

USAGE BARRIERS OF E-COMMERCE AMONG SMALL AND MEDIUM ENTERPRISE IN AGRO-BASED INDUSTRY

Kamaruddin Radzuan
Mohd Nasrun Mohd Nawi
Fakulti Pengurusan Teknologi
Universiti Utara Malaysia
06010 Sintok, Kedah

Mohd Faizal Omar
Fakulti Sains Kuantitatif
Universiti Utara Malaysia
06010 Sintok, Kedah.

ABSTRACT

Census on Establishment Small and Medium Enterprise 2005 indicate that overall performance of Small and Medium Enterprise (SME) is at great development. However it seems to be shortcoming on certain aspect in term of accessing the export market, lowered in technology application, and technology capability. The aim of this study is to get the current total of e-commerce usage among the native entrepreneur of SME in Agro-Based Industry (ABI) and to recognize barriers toward e-commerce usage. Furthermore, those barriers and primary activities are recognized through the past study result. The current data is acquired from distributed questionnaire to SME's that related to ABI in northern area of Kedah. The data is then analyzed to know the total of e-commerce usage and to recognize primary barrier of e-commerce usage of SME in ABI. As a result, this paper has figured out that e-commerce usage among the native entrepreneur of SME in ABI is at lower level. In particular, the primary barriers of e-commerce usage among native entrepreneur of SME ABI in the Northern area of Kedah include high cost, lack of skill and knowledge workers on Information Technology (IT), lack of demand from customers and suppliers to use e-commerce. The wish to provide useful information that can be used as guidance to Malaysia Government to develop strategic plan using e-commerce application in order to strengthen SMEs sector.

INTRODUCTION

Development in communication technology specifically the usage of e-commerce had change the way to conduct businesses. According to Nissen, 1997, E-commerce can be defined as a process of flow associated with commercial relationship; or transaction including activities such as purchasing, marketing, sales, and customer support. In contrast, the Malaysia National E-Commerce Committee define e-commerce as transaction those implemented via computer networks which involves publics and private, relating electronic interaction between businesses, government and consumer by means of information access, trading, purchase and delivery of goods and service (Mustafa & Mohd Khairuddin (2003)).

Kalakota & Robinson (2000) stressed that development of internet technology is used to arrange the smoothness of products and services flow in supply chain. This includes establishing global marketing channel, responsive to customer demand, lowering inventory levels, foster communication between distant units and creating supply chain (Elango, 2000; Kambil 1997). Furthermore, the Ministry of Energy emphasized that there are probability of incomes to increase by leveraging Business-to-Customer (B2C) and Business-to-Business (B2B) activities. As a result, this promising strategy has been rising from an initial USD 1.5 billion in 2002 to USD 9.4 billion in 2005 (MATRADE, 2003). Thus, this positive trend is projected to be a dramatic increase for the near future.

As such, the further enhancement of this rapid technology has proved that it can contribute opportunity to organization wealth. Player from SMEs should undertake this opportunity to adopt it as their business process tools. SME can be defined as enterprise in manufacturing (including Agro-Based-Industry) with full-time employees not exceeding 150 or with an annual turnover not exceeding RM25 million (SMIDEC, 2007). ABI involves with the usage of agriculture resource and add value through manufacturing processes. This includes industry of food and beverage, furniture, printing, rubber-base product and biotechnology and herbs.

In October 2004, Ministry Agriculture and Agro-based Industries stated that among the main strategies in industrializing the Malaysian Agriculture is trough utilization of information and communication technology (ICT) (Rozana Sani, 2004). In fact, in 9th Malaysia Plan also had emphasized that ICT will be used as one of the main strategies in developing ABI as importance national economic development specifically in the development of *Bumiputera* entrepreneur. The word *Bumiputera* refer to ethnic *Malays* as well as other indigenous ethnic groups such as the *Orang Asli* in Peninsular Malaysia and the tribal peoples in Sabah and Sarawak. Beforehand, government agency had encouraged SMEs, retailer and wholesaler to use internet's facilities by providing infrastructure, financial funding and training, especially to those that would like to expand their business (NSTP, 2003).

Kedah is well-known as a state in Malaysia which the major population involves in agricultural activities. Among cultivation consist of paddy, fruit, poultry, vegetables, and industrial farming. In the end of 1998, the cultivation areas covers of 517 634.3 hector (Agrolink). With the various resource of agricultural product, it seems to be promising for the rapid development of ABI in Kedah. Furthermore, many effort were carried out to support the agricultural economy such as training, providing funds through grant and loan scheme in order to support marketing strategy, promotion and the use of information and communication technology. Agribazaar Portal has been launch to stimulate use of e-commerce applications. Among the internet applications provided to support manufacturer, wholesaler, and merchandiser comprise of electronic advertising, online payment, receiving order and delivery, and customer support service. In particular, the application also provides information about new technology in agricultural, schedule of course and training offered by agricultural agencies, and list of suppliers in the industry in Malaysia.

Unfortunately the usage level of the internet especially the e-commerce portal in Kedah by SMEs manufacturer, the wholesaler and merchandiser is still at lower level. Arifin (2003) has study the acceptance of e-commerce among SMEs entrepreneur and found that the use of the internet is still standing low level at 33 percent. The research conducted by Asing-Cashman et.al, (2004) and Ainin and Noorismawati (2003) also indicated the same result. Till date, plenty of research has been executed in e-commerce but only a few conducted in ABI sub field area. In order to occupy optimal utilization of e-commerce applications in AIB, it is vital to know the usage level and potential barriers at initial stage. Therefore, this paper discusses the current utilization of e-commerce in the ABI by *Bumiputera* entrepreneur in Northern area of Kedah. In addition, the paper also indicated barrier factors perceived by *Bumiputera* entrepreneur.

E-COMMERCE BARRIER FACTORS

Many studies have been done to elicit factor and barrier that affect the usage of e-commerce. Perceived benefit is one of the main barrier faces by SMEs. According to Kaynak et. al (2005), all the perceived benefit factor i.e market development, sales and promotion efficiency, easy access and operating cost reduction was significant and have the positive effect on e-commerce application. However, the benefits of e-commerce may not be gained by firm from developing country because of the low level of technology development and high implementation cost (Kinyanjui & McCormick, 2002). Hence, government initiatives to promote e-commerce for SMEs still fail to realize it benefit (Kaynak et.al, 2005). On the contrary, there is a high possibility of companies adopting e-commerce if they perceive that such implementation will lead them to many benefits and there will be less possibility to adopt if it is perceive that e-commerce can not lead to them to better performance.

Generally, preparation and implementation of communication technology requires high cost whereas maximum total of paid capital of SMEs is less from RM 49 million (Mohd Khairudin Hashim, 2002) with an annual return among RM 10 million to RM 25 million (Ministry Of International Trade And Industry). This indicate that cost factor can act as main obstacle to adopt e-commerce by SMEs. Past researcher, argued that most of their respondent agreed on implementation of e-commerce need high cost (Asing-Cashman, 2004; Ainin & Noorismawati, 2003).

Furthermore, a security issue is one of the most important barriers to e-commerce adoption. This is because user is constantly sending confidential information over the internet. According to Willing Clinton and Jr. (Undefined), internet user must confident that communication and data transfer is secure from any disruption or modification by illegal parties, otherwise they will not use it at all. Study on 266 SMEs retailer in Malaysia, about 60 percent agrees that they did not use e-commerce because they feel it unsecure (Ainin & Noorismawati, 2003). While study by Cloete et.al, (2002) showed that 32.3 percent worry on the issue of law, contract and liabilities associate with the use e-commerce.

Majority of SMEs seems difficult to gain significant benefit from e-commerce utilization due to the difficulty to hire and retaining qualified staff those with required skill and knowledge (Kaynak et.al, 2005). Cloete et. al (2002) reported that 38.2 percent of the respondents pointed out that limited knowledge in e-commerce become an obstacle to use e-commerce. While 72.6 percent respondent have also agreed that lack of knowledge and skill hinder the implementation of e-commerce (Ainin & Noorismawati, 2003).

Klein (1998) pointed out that customer would request organisation to use Internet. This situation occurs when customer technology infrastructure reach at the level which allows them to use Internet. Outcome of the study by Ainin and Noorismawati (2003) shows 72 percent of respondent agreed on factor of no buyer or customer has access to the internet has become obstacle to the use of e-commerce. While result by Cloete et. al (2002) indicated 50 percent of respondents agree low e-commerce usage by the customer drove them to not use it.

On the other hand, if supplier unable or reluctant to use e-commerce, further development would be hampered (Rao & Metts (2003)). They reiterate, organization may face two problems in implementing e-commerce namely small supplier who unable to develop technology to utilize e-commerce and supplier who have technology flexibility but not interested to utilize it. According to Turban et. al (2000), organizational factor can slow the adoption of e-commerce as an important process in business due to e-commerce requires fundamental and radical change in doing business. Perceived benefit of e-commerce can give impact to SME decision to take and continue it (Poon & Swatman, 1999; Sathye & Beal, 2001).

METHODOLOGY

A survey method was conducted in this study. Based on data recorded on Small and Medium Industries Development Corporation (SMIDEC) and Federal Agricultural Authority (FAMA) there are 45 *Bumiputera* enterprises in ABI located in Northern Area of Kedah which include areas of Kubang Pasu, Alor Setar and Pendang. Questionnaires was sent to those people that holding senior position and were then asked about their connectivity e-commerce usage and barrier factor perception based on past research issues which include perceived benefit, cost, security, skill and knowledge, demand form customer and supplier. The closed ended questions used five point likert scales on perception toward barrier factor. The data collected from 40 returned questionnaire interpreted by using percentage to describe e-commerce utilization level and barrier factor.

FINDINGS

Most of the company participated in this study are small enterprise, employee of 50 fulltime workers; consist of 90 percent respondent. The rest of respondents are from medium enterprises which have less than 150 fulltime workers. Table 1 has showed that total of e-commerce usage by SMEs entrepreneur is only 22.5 percent whereby 6 enterprises come from small enterprise and 3 of them are medium enterprise. Meanwhile, SMEs entrepreneur whose not take up e-commerce is 77.5 percent which, consist of 30 small enterprises and only 1 from medium enterprise.

Table 1: E-commerce usage among SMEs entrepreneur in ABI

Organization Size	E-commerce Usage		Percentage
	Yes	No	
Small	6	30	90 %
Medium	3	1	10 %
Total	9	31	40
Percentage	22.5 %	77.5 %	100 %

Respondent whose did not take up e-commerce for their business application has been asked whether each statement influence their decisions to not take up e-commerce. Table 2 shows the findings on barrier factors that influencing decisions to not take up e-commerce. Lack of knowledge staff seems to be biggest barrier to e-commerce implementation which account of 97 percent. Other relates issue to lack of e-commerce expertise in organization is lack of staff with e-commerce skills which is 81 percent. The finding of the research also shows that due to few supplier request firm to doing business on-line could hinder the SMEs entrepreneur to adopt e-commerce. Respondents agree and strongly agree that few suppliers request them to make payment on-line and to submit purchase order on-line respectively was 97 percent and 84 percent. Another barrier identified was high cost of preparation and implementation of e-commerce. The finding has proved that respondent considered high cost of staff training (94 percent), purchased software (84 percent), maintenance (84 percent) and purchase hardware (48 percent) are among the main barrier factors to e-commerce adoption. Security factor shows low percentage barrier factors that influencing decisions to not take up e-commerce. Whereby, information and data can easily be stolen was 39 percent, Information and data can be cheated 39 percent, system can be disrupted 29 percent, and information and data can be sabotaged 19 percent.

Table 2: Barrier factors that influencing decisions to not take up e-commerce

Barrier factors that influencing decisions to not take up e-commerce	% response who considered agree and strongly agree
Lack of staff of e-commerce knowledge	97
Few supplier request firm to make payment on-line	97
High cost of staff training	94
Customer request to send information on-line	94
Few supplier request firm to purchase order on-line	94
High cost to purchase software	84
High cost of maintenance	84
Few customer request to buy on-line	84
Few customer request to pay on-line	84
Few supplier request firm to submit purchase order on-line	84
Lack of staff with e-commerce skills	81
High cost to purchase hardware	48
Information and data can easily be stolen	39
Information and data can be cheated	39
System can be disrupted	29
Information and data are exposed to sabotage	19

CONCLUSIONS

A low usage rate of e-commerce had gives hint to the finding of barrier factor that may existed. There were number of barrier factors need to be removed in order to encourage *Bumiputera* entrepreneur SMEs in ABI to utilize e-commerce, especially in northern area of Kedah. Lack of expertise staff, few supplier and customer request to doing business on-line, high costs of preparation and implementation, and security issues were the barrier factors found in this study. Hence, this study provides useful information that can be used as guidance to Malaysia Government especially agencies under Ministry of Agricultural and Agro-Based Industry and SMEs to develop strategic plan and promote economic growth through ICT application in northern area of Kedah. Though, there were many effort has been carried out by Malaysian Government to promote e-commerce usage among SMEs entrepreneur. However, the technology is still at the lower level of usage as being reported in many studies. Thus, a study on effectiveness of ICT strategy implementation should be conducted. Beforehand, further study on barrier factors that influencing decisions to take up e-commerce should consider large population.

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