

# Innovation capability among tourism SMEs in Kelantan

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## Abstract

Innovation capability is central to small and medium enterprises (SMEs) in order to compete with larger competitors. The main objective of this research is to investigate the role of research and development (R&D), technology, entrepreneurial leadership, and networking towards innovation capability among SMEs tourism players in Kelantan. Using a quantitative approach, an online self-administered questionnaire was gathered from tourism-related SMEs in Kelantan. 380 datasets were collected through email and analyzed using SPSS. Findings show that R&D, technology, entrepreneurial leadership, and networking have a significant contribution towards the innovation capability of tourism SMEs in Kelantan. Contribution to the body of knowledge and SMEs tourism players are highlighted.

## Keywords:

Innovation Capability, Research and Development (R&D), Technology, Entrepreneurial Leadership, Networking, Tourism SMEs

## 1 Introduction

Small and medium enterprises (SMEs) are recognized as the backbone of economic development and employment growth. Small and mid-size enterprises (SMEs) are businesses that maintain a certain threshold such as revenues, assets, or several employees. SMEs play an important role in employing large numbers of people and helping to shape innovation (Liberto, 2020). It maintains revenues, assets, or several employees below a certain threshold. Each country has its own definition of what constitutes a SME. Certain size criteria must be met and occasionally the industry in which the company operates is considered as well. Though small and mid-size

enterprises (SMEs) play an important role in the economy, they outnumber large firms considerably, employ vast numbers of people and are generally entrepreneurial in nature, helping to shape innovation.

Definitions of innovation that are quite similar to Schumpeter's are often used by the Community Innovation Survey (CIS), carried out by central statistics departments throughout the European Union. CIS distinguishes between product innovation, innovation in methods, innovation in companies and innovation in the industry. Product innovation is the beginning of new products or services that are significantly enhanced for the market. Innovation in methods or processes is an enhancement in the production technology, production process, or distribution channel. Research and development (R&D) play an important role in developing or producing a new product, service, or process.

Because of the globalisation of markets, which has resulted in a more competitive environment, rapid technological changes, and shorter product and technology lifecycles, many firms, particularly SMEs, are focusing on innovation, which is the key driver of long-term competitive advantage (Dadfar et al., 2013). However, SMEs are, on average, less innovative than large companies. They are still hesitant to embrace and adopt new technology (Dahnil et al., 2014). Therefore, it is the purpose of this study to investigate the factors that lead to tourism SMEs innovation capabilities.

## **2 Literature Review**

### **2.1 Innovation Capability**

Innovation capability is described as the ability to consistently come up with new ideas for the benefit of the company and its stakeholders and turn information and ideas into new products, processes, and systems. Innovation capability is more than just the ability to run a new stream business or manage mainstream capabilities. The efficiency of the mainstream is combined with the inventiveness of the new stream in an innovation capability. This is accomplished by utilizing their knowledge base (Cohen & Levinthal, 1990).

Organizations must learn to transform their capabilities of knowledge, skill, and process to achieve complete innovative capability, except for two important factors of competence exploitation and competence exploration. A market-oriented (that is, customer-led) firm with innovative capability connects with the outside-in process through transformative learning.

The aim of the innovation management/innovation process is to ensure that a company can provide end users with new innovative products and services on an ongoing basis, as well as innovation in the business model to preserve the competitiveness of the organization through sustained success in innovation.

## **2.2 Research and Development (R&D)**

The internationalization of R&D is a rising phenomenon among companies today. For both major global companies and foreign SMEs, this can be observed. In Germany, approximately 3% of creative companies with no foreign R&D activities in 2005 were expected to launch it in 2006/2007 (Rammer and Schmiele 2008). R&D is firmly internal, but if they improve the efficiency of creativity, they are complementary at various locations. Several R&D complementarities have been shown to have a positive impact on the growth of innovation competencies.

H1: there is a significant relationship between R&D and innovation capability.

## **2.3 Technology**

Kumar et al. (1999) define technology as consisting of two primary parts: physical components and informational components. The physical components consist of items such as products, equipment, and processes, while the informational component is composed of know-how in management, marketing, production, quality control, reliability, skilled labor, and functional areas. Innovation in technology has been a playground for companies from developed nations for a long time in history.

In recent years, the global technological environment has started to change. Some nations that traditionally rely on Western technologies are beginning to emerge as new major players in the international technology innovation arena (Fagerberg and Godinho, 2004; Mathews, 2004). Government funding proves to be critical for late-coming nations to keep up with innovation (Lyer et al., 2006; Siu et al., 2006). For instance, since the mid-1990s, China has introduced a national indigenous innovation strategy to promote the role of Chinese companies in key technologies (Hu and Jefferson, 2009; Yu, 2011). This national policy has facilitated the creation and adoption of digital video, disc, audio and video coding standards and Linux-based office applications in the country (Fomin et al., 2011; Suttmeier, 2005). The National Innovation Framework has succeeded in acquiring technical capabilities in Korea (Choung et al., 2011, 2012).

H2: There is a significant relationship between technology and innovation capability of SMEs in Kelantan.

## **2.4 Entrepreneurial leadership**

Entrepreneurial leadership is the process of shaping organizations by directly engaging stakeholder leadership and generating value by putting together a specific innovation and resource package to respond to a recognized opportunity (Darling, et. al., 2007). Gupta et al. (2004) described entrepreneurial leadership as a tool that generates visionary scenarios for assembling and mobilizing a supporting cast of participants dedicated to the vision of discovering and leveraging the development of strategic value. Strong business leadership may also boost the efficiency of an organization (Kistyanto et al., 2018; Wardoyo et al., 2018).

Leadership styles that promote innovation (by enabling and assisting administrators in developing and implementing innovative ideas) are thought to be positively

associated with self-rated innovation capability. Currie et al. (2008) report that product innovation and entrepreneurial leadership are systemic, complementary life processes.

H3: There is a significant relationship between entrepreneurial leadership and innovation capability.

## **2.5 Networking**

The network has been conceptualized from a variety of perspectives. It can also be viewed as a combination of a large number of actors and the pattern of connection that binds them together (Lacobucci and Hopkins, 1992), or as a specific structure that connects relationships between a group of individuals, people, or events (Knoke and Kuklinski, 1982). A business network on the other hand can be defined as a collection of two or more linked relationships, with each exchange relationship involving companies that are conceived of as collective actors (Emerson, 1981).

While research has recognized the significance of business for industry in corporate innovation, the structural characteristics of business networks and their effect on innovation have only recently been examined by researchers (Schilling and Phelps, 2007). The correlation between business network and company productivity has been shown in previous studies (Powell and Brantley, 1992; Uzzi, 1996; Sacks et al., 2001). As Nohria and Eccles (1992) suggest, businesses would be able to exchange relevant technological knowledge and engineering know-how across networks of educational, social, or transactional relationships, thereby obtaining competitive benefits. By exploiting collaborative partnerships, R&D creativity can be enhanced (Baum et al., 2000). Helper (1990) showed frequent exchanges of technical information and other knowledge among network members with close links in his analysis of the Japanese automotive industry, suggesting possible advantages brought to the innovation of a member by a business network.

Networks should be taken as significant variables affecting the output of innovation because embedded frameworks can shape sophisticated economic activity, as Granovetter (1985) suggested. Uzzi (1996) also noted that systemic embeddedness, which involves trust, fine-grained knowledge transfer, and mutual problem-solving structures, is also the basis of these problems of firm competitiveness, learning and creativity, and social ties.

The positive influence of business networks on innovation skills has been traced back to the ability of inter-organizational cooperation to promote the exchange of information and collaborative learning processes between participating organizations. In turn, this potential is said to be highly dependent on the overall structure of the network (Capaldo, 2007).

H4: There is a positive relationship between networking and innovation capability SMEs in Kelantan

## 2.6 Research Framework

Based on the discussion above, the development of research framework is shown in Figure 1.

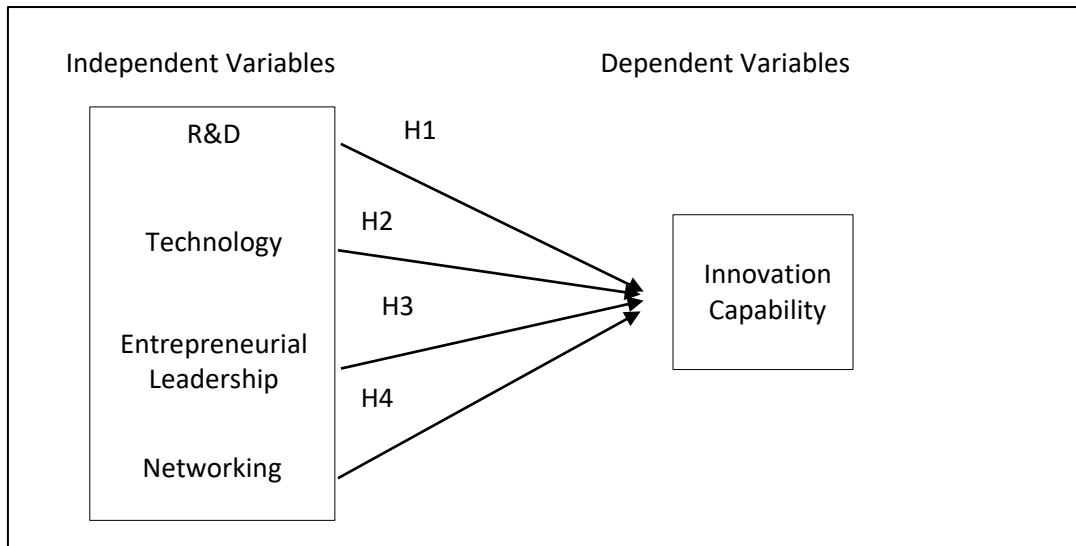


Figure 1: Research framework on Innovation Capability

## 3 Methodology

This study employed quantitative research design using self-administered online questionnaires in order to investigate the relationship between R&D, networking, entrepreneurial leadership, and technology towards innovation capability among tourism SMEs in Kelantan. One of the advantages of the quantitative method is its ability to use smaller groups of people to make inferences about larger groups that would be prohibitively expensive to study. Respondents for this study consisted of small tourism sector companies in Kelantan. The list of the SMEs in Kelantan was gathered from three main sources of directories, namely, the Federation of Manufactures (FMM), SME Corporation Malaysia (SME Corp. Malaysia), and the Malaysia External Trade Development Corporation (MATRADE). From the directories, we found there were 907065 SMEs organization in Kelantan. Based on table Krejcie & Morgan (1970), the appropriate sample size for the population is 381 SMEs.

The instrument for this study was adapted and adopted from previous studies such as Knight and Kim (2009), Beleska-Spasova et al. (2012), and Moore, Izak Benbasat, (1991). The questionnaires were created using the five-point Likert scale from 1- Strongly Agree to 5 – Strongly Disagree. The questions consist of three parts, with Section A asking for a demographic profile of respondents as well as area of the company, number of employees, total revenue, foreign revenue, main activity, and type of digital innovation, which is what type of digital they are using in their business.

Section B measures the independent constructs, which are R&D, technology, entrepreneurial leadership, and networking. Finally, questions in Section C measure innovation capability. Google form questionnaires were distributed through email and 380 data were collected. The data was then analyzed using SPSS for descriptive analysis, reliability, and correlation coefficient.

## 4 Findings

### 4.1 Demographic Profiles

For this study, 380 data from tourism SMEs in Kelantan were gathered. Table 1 shows the profile of the respondents. The majority of tourism SMEs are located in Kota Bharu district. Therefore, it is not surprising that 32.4% of respondents are located in this district, followed by Kuala Krai, Tanah Merah and Pasir Puteh districts with 14.5%, 13.2% and 10.8% respectively. Most of the SMEs have fewer than 20 employees (46.3%), while 35.5% have between 20 and 50 employees. There were 2 SMEs with more than 200 employees. The majority of the SMEs had an annual income of between RM100,001 – RM300,000 (31.1%) while seven of them have the highest range of annual income of between RM1,000,001 – RM20,000,000 equivalent to 1.8%. Food and beverages (23.2%), accommodation and hotel (15.3%), transportation (14.7%), travel agency (14.2%), crafts (10.5%), and others (22.1%) are the most common types of tourism SMEs. On digital usage to improve business performance, 30% of SMEs used social media, 28.2% used the marketplace, 27.4% used websites, and 14.2% used payment gateways.

Table 1: Profile of the Respondents (Tourism SMEs in Kelantan; n-380)

<b>Demographic Profile</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b><i>Business Location</i></b>		
Kota Bharu	123	32.4
Kuala Krai	55	14.5
Tanah Merah	50	13.2
Pasir Puteh	41	10.8
Bachok	35	9.2
Tumpat	29	7.6
Pasir Mas	25	6.6
Machang	22	5.8
<b><i>Number of employees</i></b>		
5>20	176	46.3
20>50	135	35.5
50>200	67	17.6
>200	2	0.5
<b><i>Annual Revenue</i></b>		
RM0 – RM20,000	32	8.4
RM20,001 - RM100,000	89	23.4

RM100,001 – RM300,000	118	31.1
RM300,001 – RM500,000	86	22.6
RM500,001 – RM1,000,000	48	12.6
RM1,000,001 – RM20,000,000	7	1.8
<b>Business Sectors</b>		
Food & beverage	88	23.2
Accommodation & Hotel	58	15.3
Transportation	56	14.7
Travel agency	54	14.2
Craft	40	10.5
Others	84	22.1
<b>Digital Innovation Usage</b>		
Social Media	114	30.0
Market place	107	28.2
Website	104	27.4
Payment gateway	54	14.2
Others	1	3

## 4.2 Descriptive and Reliability Analysis

Table 2 shows the descriptive and reliability analysis of the four independent variables used in this study. R&D, technology, entrepreneurial leadership, and networking are the independent variables while one dependent variable which is innovation capability. Each item for the five constructs showed a mean between 3.96 to 4.16 and a standard deviation in the range of 0.895 and 1.074 showing an agreement to each of the items. Reliability analysis was conducted using Cronbach's alpha where all constructs had values above 0.90 showing sufficient reliability.

Table 2: Descriptive and Reliability Analysis of the Constructs

Construct	Items	Mean	Std. Deviation	Cronbach's Alpha
<i>Research &amp; development (R&amp;D)</i>				0.933
	RD1	4.15	1.005	
	RD2	4.14	1.039	
	RD3	4.09	1.014	
	RD4	4.16	1.019	
	RD5	4.05	1.038	
	RD6	4.15	0.992	
	RD7	4.10	1.008	
<i>Technology</i>				0.932
	T1	4.10	1.062	
	T2	4.15	1.046	
	T3	4.15	1.062	
	T4	4.16	1.037	
	T5	4.16	1.036	
	T6	4.14	1.055	

T7	4.03	1.114	
<i>Entrepreneurial Leadership</i>			0.933
EL1	4.08	1.063	
EL2	4.20	0.978	
EL3	4.18	1.028	
EL4	4.15	1.020	
EL5	4.08	1.072	
EL6	4.18	0.990	
EL7	4.18	0.987	
<i>Networking</i>			0.929
N1	4.11	1.008	
N2	4.13	0.971	
N3	4.20	1.017	
N4	4.09	1.032	
N5	4.20	0.988	
N6	4.11	1.059	
N7	4.09	1.003	
<i>Innovation Capability</i>			0.919
IC1	4.26	0.895	
IC2	4.00	1.074	
IC3	4.12	1.025	
IC4	4.25	0.975	
IC5	4.15	1.008	
IC6	4.13	1.029	
IC7	3.96	1.092	

### 4.3 Correlation Analysis

The Pearson's Correlation Coefficient was used to attempt to classify the interaction strength and significant relationships between both independent variables and dependent variable. Pearson Correlation was chosen because of the evaluation of the intensity of the linear relationship between two variables using a single number falling within the range of  $\pm 1$ . Table 3 shows the outcome of the correlation analysis using Pearson's Correlation Coefficient.

Table 3: Pearson's Correlation

	R&D	Technology	Entrepreneurial Leadership	Networking	Innovation Capability
1. R&D	1				
2. Technology	.892	1			
3. Entrepreneurial Leadership	.901	.866	1		
4. Networking	.899	.876	.913	1	
5. Innovation Capability	.892	.878	.866	.876	1



#### 4.4 Hypothesis Testing

The Pearson's Correlation Coefficient was used to attempt to classify the interaction strength and significant relationships between both independent variables and dependent variable. Pearson Correlation was chosen because of the evaluation of the intensity of the linear relationship between two variables using a single number falling within the range of  $\pm 1$ . Table 4 shows the outcome of the correlation analysis using Pearson's Correlation Coefficient. According to Table 4, there is significant correlation between independent variables (R&D, technology, entrepreneurial leadership, and networking) with dependent variable (innovation capability). Thus, all the hypothesis is supported.

Table 4: Pearson Correlation and Hypotheses testing

	<b>Relationship</b>	<b>Pearson's Correlation</b>	<b>Hypothesis Testing</b>
<b>H<sub>1</sub></b>	R&D towards Innovation Capability	0.892**	Supported
<b>H<sub>2</sub></b>	Technology towards Innovation Capability	0.878**	Supported
<b>H<sub>3</sub></b>	Entrepreneurial Leadership towards Innovation Capability	0.866**	Supported
<b>H<sub>4</sub></b>	Networking towards Innovation Capability	0.876**	Supported

## 5 Conclusion

From this study, it can be concluded that R&D, technology, entrepreneurial leadership, and networking play a vital role for SMEs in Kelantan for the innovation capability. This was shown by the analysis of Pearson correlation done in this study. Some future recommendation is to establish more robust study on the factors that lead to innovation capability among small tourism players in Malaysia.

## 6 About the Author

Fadhilhanim Aryani Abdullah holds a master's degree in Science Education and ICT while bachelor's degree in Science and Computer in Chemistry. Currently doing PhD related to SMEs Innovation Capability.

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