large to be observed directly (Choo, 1993). This study used the purposive sampling method where a list of the respondents or organisations was obtained from websites and particular agencies. Accordingly, a total of 213 entrepreneurs in the SME industry in Malaysia have been chosen as the respondents of this study. These entrepreneurs were selected from the list provided by the Ministry of International Trade and Industry (MITI), Malaysia. The list of the respondents involved in this study is shown in Table 1.

Table 1 - List of Respondents Based on States/Federal Territories in Malaysia

State/Federal Territory	Total Respondents
Johor	16
Kedah	19
Kelantan	71
Kuala Lumpur	6
Melaka	1
Negeri Sembilan	4
Pahang	1
Penang	9
Perak	1
Perlis	2
Putrajaya	1
Sabah	26
Sarawak	24
Selangor	23
Terengganu	9
Total	**213**

5. Results and Discussion

Profiles of Samples

This section presents the profiles of the research samples to enhance the understanding of the background or information of the companies that participated in this study. The respondents' company profile to be investigated includes the (1) types of SMEs, (2) number of employees, and (3) the company's main activity. The demographic characteristics of the respondents and their companies were measured based on nominal and ordinal scales. Table 2 presents the characteristics of the research samples.

Table 2 - Characteristics of the Research Samples

No.	Variable (N=213)	Frequency	Percentage (%)
1.	**Type of SME**		
	Micro	126	59.2
	Small	57	26.8
	Medium	30	14.1
2.	**Number of Employees**		
	Less than 50	132	62.0
	51 to 150	51	23.9
	151 to 500	29	13.6
	501 to 1,000	1	0.5
3.	**Company's Main Activity**		
	Oil, Gas & Energy	2	0.9
	Palm Oil & Rubber	2	0.9
	Wholesale & Retail	91	42.7
	Financial Services	9	4.2
	Tourism	13	6.1
	Electronics & Electrical	1	0.5
	Business Services	31	14.6
	Communications Content & Infrastructure	3	1.4
	Agriculture	27	12.7
	Healthcare	30	14.1
	Construction & Development	4	1.9

The majority of the respondents are from micro enterprise (59.2%), followed by small enterprise 26.8%, and lastly medium enterprise (14.1%). Based on the number of employees, 62% of the respondents have less than 50 employees, 23.9% of the respondents have between 51 and 150 employees, 13.6% of the respondents have between 151 and 500 employees, and 0.5% of the respondents have between 501 to 1,000 employees. In terms of the company's main activity, most of

the respondents are from the wholesale & retail industry (42.7%), while the rest of the respondents are from other industries such as business services (14.6%), healthcare (14.1%), agriculture (12.7%), tourism (6.1%), financial services (4.2%), construction and development (1.9%), communications content and infrastructure (1.4%), oil, gas, and energy (0.9%), palm oil and rubber (0.9%), and electronics & electrical (0.5%). The next section discusses the descriptive analysis undertaken in this study.

Frequency Analysis for the Characteristics of the Research Samples

The constructs for this study were analysed descriptively by determining their statistical values such as mean, standard deviation, minimum, and maximum values. The research constructs are as follows: (1) organisational (structure, culture, people, system); (2) financing (investment, budget); (3) owner (leadership, attributes, network); (4) product or process (technology, marketing, research and development); (5) performance (profitability, growth); and (6) creative output (intellectual property (IP), new product, or process development). Table 3 shows the descriptive analysis results:

Table 3 - Descriptive Analysis Results

Construct (N = 213)		Mean	Std. Deviation
Innovation Capability			
Organisational	Culture	3.364	0.7365
	People	3.184	0.9014
	Structure	2.906	1.2526
	System	2.877	0.8947
Financing	Budget	3.524	0.9275
	Investment	3.268	1.0897
Innovation Competency			
Owner	Attribute	3.432	0.9288
	Leadership	3.229	0.7018
	Network	3.148	0.8491
Product/Process	Marketing	3.337	0.7732
	Research and Development	3.268	1.0144
	Technology	3.156	0.8330
Innovation Output			
Performance	Profitability	0.626	0.4125
	Growth	0.615	0.3758
Creative Output	New Product/Process Development	0.611	0.2613
	Intellectual Property (IP)	0.298	0.2507

Note: The scale for innovation capability and innovation competency ranges from "strongly disagree" = 1, "disagree" = 2, "somewhat agree" = 3, "agree" = 4, and "strongly agree" = 5. For Innovation output, the scale is "yes" and "no".

The descriptive analysis results for the construct of organisational (structure, culture, people and system) revealed mean scores of 2.907, 3.364, 3.184, and 2.877 with standard deviation values of 1.2525, 0.7365, 0.9014, and 0.8947, respectively. Meanwhile, financing (investment and budget) yielded mean scores of 3.268 and 3.524 with standard deviation values of 1.0897 and 0.9275, respectively. Based on these results, it can be deduced that the respondents slightly agreed that innovation capability (organisational and financing) are important for their business performance. Meanwhile, the construct of owner (leadership, attributes and network) obtained mean scores of 3.229, 3.432, and 3.148 with standard deviation values of 0.7018, 0.9288, and 0.8491, respectively, while the process construct (product/process) obtained mean scores of 3.156, 3.337, and 3.268 with standard deviation values of 0.8330, 0.7732, and 1.0144, respectively. This shows that the owners of the businesses agreed that innovation competency is an important aspect that enhances business activity and growth.

Moreover, the descriptive analysis results for performance (profitability and growth) yielded mean scores of 0.6256 and 0.6150 with standard deviation values of 0.4125 and 0.3758, respectively. For creative output (intellectual property and new product development), the mean scores were 0.298 and 0.611 with standard deviation values of 0.2507 and 0.2613, respectively. Based on these results, it is evident that the respondents slightly agreed that innovation output is the outcome of innovation capability and competency. Overall, the descriptive analysis results are considered good and satisfactory. Innovation capability and innovation competency will also give a good impact on the innovation output of companies and the effect of innovation will contribute to the success of the SME industry in Malaysia.

Based on Table 3, with regard to the organisational element in innovation capability, it can be implied that the SME owners place more importance on organisational culture and people (mean scores more than 3), whereas structure and system were seen as less important (mean scores less than 3). As for the financing element in innovation capability, both budget and investment were deemed important (mean scores more than 3). Similarly, all elements in the innovation competency category were also considered important (mean scores more than 3). Finally, in the innovation output category, while the performance element was considered important (mean scores more than 1), the creative output element, however, was deemed less important (mean scores less than 1).

6. Conclusion

Innovation, which includes new knowledge acquisition and research, is of crucial importance for the competitiveness and sustainability of any business entity. The innovation competency category is viewed as important, which is positively inclined towards innovation. However, in the innovation competency and innovation output categories, the SME owners showed mixed perceptions. As for the organisational element in the innovation capability category, the SME owners perceived culture and people as important, but their perceptions were not as inclined towards structure and system. In terms of the creative output element in the innovation output category that consists of new product/process development and intellectual property, the SME owners perceived these elements as less important. To innovate and achieve business sustainability, SME owners should perceive all the elements under the innovation capability, competency, and innovative output as important. Therefore, the change agents need to find an appropriate way to enhance the SME owners' understanding so that they can see the importance of all elements in innovation capability, competency, and innovation output, thus making more efforts in pursuing the elements in the right direction to enhance innovation and achieve business sustainability.

Acknowledgement

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