Institute Of Technology Management And Entrepreneurship

INFLUENCE FACTORS OF ELECTRONIC COMMERCE (EC) ADOPTION AND INNOVATION ON DEVELOPMENT OF SMALL AND MEDIUM ENTERPRISES (SMEs) IN MELAKA

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Master of Business Administration

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Influence Factors of Electronic Commerce (EC) Adoption and Innovation on Development of Small and Medium Enterprises (SMEs) in Melaka

By
JUAN RIZAL BIN SA'ARI
JULY 2008

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ABSTRACT

The purpose of this study is to measure the influence factors of Electronic Commerce (EC) adoption and innovation on development of small and medium enterprises (SMEs) in Melaka. A survey was carried out through a set of questionnaires. Pilot test was conducted to obtain the reliability of the instruments. The Cronbach alpha reported no ambiguos items were found and the overall reliability for the Leader Innovativeness Factors Scale, Technological Factors Scale, Environmental Factors Scale and Adoption and Innovation of EC Scale were .80, .95, .92 and .91 respectively. The sample selected comprised 135 CEOs and workers in nine selected companies, three companies representing three districts in Melaka, which are Melaka Tengah, Alor Gajah and Jasin. The data collected were coded and analyzed using both descriptive and inferential statistics. Based on the findings, it can be found that Organizational Factors which consists of number of workers, yearly sales, location and the availability of website services is one of the factors that will affect the adoption and innovation of EC on development of SMEs in Melaka. Apart from that, the overall results also revealed, majority of the respondents agreed that Leader Innovativeness Factors (53%), Technological Factor (53%) and Environmental Factor (57%) have great influence in EC adoption and innovation on development of SMEs. The result also indicated there was a strong, positive correlation between leader innovativeness (.569), technological factors (.502) and the adoption and innovation of EC on development of SMEs in Melaka. In fact, result also showed there was a small, positive correlation between environmental factors (.28) and the adoption and innovation of EC. However, by using Spearman's rho correlation, the result indicated there was a medium, negative correlation between organizational factors (-.303) and the adoption of EC. In conclusion, to face the rapid development in adopting and innovating EC in SMEs, CEOs ought to equip themselves with the skills, through training courses to gain positive attitudes and capitalize on the changes brought by the adoption and innovation of EC in Small and Medium Enterprises (SMEs).

Faktor Yang Mempengaruhi Pengadaptasian dan Penginovasian E- Commerce (EC) Terhadap Pembangunan Industri Kecil dan Sederhana (IKS) di Melaka.

Oleh

JUAN RIZAL BIN SA'ARI
JULAI 2008

Penyelia   :   **Profesor Madya Dr. Raja Roslan Bin Raja Abd. Rahman**
Fakulti   :   **Institut Pengurusan Teknologi Dan Keusahawanan**

ABSTRAK

Kajian ini bertujuan untuk mengukur faktor yang mempengaruhi pengadaptasian dan penginovasian E- Commerce (EC) terhadap pembangunan industri kecil dan sederhana (IKS) di Melaka. Maklumat daripada responden di kumpulkan melalui soal selidik yang diperolehi daripada 135 Ketua Pegawai Eksekutif (CEO) dan pekerja daripada sembilan buah syarikat yang dipilih mewakili tiga daerah di Melaka iaitu Melaka Tengah, Alor Gajah dan Jasin. Satu kajian rintis telah dilakukan ke atas instrumen kajian untuk menguji kesahihan iaitu Skala Faktor Kepimpinan Inovatif, Skala Faktor Teknologi, Skala Faktor Persekitaran dan Skala Tahap Pengadaptasian dan Penginovasian EC sebelum kajian sebenar dijalankan. Nilai Alpha Cronbach yang diperolehi bagi setiap instrumen kajian tersebut telah .80, .95, .92 dan .91. Data-data dianalisis secara kuantitatif dengan menggunakan statistik deskriptif dan statistik pentakbiran. Dapatan kajian mendapati bahawa Faktor Organisasi yang terdiri daripada bilangan pekerja, jualan tahunan, lokasi dan kemudahan laman web merupakan salah satu faktor yang akan mempengaruhi pengadaptasian dan penginovasian EC terhadap pembangunan IKS di Melaka. Selain daripada itu, keseluruhan dapatan menunjukkan majoriti daripada responden bersetuju bahawa Faktor Kepimpinan Inovatif (53%), Faktor Teknologi (53%) dan Faktor Persekitaran (57%) turut mempengaruhi pengadaptasian dan penginovasian EC terhadap pembangunan IKS di Melaka. Kajian juga mendapati terdapat hubungan yang positif dan teguh diantara kepimpinan inovatif (.569), faktor teknologi (.502) dan pengadaptasian dan penginovasian EC di dalam pembangunan IKS di Melaka. Melalui kajian ini juga, dapatan mendapati terdapat hubungan yang positif dan sederhana diantara faktor persekitaran (.28) dan pengadaptasian dan penginovasian EC. Walaubagaimanapun, melalui analisis Spearman's rho, dapatan mendapati terdapat hubungan yang negatif dan sederhana diantara faktor organisasi (-.303) dan pengadaptasian dan penginovasian EC. Kesimpulannya, CEO harus melengkapkan diri mereka dengan kemahiran melalui latihan untuk membina sikap yang positif dan mengeksploitasi pembaharuan-pembaharuan yang dibawa oleh arus pengadaptasian dan penginovasian EC di Industri Kecil dan Sederhana (IKS).

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My sincere appreciation also extends to all my colleagues and others who have provided assistance at various occasions. Their views and tips are useful indeed. Unfortunately, it is not possible to list all of them in this limited space.

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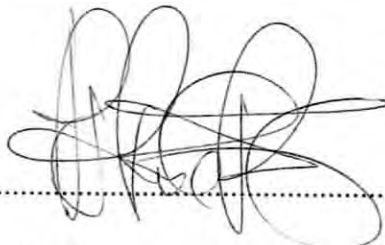Taman Bukit Beruang Bestari,
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APPROVAL

I hereby confirm that I have examined this project paper entitled :-

"Influence Factors of Electronic Commerce (EC) Adoption and Innovation on

Development of Small and Medium Enterprises (SMEs) in Melaka"

By

JUAN RIZAL BIN SA'ARI

I hereby acknowledge that this project paper has been accepted as part fulfillment for the

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Associate Professor Dr. Raja Roslan bin Raja Abd. Rahman

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Date:......7/7/2008......

DECLARATION

I declare that this thesis entitled "Influence Factors of Electronic Commerce (EC) Adoption and Innovation on Development of Small and Medium Enterprises (SMEs) in Melaka" is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature   :   ....

Name   :   **Juan Rizal bin Sa'ari**

Date   :   8/8/2008

DEDICATION

Specially dedicated to:

My dearest and beloved

        Papa....
                Datuk Haji Sa'ari bin Hassan

        Mummy...
                Datin Hajjah Nurisah binti Haji Abu

        In-laws...
                Md Buang bin Khalil & Asiah binti Parman

        Lovely Wife...
                Aziza binti Md. Buang

        Prince Charming...
                Jazraul Altaf bin Juan Rizal

        Big brother...
                Josi Rizal bin Haji Sa'ari

        Sister in-law
                Suzana binti Mat Hezir

        Nephews...
                Ariq Zafran bin Josi Rizal and Afiq Zakwan bin Josi Rizal

        Sister...
                Juanna Risah binti Haji Sa'ari

        Brother in-law
                Mohamad Rafaei bin Hj. Abdullah

Lecturers, colleagues, Supervisor, UTeM Kroons Rugby Team and close friends.

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LIST OF ABBREVIATIONS

TITLE

BCIC	-	Bumiputera Commercial and Industrial Community
B2C	-	Business-to-Customer
B2B	-	Business-to-Business
CEO	-	Chief Executive Officer
C2C	-	Customer-to-Customer
EC	-	Electronic Commerce
EDI	-	Electronic Data Interchange
G2B	-	Government-to-Business
M	-	Mean
MAVCAP	-	Malaysia Venture Capital Management Berhad
MNC	-	Multi National Company
MTDC	-	Malaysia Technology Development Corporation
OTE Model	-	Organizational Technological Environmental Model
PETRONAS	-	Petroleum Nasional Berhad
PROTON	-	Perusahaan Otomobil Nasional Berhad
SD	-	Standard Deviation
SMEs	-	Small and Medium Enterprises
TNB	-	Tenaga Nasional Berhad

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Technology has driven organizational changes over the last decades. Especially, information-related technology has become more and more important in influencing and shaping organizational strategy and success. Hence, to efficiently adopt technological innovation to an organization has become a significant managerial concern. To deeply analyze technological innovation adoption in the organization, the central theme of this study focuses on the influence factors of electronic commerce adoption and innovation on development of Small and Medium Enterprises (SMEs) in Melaka.

Electronic commerce (EC) describes the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks, including the Internet (Turban, 2006). It is commonly known as e-commerce or eCommerce, consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks. The amount of trade conducted electronically has grown dramatically since the wide introduction of the Internet. A wide variety of commerce is conducted in this way, including things such as electronic funds transfer, supply chain

management, e-marketing, online marketing, online transaction processing, electronic data interchange (EDI), automated inventory management systems, and automated data collection systems. Modern EC typically uses the World Wide Web at least some point in the transaction's lifecycle; although it can encompass a wide range of technologies such as e-mail as well as Wikipedia (www.wikipedia.com).

In general, EC uses information or processing capabilities to improve organizational performance and relationships among suppliers and customers. There are many successful cases of adopting EC to gain competitive advantages today. Hence, many organizations, especially those operating globally, treat EC as both communications and transactions tools. Moreover, deeply understanding the context of EC is needed, so that organizations become more aware of the opportunities and barriers in adopting EC.

Another theme that this study focuses on is Small and Medium Enterprises (SMEs). SMEs played a very important role in Melaka's economic and tourism growth during the past several years. SMEs have greater flexibility because their size allows them to adopt new processes, services, materials and products more easily than large enterprises. SMEs are characterized by an absence of standardization and formal working relationships, usually have a flat organizational structure, and staff development is limited. These characteristics make SMEs more flexible to environmental changes and research has found that small firms are perceived of being significantly more "flexible" than large firms (Levy and Powell, 2004).

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However, in Ninth Malaysia Plan 2006-2010 stated SMEs face the disadvantage of being less competitive due to insufficient resources and limited managerial abilities. In recent years, rising wages, the high cost of land and premises and environmental protection awareness have altogether caused Melaka's industries to be less competitive. Furthermore, SMEs lack the resources to communicate with outside vendors, suppliers or customers, causing the organizations difficulty in staying competitive in the global marketplace.

The eighth plan emphasized the importance of SMEs in enhancing the dynamism and competitiveness of the manufacturing sector. Based on the Census of Establishments and Enterprises 2005, SMEs in the manufacturing sector, totaling 33,113 establishments, contributed 29.0 per cent of total manufacturing output, 31.0 per cent of value added and 44.0 per cent of employment. While overall performance improved, there were still areas of concerns such as access to export markets, inadequate technological capability and low adoption of enabling technologies.

Considerable attention was given to the provision of industrial infrastructure and amenities to facilitate the expansion of SME activities. A total of RM 652.2 million was provided for the establishment and expansion of SME industrial parks, comprising factory units and incubator facilities at key locations throughout the country.

Various programmed were undertaken to develop Bumiputera entrepreneurs as part of the efforts to create a viable and competitive Bumiputera Commercial and Industrial Community (BCIC). Government agencies and a number of government-linked companies (GLCs) assisted in the development of ancillary and supporting industries through their own

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vendor programmes, which contributed to the development of many competent and competitive Bumiputera SMEs. During the Plan period, anchor companies, including Perusahaan Otomobil Nasional Berhad (PROTON), Petroleum Nasional Berhad (PETRONAS), Tenaga Nasional Berhad (TNB), and a number of MNCs, created more than 200 first tier vendor companies, involved in manufacturing and related activities.

A number of training programmes for SMEs were implemented to improve their resource planning, management capability, financial management and human resource development as well as upgrading marketing and technical skills. Various grant and loan schemes were provided for business planning, product and quality improvement as well as marketing and promotion and the adoption of information and communications technology (ICT) processes.

In order to ensure adequate funding for SMEs, the Government expanded funds, covering soft loans and grants to facilitate the establishment of new and upgrading of existing businesses. In addition, the SME Bank was established in 2005 to provide comprehensive financing packages to meet the varied financial needs of SMEs. In terms of venture capital, the Malaysia Venture Capital Management Bhd. (MAVCAP) and the Malaysia Technology Development Corporation (MTDC) continued to provide early stage financing to potential start-up companies involved in high-technology activities (Ninth Malaysia Plan 2006-2010, 2006).

The data below shows the overall performance of entrepreneurs (business ownership) in Melaka. It was obtained from three local councils in Melaka namely Majlis Bandaraya Melaka Bersejarah, Majlis Daerah Alor Gajah and Majlis Daerah Jasin regarding

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the achievement of entrepreneurs in Melaka until 2006 (Direktori Usahawan Bumiputera Negeri Melaka, 2006). It was divided into six main categories or sub-sector, such as manufacturing, retailing, general business, community services, social and others, and restaurant and hotel. This study will focus on manufacturing only.

Table 1.1: Involvement of Entrepreneurs in Manufacturing Sector, 2006
(Based on Business Licenses)

No.	Sector	Melaka State								Total
	Manufacturing	Malay	%	Chinese	%	India	%	Others	%	
1.	Foods and beverages (food and beverages production, food storage/ Warehouse)	100	8.61	991	85.28	43	3.70	28	2.41	1152
2.	Textiles, clothing and leather products	128	30.30	260	61.50	24	5.70	10	2.40	422
3.	Woods and furbitures (woods and furnitures factory)	128	30.30	260	61.60	24	5.60	28	2.40	422
4.	Printing and publishing	43	43.19	222	73.27	10	3.30	28	9.21	303
5.	Chemical and chemical products	13	16.88	58	75.32	2	2.60	4	5.19	77
6.	Rubber products	13	21.67	38	63.33	5	8.33	4	2.47	60
7.	Plastic/pwc	21	10.66	156	79.19	17	0.51	3	1.52	197
8.	Non-metal mineral products (cement works, construction bricks, house renovations)	30	13.82	173	79.72	11	5.07	3	1.38	217
9.	Stell-base industry/works	78	15.03	413	79.58	18	3.47	10	1.93	519
10.	Metal by-products (pewter,brass, aluminium)	11	9.48	96	82.76	6	5.17	3	2.59	116
11.	Other industries	38	18.81	132	65.35	10	4.95	22	10.89	202
12	Refines petroleum product and nuclear fuel	53	24.20	101	46.12	11	5.02	54	24.66	219
	Total	**541**	**14.90**	**2744**	**75.70**	**164**	**4.53**	**174**	**4.80**	**3623**

Most critical business sector
Critical business sector
Most involved business sector

Source: Direktori Usahawan Bumiputera Negeri Melaka (2006)

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Based on the above information (Table 1.1), manufacturing sector with 14.30% achievement was still below the 30% target. Only textiles, clothing and leather products sector achieved 30.30% or above the 30% target. Bumiputera achievements in wood and furniture industries are still below target, at 14.19%. Also in steel industry with 9.48%, followed by food and beverages sectors that achieved the lowest percentage, only at 8.61%.

1.2 Problem Statement

Malaysia needs its Small and Medium Enterprises (SMEs) to be strong, prosperous and competitive. There are more than half a million SMEs in Malaysia and they make up nearly 99% of all business establishments in the country. SMEs assume an important role in the advancement of Malaysia's economy. In 2006, SMEs contributed 32% of the nation's real gross domestic product (GDP) and 19% of the total exports (Ariff and Syarisa, 2007). It is clear that SMEs are the backbone of the national economy and have great potential to drive its growth.

Today, most SMEs are forced to adopt EC by their major suppliers and value chain partners in order to carry out everyday business processes more efficiently. Moreover, the electronic marketing channel can bring customer more benefits, such as greater shopping convenience, more complete product information, and potentially lower prices. Hence, studying SMEs and their pattern of EC adoption and innovation has become a recent trend. However, most prior studies regarding EC adoption and innovation were conducted for large enterprises and for organizations in the USA and Europe. There are fewer studies of SMEs in the Asia-Pacific regions.

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Small and Medium Enterprises (SMEs), will promote high innovation capabilities to become part of the global supply chain. Central Bank of Malaysia findings based on case studies done on the SMEs with more than 10 years in business, shows that one of the key success factors of SMEs is "leadership capability and integrity" (Central Bank of Malaysia, 2003).

In Melaka, data shows that until August 2003, the total of 626,561 local companies have registered with Malaysia Securities Commission. Only 12,979 companies or 2.07% were owned by Melaka local entrepreneurs and six companies were belongs to foreign companies that registered in Melaka (Direktori Usahawan Bumiputera Negeri Melaka, 2006). That's mean, from national perspective, Melaka entrepreneurs still lagging behind in terms of businesses ownership and the adoption and innovation of EC in their business.

1.3   Research Questions

There were five research questions for this study. The first research question was to find out the organizational factors on development of SMEs in Melaka. The next research question was to determine the leader innovativeness factors on the development of SMEs in Melaka. The third and the fourth research questions were to investigate Technological and environmental factors that concern on the development of SMEs in Melaka. Finally, the fifth research question was to determine the suggestions on the importance of EC adoption on SMEs in Melaka.

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1.4   Objectives of the Study

The purpose of this study was to measure the influence factors of EC adoption and innovation on development of small and medium enterprises (SMEs) in Melaka. The objectives were as follows:

1.4.1   To identify the organizational factors on development of SMEs in Melaka.

1.4.2   To determine leader innovativeness factors on development of SMEs in Melaka.

1.4.3   To determine the technological factors on development of SMEs in Melaka.

1.4.4   To analysis the environmental factors on development of SMEs in Melaka.

1.4.5   To suggest the influence factors of EC adoption and innovation on SMEs in Melaka.

.5   Hypothesis of the Study

The purpose of this research was to identify and conduct a testing on the relationship between dependent and independent variables by using below hypothesis:

Hypothesis 1   -   There is a significant influence between organizational factors and the adoption of EC on development of SMEs in Melaka.

Hypothesis 2   -   There is a significant influence between the leader innovativeness factors and the adoption and innovation of EC on development of SMEs in Melaka.

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Hypothesis 3 - There is a significant influence between the technological factors and the adoption and innovation of EC on development of SMEs in Melaka.

Hypothesis 4 - There is a significant influence between the environmental factors and the adoption and innovation of EC on development of SMEs in Melaka.

1.6 Scope of the Study

The scope of this study was to seek the influence factors of EC adoption and innovation on development of SMEs in Melaka. This study examined factors of the EC adoption and innovation, including the contexts of organizational, leader innovativeness, technological, and environmental. As part of an in-depth survey study, evidence was gathered from 135 respondents including Chief Executive Officers (CEO), High Management Staff, Middle Management Staff and Clerical Staff of participating organizations mostly in the three districts of Melaka which are Melaka Tengah, Alor Gajah and Jasin. Information on organizational profiles, leader innovativeness, technological, environmental, and EC influence adoption and innovation on development of SMEs in Melaka was collected and analyzed.