The Awareness and Level of Implementation of E-Commerce among SMEs in Malaysia

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ABSTRACT

Electronic data interchange (EDI), direct link-ups with suppliers, internet, extranet, electronic catalogue ordering and e-mail are variety of forms of e-commerce. In today environment, e-commerce or electronic commerce has become one of the important forces to shaping business. Recent research has shown that, despite technology facilitating improve business practice in term of developing electronic markets, electronic data interchange and internet commerce (Whiteley, 2000), a number of SMEs have not taken advantage of this new mode of carrying out business (Smyth and Ibbotson, 2001). This research is to investigate and to know the degree of adoption, awareness and level of implementation of e-commerce in Malaysia Small and Medium Enterprise (SMEs). Finally, some suggestions have been made, which might be followed by such firms in seeking to enhance their performance in e-commerce.

***Keywords:** Electronic commerce or e-commerce, e-business, technology, small and medium enterprise.*

1.0 INTRODUCTION

Today, Information Technology (IT) and knowledge management has given a big impact on the business. With the help of information technology, business processes and operations that used to take days or weeks can now be done in a matter of seconds. This makes individuals and customers to be better served than in past. Electronic commerce or e-commerce is one of the elements in information technology. It is one of the most important forces that shaping business today (Watson et al., p.43). Organization that not implements e-commerce cannot compete with others organization well. In so doing, economic benefits such as reduced time to market and lower costs may be achieved, as well as reduced operating expenses, increased revenue growth and improved customer service levels. (Graham and Hardaker, 2000)

Although e-business and e-commerce are two separate concepts, there are some similarities between the two. E-business and e-commerce solutions incorporate newly developed Web technology into organizational and business processes. The use of web technology results in improved efficiency. (John and David, 2002).

The scope of this study covers the awareness of SMEs in using e-commerce as one of their marketing tools. The purposes of this research are to understand the priority of e-commerce in the wider context of SMEs strategy, to explore the degree to which SMEs are aware of effective implementation of e-commerce and to identify the factors that influence SME to implement e-commerce and via versa.

2.0 WHAT IS E-COMMERCE?

E-commerce is one of the hot issues in the business world and is affecting every type of organization as they attempt to improve efficiency and stay ahead of their competitors. Waters (2000) indicated that e-commerce focus primarily on a firm's customers.

Kalakota and Whinston (1996) defined e-commerce as the buying and selling information, products and services via computer networks'. Varbusiness (1995) defined e-commerce as the act of buying selling goods and services through an electric medium. It may involve the ordering, payment and delivery of goods and services.

John Fraser, Nuran Fraser, Frank McDonald (2000), in their articles define e-commerce as the use of the Internet for the exchange of information of value. More specifically, orders and payments between businesses and between business and consumer. In essence, e-commerce is the secure trading of goods, information or services and, in the main, conducted using Internet technologies.

John and David (2002) in their articles stated some elements that related to e-commerce:
a. E-commerce refers primary to buying and selling activities over the Internet.
b. E-commerce transactions require human interaction when the information is processed by the client and then stored in database.
c. E-commerce activities are considered as contact-driven processes since the clients needs to get in touch with the firm.
d. E-commerce increase the amount of information available to the prospective customers, thus improved a firm's marketing capabilities.
e. The focus of e-commerce is typically on the customer side.
f. E-commerce characteristic is typically limited to client/server software with a high degree of system functionality, it therefore relies on client-to-server or port-to-port data flow (Health Industry Today, 1999, Moltzen, 2000)

3.0 E-COMMERCE AND SMEs

In the UK, the Department of Trade and Industry's (DTI) on-line initiative has set goals for e-business (DTI, 2000). By 2002 its aim was for one million

companies to be trading online and for a higher proportion of B2B and B2C transactions to be taking place electronically in the UK than any other G8 countries. It also intends to spend 25million over the next three years to help SMEs to get online and is providing some, apparently attractive, incentives. According to DTI's benchmarking studies the UK is well on the way to trading online.

Most leading UK organizations have developed an e-commerce strategy. Indeed, the top 100 UK companies believe that 20 per cent of their revenue will come from e-commerce transactions by 2000, according to the KPMG *Electronic Commerce Report*. In the UK companies such as The Co-operative Bank, Nationwide Building Society, RS Components, Waterstones and Eagle Star Direct have developed strategies and are gaining valuable experience of deploying Web-based business solutions (John Fraser, Nuran Fraser, Frank McDonald, 2000)

The Internet is being promoted as a means to facilitate collaboration between enterprises in the supply chain to bring about massive cost saving efficiencies (Turker & Jones, 2000; Adshead, 2001). It proves advantage trough the power of information networks, while re-defining and at times eliminating, activities in the network (Cross, 2000). There is a misalignment between what the Internet delivers today and the traditional information technology (IT) infrastructure that supports difficult to change in house applications (Ricknell, 1998) notes that Internet users are struggling to integrate their intranets with legacy systems, and so restricting their options in delivering appropriates solutions. Also SMEs do not have the skill or time to implement all the intranet applications being requested by the business (Bridge et al., 1998; Stokes, 2000; Smyth and Ibbotson, 2001). Literature points out that an important influencing factor in the adoption e-business and e-commerce was concerned with losing any competitive position, with either powerful customers spurring them into action, or a fear of the consequences of being left behind (Cross, 2000; Adshead, 2001). At this stage it is not clear if organizations slower to implement e-commerce are adversely affected or competitively disadvantaged.

Michael Quayle (2002) has done a research about the challenge for UK SMEs in the 21st century. The research explores the awareness and level of implementation of e-commerce in UK small and medium-sized enterprise (SMEs). Results of the survey of 298 small firms suggest that issues of leadership and waste management be of greater importance to SMEs than development of e-commerce capability. These SMEs, which have developed e-commerce capability, have not done so strategically and have yet to enjoy significant cost and timesavings. Similarly, the companies' perceptions of low priorities given to e-commerce,

new technology, purchasing and R&D by customers reinforce innovation as a low priority. Cost and time savings are not perceived as significant by those implementing e-commerce and a strategic approach in the decision to implement is not apparent.

Overall, the research does indicate some enlightened approaches and awareness in small businesses of what is critical to their success. The research does, however highlight the elements of innovation as having low priority. It also highlights that customers are not focusing on both results and capability development as part of their supplier development activity. Innovation is an overused term, the word means to introduce something new, to make changes. Innovation may therefore be used in the context of introducing e-commerce professionalism, certainly in small businesses. Similarly, these may be an element of both small business and purchasers (customers) needing to manage themselves. The purchasers may need to consider whether they are simply managing suppliers and not really managing the interface.

B.A.Wagneretal, (2003) has done a research to explore the level of e-business and e-supply implementation in SMEs firms in the Scottish central belt. The research uses a small sample with possible geographic biases. The creation of an e-business strategy is seen as prerequisite prior to implementation and integration. There are different stages of implementation, those with limited e-business experience being less advances than the small, high technology firm. Those in the later category had more in-house skills to support Internet adoption. Others relied heavily on assistance from outside agencies such as Scottish Enterprise and independent consultants. The role of government agencies and support services is clearly critical. SMEs do not have the means to conduct detailed analysis, nor do they have the time or resources to take away from day to day business. It may be that some of the SMEs did not understand the full implications of e-business to their firms, in terms of long-term growth and profit.

B.A Wager, Ian Fillis and U. Johansson (2003) in their survey found that 75 percent of businesses in UK intended to use e-business in the future and 31 per cent intended to buy online. They also found that larger companies with resources and technical budgets are in a stronger position to implement e-supply chain. Feller (2000) states that the first step in a successful e-business and e-commerce strategy is having the company's own systems in order.

4.0 E-COMMERCE AND SMEs IN MALAYSIA

SMIDEC (2002) define SME as small and medium enterprise (SMEs) as an organization with annual sales turnover not exceeding RM25 million or full-time employees not exceeding 150. Table 3 shows the total number in percentage of SMEs in Malaysia

by sector in 1996. From the table we can see that the number of SMEs in Malaysia is increasing year to year and to compete with the global market they have to implement e-commerce in their business.

As one of the SMIDP (Small Medium Industries Development Plan) (2001-2005) is to facilitate organizational change at the enterprise level to accelerate the transaction towards globalised production platform, it is a good for them to implement e-commerce in their business operation. One of the technology requirements in business process technologies is supply chain management (SCM) and customer support management (CSM) where it includes B2B and B2C transaction capability.

Malaysia as of the country in Asia is looking forward in implementing e-commerce. E-commerce is still new in Malaysia. Most companies are not implementing e-commerce as one of their marketing tools. Mynic (1999) reported that the number of .COM user servers in Malaysia has significantly increased from 100 in 1995 to 2589 in 1999. . COM servers account nearly 90% of the total servers in the country. According to IDC Market Research (M) Sdn Bhd (1999), the number of Malaysian Internet users will approach 100 000 this year, out of which 30 000 would be consumers/home users (Jaring's estimate differs which stands at 450 000 as at March, 1999). The rest comprises business, government and educational users. Malaysia accounts about 3% of the total Internet population in the Asia-Pacific Rim, which is estimated at 14.98million (Access Media International, 1999) which is relatively small compares to 14% (Singapore), 18% (Austria) and 30% (USA). In 1998, Malaysian spent about RM57million on e-commerce purchases, a small figure relative to her GDP of RM372billion.
E-commerce or E-marketing is growing very fast recently. But, all the transaction still under controlling or observe by E-Com Legal Guide. The Malaysian Government has committed itself to providing a comprehensive regulatory framework of cyber laws and intellectual property laws to facilitate and assist the development of IT and e-commerce. In fulfilling this commitment, the Government has enacted laws such as the Digital Signature Act 1997, which provide an avenue for secure online transactions through the use of digital signature. All of this is avoid from cheating and crime cases happened.
Table 1 show that Internet buyer from all sectors in Malaysia is increasing from 1997 to 2003. These show that people are willing to buy online and use e-commerce as one of the way of transaction today. The revenue (Table 2) that gained from Internet commerce also increases from USD6.31million in 1997 to USD1,572.63million in 2003. From these SMEs can use e-commerce as one of their means of transaction and as one of the marketing tools to promote their products and services.

5.0 IMPLEMENTATION OF E-COMMERCE

As state in SMI Development Plan (2001-2005) one of the challenges that have to be face by all SMEs in Malaysia are new emerging technologies. In the high competitive market today and to be part of a global supply chain, Malaysian SMEs will need to upgrade their ICT capabilities as global companies have begun sourcing their intermediate goods and services from specialized Internet based business-to-business (B2B) community portals. B2B systems are presently the fastest growing segment of the electronic business (e-biz) market and are expected to remain so in the medium term.

Because of some issues, most of the SMEs are refused to accept e-commerce. Some of the issues as state in SMI development plan (2001-2005) face by SMEs are:
1. Limited capability to meet the challenges of market liberalization and globalization. Most SMEs are afraid to venture or capture outside market. They are depending on local and domestic market.
2. Limited capacity for technology management and knowledge acquisition. SMEs need to acquire critical knowledge and skills in order to remain competitive. This technologies and knowledge have provided companies with significant competitive edge. These will ensure their capabilities to monitor and respond to new developments and opportunities in a timely and effective manner.
3. Shortage of skills for the new business environment. One of the shortages that face by SMEs is technology knowledge and skills.

Limited access to finance and capital is one of the main problem faces by SMEs and the reason why they did not invest or implement e-commerce in their business. Other factor that can be related to this issue is lack of knowledge and information. SMEs need a referral center to which they can turn for information and advice on the various areas concerning their operation and this include the information about e-commerce.

Through SMIDEC, one grant name e-commerce grand was introduced in July 2000 and it aimed to assist SMEs transact and promote their products beyond domestic boundaries at minimal costs. Under the e-commerce grant, SMEs can obtain grants up to 70% or RM10, 000, whichever is lower, to design their welcome page, electronic product catalogues as well as costs of registration and hosting in community portal. As at December 2000, SMIDEC has approved 553 applications out of the 819 applications received. The grant can be a boost for SMEs not only to transact electronically, but also to undertake computerization in their business operations, which is

key determinant in order to survive in a knowledge-based economy.

Judith Jeffcoate, Caroline Chappell and Sylvie Feindt had done a survey bout the best practice in SMEs adoption of e-commerce. From the survey they have found 11 CSF to be taken into consideration when SME want to involve in e-commerce. The CSF that use by them can be implement to SMEs in Malaysia for them to involve in e-commerce.

SME are encourage to analyses their strength and weaknesses on a continuing basis and to compare them with those of it competitors.

The 11 CSF that proposed by Judith Jeffcoate, Caroline Chappell and Sylvie Feindt that can be implement by SMEs in Malaysia in implementing e-commerce are as follow :

CSF	Description
Content	The effective presentation of a product or service offered over the Internet
Convenience	The usability of the web site for the purpose for which it was designed.
Control	The extent to which organizations have defined processes that they can manage
Interaction	The means of relationship building with individuals customers
Community	The means of relationship building with groups of like-minded individuals or organizations.
Price sensitivity	The sensitivity of a product or service to price competition on the internet.
Brand image	The ability to build up a brand name for the e-commerce business, and its products and services.
Commitment	A strong motivation for using the internet and the will to innovate.
Partnership	The extent to which e-commerce venture uses partnerships (value chain relationships) to leverage Internet presence and expand its business.
Process improvement	The extend to which companies can change and automate business processes.
Integration	The provision of links between underlying IT systems in support of partnership and process improvement.

By using all the CSF that proposed by Judith Jeffcoate, Caroline Chappell and Sylvie Feindt, organization or SMEs can implement e-commerce into their business. Other that these factors, SMEs also have to identify the company's motivation and approach to growth and establish a suitable strategy. After that SMEs have to decide a set of objectives to support the strategy.

6.0 CONCLUSIONS

Organization should take advantage in using e-commerce as one of the marketing tools in their business. By using e-commerce they can compete with their competitors. Effective strategies towards the adoption of e-commerce need to be based on a good understanding of the costs and benefits of using "virtual world" technologies. However, identifying and measuring these costs and benefits will not be easy. Consequently, developing and implementing appropriate e-commerce strategies will be important for maintaining competitiveness.

Table 1: Internet Buyers in Malaysia, 1997-2003 (mn)

Type of user	1997	1998	1999	2000	2001	2002	2003
Home www buyer	0.01	0.01	0.03	0.06	0.13	0.27	0.55
Small business www buyer	0.00	0.01	0.03	0.05	0.10	0.14	0.20
Medium/ large www buyer	0.01	0.02	0.05	0.07	0.13	0.20	0.31
Government www buyer	0.00	0.01	0.02	0.03	0.07	0.10	0.16
Education www buyer	0.00	0.01	0.02	0.03	0.07	0.10	0.16
Total www buyer (adjusted)*	**0.02**	**0.05**	**0.10**	**0.18**	**0.34**	**0.53**	**0.87**

Source: International Data Corporation, 1999

* Adjusted means taking into account the overlap of business users who are home users and not double-counting them.

Table 2: Internet Commerce (I-Commerce) Revenue in Malaysia, 1997-2003

Year	I-commerce revenue/yr (Usmn)
1997	6.31
1998	18.01
1999	49.29
2000	126.91
2001	308.80
2002	904.21
2003	1572.63

Table 3: Distribution of SMEs by State and industry 1996 (percentage)

State/Sector	Food Industries	Textiles & Apparel	Wood	Rubber	Machinery	Electrical & electronics	Transport	All remaining sectors	Total
Johor	14.9	17.8	15.0	17.0	23.9	22.8	12.4	17.8	17.3
Selangor	9.6	12.7	12.1	19.9	16.1	34.7	39.0	17.6	15.4
Perak	15.6	8.0	12.9	14.9	13.8	10.0	12.9	13.8	12.8
Sarawak	9.7	9.9	14.2	4.7	0.7	1.4	4.1	9.4	9.3
Kuala Lumpur	4.8	12.7	3.3	3.7	13.7	8.2	13.0	8.5	8.1
Pulau Pinang	9.1	4.6	6.3	6.6	9.0	5.9	3.8	8.4	7.4
Sabah	9.9	6.6	11.1	5.4	7.3	1.2	2.6	5.0	7.0
Melaka	5.8	5.2	5.2	7.3	3.6	4.7	2.9	4.6	4.9
Kedah	5.7	3.6	4.1	5.8	3.1	6.7	2.6	3.5	4.0
Pahang	4.5	6.6	4.8	3.2	3.1	0.9	2.1	2.4	3.8
N. Sembilan	3.3	6.1	3.2	7.6	2.6	2.6	2.7	2.7	3.6
Kelantan	3.3	3.4	3.6	2.9	0.9	0.4	0.0	3.5	3.2
Terengganu	3.0	2.0	3.7	0.7	1.5	0.4	1.7	1.9	2.3
Perlis	0.7	0.4	0.3	0.2	0.4	0.0	0.0	0.6	0.5
Labuan	0.2	0.5	0.1	0.0	0.5	0.2	0.0	0.5	0.4
Total percentage	**100**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**2904**	**3331**	**2953**	**408**	**1064**	**599**	**423**	**7268**	**18950**

Source:SMIDP Study Report 2000

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