

# The Challenges of E-Commerce Application among SMEs in West Coast of Sabah: A Preliminary Study

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## ABSTRACT

*This article investigates the challenges related to social, technological, and investment issues of e-commerce application among small-medium-sized enterprises (SMEs) in west coast of Sabah. The result of these study stressed that the application of e-commerce are very important and need to be implemented widely especially in Sabah to make it more competitive and creative in order to compete in global market.*

## 1.0 INTRODUCTION

Many studies from the literatures consent that the Internet through e-commerce brings tremendous opportunities for business to boost their trade, advocate investment, reduced transaction costs, expand their market scale globally, enhanced communication and supply unparallel marketing tool (Kamel and Hussein, 2001; Stockdale and Standing, 2004). However through the tremendous advantages brought by e-commerce, not all companies grab the opportunities provided. SMEs for example, have been reported as the lowest sector that embraces e-commerce (Mehling 1998; Poon and Swatman 1999a). SMEs reluctant to adopt e-commerce in their business, impacts not only their on-going survival in this competitive business environment but also on the national economic. Interesting point here is, why many SMEs refuse to adopt e-commerce in their companies even though the Internet has been proven as a powerful weapon to increase competitive advantage?

The aim of this paper is to explore the challenges of e-commerce application among SMEs in the west coast of Sabah, in term of social, technological, and investment aspect. SMEs in the context of this paper defines as a companies that registered under the companies Act 1965 (Malaysia), having an annual sales turn over not exceeding RM25 Million and full-time employees not exceeding 150. In addition, at least 60% of the equities in a company must held by Malaysian and operating in an approved premises (SMIDEC, 2000).

## 2.0 LITERATURE REVIEW

There are many definitions of e-commerce given by scholars from various disciplines. According to Laudon and Laudon (1999), e-commerce can be defined as a process of buying and selling goods and services involving transactions using the Internet, networks, and other digital technologies. Another definition given by *The economist*, e-commerce is

trade that actually takes place over the Internet, usually through buyer visiting seller's Web site and making a transaction there (cited in Duffy and Dale, 2002). Schneider (2002), defined e-commerce as business activities conducted using electronic data transmission technologies such as those used in the Internet and the World Wide Web to implement or enhance business processes. For the purpose of this study, definition given by Schneider (2002) was used.

SMEs play a fundamental roles in nation development (Papazafeiropoulou, Pouloudi, and Doukidis, 2002; Fee, Erridge, and Hennigan, 2002; Lange *et al*, 2002; Poon and Swatman (1999b), thus it is important for SMEs to enhance their business operations in order to gain more competitive advantage in this competitive environment.

Datuk Seri Rafidah Aziz (Utusan, 2002), described that companies in Malaysia particularly SMEs are still infancy even though they are using information communication technology (ICT) in their administration, salary payment, and finance. Besides that, members of industrial association which keen to acquire benefits of e-commerce need to rearrange the whole program with all aspect of ICT in their programs. The entrepreneur or businessman is also required for quick responses of any queries or reservation, and also services using direct access.

Reviews from the literature reveal that there are positive impacts of the Internet technologies toward business, especially in term of expanding business scale globally. The Internet provides a direct link with customer, suppliers, and distributors and facilitates transactions, processes and information transfer (Kula and Tatoglu, 2003). According to Schlenker and Crocker (2003), the Internet can improve the value proposition of small business through:

- a) ease of use (the ability of client to contact the firm and understand the product it offer),
- b) control (the ability of the firm to understand and manage activities like sales, distribution, customer service)
- c) client intimacy (relationship building through interaction with individual customer before, during and after the sales)
- d) partnering (relationship building though business partners based on common vision on the market)
- e) integration (using IT as support for organization change both within the firm and within the supply chain)

Although there are remarkable acceptances of e-commerce, many SMEs are still not achieving minimal level of e-commerce application (Stockdale and Standing, 2004). A previous studies done by scholars, found that there are challenges in term of social, technological, and financial aspect in e-commerce application among SMEs. Kamel and Hussien (2002), based on their research in Egypt conclude that social challenges comprise lack of awareness, lack of training, lack of trust, resistance to change and the language barrier. Meanwhile the technological challenges include telecommunications infrastructure, financial challenges include lack of electronic payment systems, and legal challenges comprise the non - existence of certificate authority.

The major deterrent of any technological innovation such as e-commerce is awareness toward it service provision. According to research finding by OECD (1998), lack of awareness is one of the most frequently reported barrier in the application of e-commerce, as they do not seem to realize business opportunities offered by e-commerce (cited in Papazafeiropoulou, Pouloudi, and Doukidis, 2002). A study done by DTI in 1998; 1999, shows that most of the SMEs manager are not aware of the opportunities presented to them by advance information technology, especially newly emerging e-commerce and Internet business (cited in Duan *et al.*, 2002). Kamel and Hussien (2001), in their research in Egypt, conclude that awareness from the consumer and corporate perspective toward e-commerce are very low. This can be seen in term of their low response toward provision of Internet service even though it was affordable.

The potential benefits of e-commerce application in an organization obtained when it handled by skilled and knowledgeable workforce (Allison, 1999). However, a numbers of studies show that SMEs are lack of appropriate skills and knowledge in handling the e-commerce technology, which make them not fully geared to the benefits enabled by e-commerce. A study done by Nath *et al.* (1998), reveals that training and lack of skilled personnel are the main impediment for implementation of the Internet and e-commerce. Lack of skills and knowledge among employee can be improved with initial training and ongoing training. However, although training has been highly regarded as an effective tool for addressing skills shortage, SMEs are particularly reluctant to train (Elbadri, 2001). Research by Fondation Tomillo (cited in Schlenker and Crocker, 2003) conducted in Europe, reveals that there are large numbers of small business owner, that keen to provide training for their workforce but reluctant to spend money on the training, and see such investment as cost consuming rather that a source of business value. This finding was inline with Korchak and Rodman (2001) who stated SMEs are unlike to commit sources without recognizable return of the benefits for the investment of time and money.

Another reason is SMEs are often not aware of their training needs and do not have the personnel to analyze needs, source suitable training interventions and grant employees the time to attend such interventions (Martinsuo and Jarvenpaa, 1998 cited in Barry and Milner, 2002). Proper training is very significant in increasing the productivity of employees.

Trust is the heart of online business (McCole, 2002), which make a significant contribution to the e-commerce success in term of customer relationship building. Trust is like grease that keep the wheels turning (Goodwin, 1996), without trust business can't move efficiently. A research finding by Kamel and Hussien (2001), found that there a limited trust in credit card, which becomes drawback for the online transaction, whereby credit card is the primary solution for settling consumer transaction on the Internet. Reluctant to change remains challenges for e-commerce. People which familiar to the traditional way in conducting business, found that it is difficult to switch to a new technology innovation (Kamel and Hussien, 2002), and it becomes worst when the companies did not provide training for their staffs.

The SMEs have been described as lack of resources in various aspects compared to larger firms. These consequences contribute to the inability of the SMEs to allocate budget and plan to technology implementation. A research finding by Kamel and Hussein (2001) in Egypt, found that the high cost of telecommunication services, including bandwidth cost, lead to the low usage of the Internet service. The bandwidth used by SMEs is about 2.5Mbps, which is not applicable for an efficient access of the Internet (Jutla, Bodorik, and Dhaliwal, 2002). Compare to the larger companies, many SMEs tend to be unfamiliar with the e-commerce technology and perceived the investment as costly without consider the long term revenue.

For the successful implementation of e-commerce, there are great attention needed regarding to the above mentioned challenges. The SMEs need to open up their mind to the new technology in order to grab all the opportunities provided.

### 3.0 METHODOLOGY

#### Survey instrument

This research is based on the questionnaire survey method. The questionnaires were designed to gather information in the following area:

- Section I: Company's profile and their awareness on e-commerce
- Section II: Company usage on the e-commerce application
- Section III: Company's benefits toward their application on e-commerce

The questionnaire was adapted from Dr. Ainin Sulaiman in the research on the e-commerce application in Malaysia in 1999 for National Productivity Corporation (NPC) with major modification to suite the industry environment in west coast of Sabah.

**Data collection**

A total number of 500 questionnaires were distributed to various sectors of SMEs in six major areas in west coast of Sabah namely Kota Kinabalu, Penampang, Inanam, Kota Belud, Ranau, and Tuaran. The SMEs companies were identified through companies list taken form the Ministry of Entrepreneurship and Development (MED) and also from the yellow pages.

The replies to the questionnaires were analysed using SPSS program version 11.5.

**Sample characteristic**

A total number of 300 responses have been received of which 175 are usable (refer to table 1). Of the 175 usable responses, Kota Kinabalu shows the highest response 61.1%, followed by Inanam 17.7%, Penampang 17.7%, Tuaran 5.1%, and Kota Belud and Ranau with equal percentage of 3.4 % (refer to table 2). The majority of the companies responded are from Tourist & Leisure sector 29.7%, followed by Manufacturing 19.4%, Finance 13.1%, Retail 12.6%, Construction 9.1%, Wholesaler 5.7%, Information Technology 4%, Service 3.4%, and Transport sector shows the lowest response 1.7% (refer to table 3).

**Table 1: Survey response rate**

	Sample size	Received	Usable	Rate (%)
SMEs survey	500	300	175	35

Source: SPSS 11.5 output

**Table 2: Companies Location**

Location	Frequency	%	Valid %	Cumulative
Valid Kota Kinabalu	107	61.1	61.1	61.1
Inanam	31	17.7	17.7	78.8
Penampang	16	9.1	9.1	87.9
Tuaran	9	5.1	5.1	93
Kota Belud	6	3.4	3.4	96.4
Ranau	6	3.4	3.4	100.0
Total	175	100.0	100.0	

Source: SPSS 11.5 output

**Table 3: Company sector**

Sector	Frequency	%	Valid %	Cumulative %
Tourist & Leisure	52	29.7	29.7	29.7
Manufacturing	34	19.4	19.4	49.1
Finance	23	13.1	13.1	62.2
Retail	22	12.6	12.6	74.8
Construction	16	9.1	9.1	83.9
Wholesaler	10	5.7	5.7	89.6
Information Technology	7	4.0	4.0	93.6
Services	6	3.4	3.4	97
Transport	3	1.7	1.7	98.7
Agriculture	2	1.1	1.1	99.8
Total	175	100.0	100.0	

Source: SPSS 11.5 output

**4.0 RESULT AND ANALYSIS**

This section describes the three main challenges faced in e-commerce application namely social, technological, and investment challenges.

**Social challenges**

With the respect of social challenges, there are lack of awareness, lack of training, and lack of trust. The

finding of this study shows that the awareness of SMEs in west coast of Sabah toward e-commerce application is very low. Based on the analysis, it shows that most SMEs did not consider e-commerce in their strategic planning, where only 23.6% of the respondent have assigned e-commerce planning duties to specific group, 63.8% have not assigned, and 12.6% of the respondent are not sure about it (refer to table 4).

**Table 4: Assignment of e-commerce planning duties**

	Frequency	%	Valid %	Cumulative
Valid Yes	41	23.4	23.6	23.6
No.	11	63.4	63.8	87.4
Not sure	22	12.6	12.6	100.0
Total	174	99.4	100.0	
Missing System	1	.6		

Total	175	100.0
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Source: SPSS 11.5 output

The allocations of resources for e-commerce activities are very poor. It was quite surprising where for the past 2 years, only 21.7% of the respondents have allocated resources for e-commerce activities, 61.7% did not allocated resources for e-commerce activities and 16% respondents not sure (refer to table 5).

**Table 5:** Allocation of resources for e-commerce activities

		Frequency	%	Valid %	Cumulative
Valid	Yes	38	21.7	21.8	21.8
	No.	108	61.7	62.1	83.9
	Not sure	28	16.0	16.1	100.0
	Total	174	99.4	100.0	
Missing	System	1	.6		
	Total	175	100.0		

Source: SPSS 11.5 output

In term of business transaction, only 20.6% of the respondent display their customer order status via Internet, 73.1% did not display, and 5.7% not sure about it (refer to table 6). This means that in term of product ordering transaction, most of the SMEs still operating in conventional manner.

**Table 6:** Display of customer order status order via Internet

		Frequency	%	Valid %	Cumulative
Valid	Yes	36	20.6	20.7	20.7
	No.	128	73.1	73.6	94.3
	Not sure	10	5.7	5.7	100.0
	Total	174	99.4	100.0	
Missing	System	1	.6		
	Total	175	100.0		

Source: SPSS 11.5 output

The finding of the research also shows that most SMEs were still using the conventional way in communication with their suppliers, where only 40% of the respondent using the Internet, 53.1% did not and 6.3% not sure (refer to table 7). Using conventional way in communication limit SMEs to access to wider range of market, low potential for partnership, inflexibility in administration and communication, and also discourage customer services (Stockdale and Standing, 2004).

**Table 7:** Interact with supplier via the Internet

		Frequency	%	Valid %	Cumulative
Valid	Yes	70	40.0	40.2	40.2
	No.	93	53.1	53.4	93.7
	Not sure	11	6.3	6.3	100.0
	Total	174	99.4	100.0	
Missing	System	1	.6		
	Total	175	100.0		

Source: SPSS 11.5 output

The result of this study also revealed that SMEs in west coast of Sabah are lack of training. In term of training provision only 28% of the respondents send their staff for training, 68.6% did not send their staff for training and 3.4% are not sure (refer to table 8).

**Table 8:** Staff e-commerce Training

		Frequency	%	Valid %	Cumulative %
Valid	Yes	49	28.0	28.0	28.0
	No.	120	68.6	68.6	96.6
	not Sure	6	3.4	3.4	100.0
	Total	175	100.0	100.0	

Source: SPSS 11.5 output

Table 9 shows the type of training provided by SMEs for their staffs. 31.4% of the respondents did not provide training for their staffs, only 38.3% performed On-the-job training, local vendor and in-

house training. A total of 9.7% and 14.3% rely on the local vendors to provide e-commerce training or in house respectively. For overseas training, only 3.4%

pursue this diction followed by 1.1% conducts their e-commerce training with local institution.

**Table 9: Types of e-commerce training**

		Frequency	%	Valid %	Cumulative %
Valid	No. training	55	31.4	31.6	31.6
	On-the-job training, Local vendor, in-house training & local institute	67	38.3	38.5	70.1
	Local vendors	17	9.7	9.8	79.9
	In-house training	25	14.3	14.4	94.3
	Overseas training	6	3.4	3.4	97.7
	Local institute	2	1.1	1.1	98.9
	On-the-job training & in-house training	1	.6	.6	99.4
	On-the-job training, local vendors, in-house & local institute	1	.6	.6	100.0
	Total	174	99.4	100.0	
Missing	System	1	.6		
	Total	175	100.0		

Source: SPSS 11.5 output

Another challenges identified was the lack of trust among SMEs on the e-commerce application. As has been shown in table 10, the usages of the e-commerce applications are very low. The usage of electronic

marketing was only 38%, customer support service 34%, electronic advertising 29%, order and delivery 14%, and the lowest usage of e-commerce application is on the payment system 11%.

**Table 10: Usage of e-commerce application**

Application	Usage %	Not in use %
Electronic marketing	38	62
Customer support service	34	66
Electronic advertising	29	71
Order and delivery	14	86
Payment system	11	89

With respect of technological challenges there are high cost in setting up and lack of expertise to implement e-commerce application. 9.1% of the respondents, did not make any investment in IT for

the past three years ,70.9% respondent invest less than RM50,000, and only 2.3% made invest more than RM1,000,000 (refer to table 11).

**Table 11: IT investment**

		Frequency	%	Valid %	Cumulative
Valid	IT investment (RM)				
	0	16	9.1	9.1	9.1
	< 50,000	124	70.9	70.9	80.0
	50,000 – 249,999	26	14.9	14.9	94.9
	500,000 – 749,999	3	1.7	1.7	96.6
	750,000 – 999,999	2	1.1	1.1	97.7
	> 1,000,000	4	2.3	2.3	100.0
Total	175	100.0	100.0		

Source: SPSS 11.5 output

Lack of expertise to run the e-commerce application also remains problems for SMEs to implement e-commerce. It is quite surprising where 27.4% of the respondent did not have any IT personnel in their

company, 60.6% have 1-5 IT personal, 9.1% have 6-10 IT personnel, 1.7% have 11-15 IT personnel and 0.6% have 16-20 IT personnel or more than 26 IT personnel (refer to table 12).

**Table 12: Total number of IT personnel**

Number of IT personal	Frequency	%	Valid %	Cumulative
0	48	27.4	27.4	27.4
1 – 5	106	60.6	60.6	88.0
6 – 10	16	9.1	9.1	97.1
11 – 15	3	1.7	1.7	98.9

16 – 20	1	.6	.6	99.4
> 26	1	.6	.6	100.0
Total	175	100.0	100.0	

Source: SPSS 11.5 output

## 5.0 CONCLUSION

There are numbers of challenges that need to be addressed for the accomplishment of e-commerce among SMES in west cost of Sabah. Serious attention need to be taken from the aspect of social, technological, and investment. With respect of social aspects there are lack of awareness, lack of training, and lack of trust. With respect of technological, there are weaknesses in term of telecommunication infrastructure, meanwhile with respect of investment, the SMEs seems to have low financial resources.

By understanding both benefits and challenges faced in e-commerce, enabled SMEs to enhance their business process and compete effectively in global market environment. Besides, there are great needs for SMEs to change their mindset of an innovation of technologies such as e-commerce and see such innovation as opportunities rather than treat.

The Sabah government is very supportive in the development of e-commerce. This can be seen in term of the development of Sabah Institutes of Small Business and Medium Enterprise (IPICS), and the Kota Kinabalu Industrial Park (KKIP), which both responsible to increase the role of SMEs in state's economy and also becomes the catalyst to produce more competitive and resilient entrepreneurs.

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