

# E-COMMERCE ADOPTION ISSUES IN MALAYSIAN SMES

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## ABSTRACT

E-commerce is said to convey undisputed benefits to companies everywhere, reshaping customer and supplier relationships, streamlining business processes and even restructuring whole industries. Managers are told that e-commerce will give a tremendous boost to their companies, that businesses not involved in e-commerce will be left behind in the global marketplace. Yet, e-commerce is not being adopted readily by SMEs. In fact, some studies claim that trading online by SMEs in some countries is stalling. Not many SMEs are keen to go online and only a few have websites. Drawing on existing research on ICT diffusion by SMEs, this paper explores e-commerce adoption by SMEs in Malaysia. It highlights preliminary findings from explorative telephone interviews with the SME managers. The main findings are that SMEs embrace e-commerce mainly because of pressure from customers. They also seek to improve company image, communications, information flow and contact with government. But many have no better reason for adopting e-commerce than that it is 'nice to have'. Barriers to adoption include lack of technical knowledge and the failure rate of peers. Many think of e-commerce as 'fancy stuff', irrelevant to their sort of business. Implications are discussed.

## KEYWORDS

ICTs, e-commerce, SMEs, innovation, diffusion

## 1. INTRODUCTION

The explosive growth of Internet technology, especially since the Web came into commercial use in 1993, has tempted organisations to adopt electronic commerce (e-commerce) (Zwass, 1996; Poon and Jevons, 1997; Scupola, 2003). Policy makers insist e-commerce is already leading to the reshaping of customer and supplier relationships, the streamlining of business processes and, in some cases, even the restructuring of whole industries (Daniel, 2003). Managers are told that e-commerce will give a tremendous boost to their companies, that businesses not involved in e-commerce will be left behind in the global marketplace. In fact, some studies claim that the use of e-commerce is a precondition for a company's success in today's business world, (Porter, 2001; Adham and Ahmad, 2005).

Yet, e-commerce is not being adopted readily by small and medium-size enterprises (SMEs) (Whiteley, 2000; Beveren and Thomson, 2002; Fillis *et al.*, 2004; Grandon and Pearson, 2004; Houghton and Winklhofer, 2004). In the US, Grandon and Pearson (2004) note that e-commerce adoption by SMEs is limited to e-mail and the company web page. Not many SMEs engage in online transactions (Grandon and Pearson, 2004). Trading online in UK small businesses is stalling and in some cases has declined (Booz, 2002). In European countries and in Australia, few SMEs trade online (Beveren and Thomson, 2002; Scupola, 2003). In Asia, few SMEs in Singapore and Thailand have adopted e-commerce (Kendall *et al.*, 2001; Lertwongsatien and Wongpinunwatana, 2003), while none of the SMEs in Hong Kong is able to complete transactions over the Web (Yeung *et al.*, 2003).

This result is surprising given the indications that e-commerce may be valuable to SMEs. SMEs are considered to be the life blood of modern economies (Ghobadian and Gallea, 1996; Rao *et al.*, 2003).

They also contribute to social cohesion and employment, as well as regional and local development (Scupola, 2002). Because of the importance, this reluctance of SMEs to become e-commerce-capable deserves serious attention (Curran and Blackburn, 2001).

This article presents the preliminary findings of a study of e-commerce adoption in SMEs in Malaysia. A lot of information communication technologies (ICT) initiatives have been designed to encourage businesses, especially SMEs, to adopt e-commerce. To understand the e-commerce adoption among the SMEs in the country, this article addresses two issues: (1) what use is currently made of e-commerce by SMEs in Malaysia, (2) what factors influence the adoption. The article is structured as follows. Section 1 presents the research problem and the research question, section 2 is a literature review and section 3 describes the methodology. Findings and analysis are discussed in section 4 and concluding remarks, as well as implications, are presented in section 5.

## **2. LITERATURE REVIEW**

### **2.1 E-commerce**

There is no consensus on the definition of e-commerce (Kendall *et al.*, 2001; Daniel *et al.*, 2002; Grandon and Pearson, 2004). However, there are two common elements to most definitions. First, e-commerce concerns activities that occur by electronic means, such as sharing business information, and buying and selling. The second element is the technological means that enable these activities. The difference lies in how some researchers define these two elements. Some define e-commerce broadly, including all business activities carried out over any electronic media (see, for example, Wigand, 1997; Colecchia, 1999; Timmers, 1999). Others define e-commerce more narrowly by focusing on certain activities or technological means (see, for example, Zwass, 1996; Kalakota and Whinston, 1997; Turban *et al.*, 2003). For the purpose of this study, Zwass's definition of e-commerce is adapted, focusing on Internet-based technology. This definition is widely accepted and has been used by several researchers to study e-commerce (see, for example, Poon and Swatman, 1999; Scupola, 2002; 2003; Pool *et al.*, 2006):

*"E-commerce is sharing of business information, maintaining business relationships and conducting business transactions by means of Internet-based technology".*

(Zwass, 1996)

There are at least three ways in which e-commerce is perceived: (1) in terms of Internet application (for example, Mehrtens *et al.*, 2001; Quayle, 2002; Drew, 2003; Lawson *et al.*, 2003; Brown and Lockett, 2004); (2) in terms of business activities (for example, Raymond, 2001; Daniel and Wilson, 2002; Daniel *et al.*, 2002; Daniel, 2003; Lertwongsatien and Wongpinunwatana, 2003); and (3) the mix of Internet applications and business activities (for example, Kendall *et al.*, 2001; Beveren and Thomson, 2002; Scupola, 2002; 2003; Fillis *et al.*, 2004). This paper is guided by studies that focus on the business activities for which organisations use e-commerce (Stern and Weitz, 1998; Daniel and Grimshaw, 2002; Daniel, 2003; Tassabehji, 2003). Four main e-commerce activities are chosen to investigate the extension of e-commerce adoption in organisations: communication with customers/suppliers via e-mail, providing company information on websites (online brochureware), providing information on goods and services on websites (online catalogue), and executing online business transaction (online ordering, online payment, online billing, online payment and online purchasing) (Laudon and Traver, 2002).

### **2.2 Small and medium-sized enterprises (SMEs)**

SMEs play an important part in the economic activities of most nations (Curran and Blackburn, 2001; Beaver, 2002; Simpson and Docherty, 2004). There are numerous examples in the literature that illustrate the weight that SMEs carry in their own national economies. In most European countries, SMEs constitute more than 90% of businesses (OECD, 1998; 2000; Scupola, 2003). In the UK, for example, there are an estimated 3.7 million businesses of which 99.8% are SMEs (DTI, 2001). In Malaysia, SMEs (commonly

called Small and Medium-size Industries, SMIs) account for more than 90% of total businesses (Malaysia, 2004).

There is no agreement on what percentage a SME is (Curran and Blackburn, 2001). However, there are two common ways of defining SMEs: definitions based on financial turnover and definitions based on numbers employed (Curran and Blackburn, 2001). Definitions based on financial turnover have been found to be problematic (Curran and Blackburn, 2001) as this is difficult to measure, and varies by sector (Storey, 1994). In addition, financial turnover can change over time with inflation (Bridge *et al.*, 1998). Definitions based on numbers employed are more popular, and most commonly used by policy makers (Curran and Blackburn, 2001) and researchers (for example, Raymond, 1987; DeLone, 1988; Raymond, 1992; Cragg and King, 1993; Mohd Osman, 2001). Employment is considered more objective and transparent than turnover (Curran and Blackburn, 2001), and more practical as “information about employment is readily available and considered by managers to be less confidential” (Pratten, 1991; Mohd Osman, 2001). For this study, SMEs will be defined by numbers of employees. A range up to 250 employees is in line with the definitions of SMEs used in other countries (e.g., Raymond, 1987; Mohd Osman, 2001; Brown and Lockett, 2004).

### **2.3 E-commerce adoption by SMEs**

There is considerable interest in the adoption of e-commerce by SMEs (for example, Daniel and Wilson, 2002; Daniel *et al.*, 2002; Jeffcoate *et al.*, 2002; Scupola, 2002; Daniel, 2003; Scupola, 2003; Brown and Lockett, 2004; Grandon and Pearson, 2004). There are suggestions that SMEs could gain considerably from using the Internet (Poon and Jevons, 1997; Daniel and Wilson, 2002; Daniel, 2003). There are also suggestions that SMEs can compete with large organisations only by adopting e-commerce because the Internet can provide equal access to both.

Daniel *et al.* (2002) claim that SMEs in the UK are adopting e-commerce in stages. Using the taxonomy of Grimshaw *et al.* (2002), they identify e-commerce adoption by SMEs in four stages: (1) developers, (2) communicators, (3) web presence and (4) transactors. Developers are developing their first e-mail communication with customers and suppliers, and providing information via a website; communicators are using e-mail to communicate with customers, suppliers and employees and exchanging documents and designs electronically with customers and suppliers; web presence means websites with on-line ordering facilities; and transactors are those actively using on-line ordering and payment capabilities. Daniel *et al.*'s (2002) stage approach has been criticized (Fillis *et al.*, 2004). Firms can leapfrog many of the accepted stages (Bell, 1995).

Others studies have shown how SMEs have adopted e-commerce. Drew (2003) investigates the uses of e-commerce by SMEs in the east of England in terms of three types of Internet application. Most of his examples of SMEs with websites use e-mail to communicate, intranets for internal communication and websites for advertising and promotion. Far fewer use websites for sales, for recruitment and procurement. Brown and Lockett (2004) find SMEs generally engaged in only simple e-commerce activities, such as e-mail, web access and websites. Few SMEs are buying and selling online. Although the UK government has set clear targets for the engagement of SMEs in e-commerce (DTI, 2001), the rate of adoption is still slow. The UK government has not even tried to measure engagement of SMEs in complex applications (Brown and Lockett, 2004).

### **2.4 E-commerce adoption by businesses in Malaysia**

In Malaysia, studies of e-commerce adoption by businesses, particularly SMEs, are mostly limited to awareness and readiness of Malaysian companies. Sulaiman (2000), for example, investigates the status of e-commerce applications in Malaysian companies. Though many Malaysian companies have Internet access, most usage is limited to e-mail (Sulaiman, 2000). Other studies on this issue investigate the e-commerce of successful companies (for example, Albert *et al.*, 2002), drivers and barriers of e-commerce in Malaysia (Paynter and Lim, 2001), e-commerce in specific industries, such as shipping (Ang *et al.*, 2003) and e-commerce in manufacturing companies (Cashman *et al.*, 2002). These studies conclude that e-commerce usage by SMEs is still in its infancy. Indeed, many companies, especially SMEs, are reluctant to go online (Karkoviata, 2001).

Reports of e-commerce adoption by Malaysian companies are in disagreement. A study by Le and Koh (2002) finds that out of 240 small and large firms with websites, only 171 could be contacted from their website via e-mail. Of the 171 firms, only 42 responded, and only twelve considered e-commerce significant for their business. *The Star* also reported that only 30% of SMEs in Malaysia have websites and most are never updated (Star\_Online, 2005). In contrast, a study by a Malaysian ICT consultancy company (IDC, 2005) reports that 86% of companies in Malaysia have websites and 17% of SMEs are active in an e-marketplace. Most SMEs in manufacturing have apparently adopted e-commerce (FMM, 2005).

Adham and Ahmad (2005) have recently investigated the adoption rates of website and e-commerce technology by all 562 Malaysian public companies (reputable SMEs and large companies, listed on the main board of Kuala Lumpur Stock Exchange (KLSE<sup>17</sup>)). Their study examines company websites for operability and whether these websites incorporate e-commerce systems for online transactions. Only 62% of websites are operable with 96% providing only company and product information and only 4% equipped for e-commerce transactions (Adham and Ahmad, 2005). Surprisingly, even well-known companies in Malaysia with excellent profit track records are yet to use online transactions.

## 2.5 Facilitators and Inhibitors of E-commerce Adoption among SMEs

It seems important to find what are the factors driving SMEs to adopt e-commerce (see, for example, Begin and Boisvert, 2002; Lertwongsatien and Wongpinunwatana, 2003; Grandon and Pearson, 2004) and factors that inhibit the adoption (see, for example, Rose *et al.*, 1999; Chau, 2001; O'Keeffe, 2001). Part of the reason is because administrators responsible for e-commerce adoption by SMEs cannot assume that the factors driving the adoption of other types of ICT are equally significant for e-commerce.

Studies of ICT innovation and diffusion suggest variables that can be used as factors of e-commerce adoption or non-adoption (see, for example, Purao and Campbell, 1998; Kendall *et al.*, 2001; Mirchandani and Motwani, 2001; Zhu *et al.*, 2002; Scupola, 2003; Grandon and Pearson, 2004). Mirchandani and Motwani (2001), for example, find the enthusiasm of top management, the compatibility of e-commerce, the relative advantage, and the knowledge of the company's employees about computers important in the adoption of e-commerce. They find the degree of dependence of the company on information, the managerial time required to plan and implement e-commerce activities, the nature of the company's competition, and financial cost of implementing and operating e-commerce to be unimportant in the adoption of e-commerce. Grandon and Pearson (2004) find the factors that discriminate between adopters and non-adopters to be organisational readiness, managerial productivity, compatibility of the firm with e-commerce, external pressure exerted by competitors, and the perceived usefulness of e-commerce. Organisational readiness appears to be the best discriminator between adopters and non-adopters. Perceived ease of use turns out to be insignificant. Table 1 summarises studies that have examined facilitators and inhibitors of ICT adoption among SMEs, reporting the sample size and the ICT studied, and commenting on the data gathering method used in the studies:

Table 1. Facilitators and inhibitors of ICT adoption among SMEs

Author	Sample size	ICT studied	Data gathering method	Facilitators	Inhibitors
Iacovou <i>et al.</i> (1995)	7 Canadian SMEs	EDI	Semi-structured interviews	<ul style="list-style-type: none"> <li>• Perceived benefits</li> <li>• Organisational readiness</li> <li>• External pressure</li> </ul>	Not available
Auger and Gallagher (1997)	141 SMEs in iMall database	Internet-based sales	Postal questionnaire	<ul style="list-style-type: none"> <li>• Low maintenance cost</li> <li>• Experimenting new marketing tools</li> <li>• Company's image</li> <li>• Perceived benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to promote website</li> <li>• Lack of company resources</li> <li>• Product not well suited</li> </ul>
Poon and Swatman (1999)	23 Australian SMEs	Internet commerce	Semi-structured interviews	<ul style="list-style-type: none"> <li>• Management enthusiasm</li> <li>• Perceived benefits</li> <li>• Industry sector</li> <li>• Product differentiation</li> </ul>	Not available

<sup>17</sup> As of June 2004, KLSE has officially changed its name to Bursa Malaysia.

Chau (2001)	462 SMEs (non-EDI adopters)	EDI	Postal questionnaire	Not available	<ul style="list-style-type: none"> <li>• Lack of knowledge</li> <li>• Unsatisfactory internal ICT support</li> <li>• Non-positive attitude</li> <li>• Insignificant influence</li> <li>• Poor promotion campaign</li> </ul>
Mehrtens <i>et al.</i> (2001)	7 SMEs in New Zealand	Internet	Semi-structured interviews	<ul style="list-style-type: none"> <li>• Perceived benefits</li> <li>• Organisational readiness</li> <li>• External pressure</li> </ul>	Not available
Thong (2001)	130 Singapore SMEs	IS	Postal questionnaire	<ul style="list-style-type: none"> <li>• External expertise</li> <li>• Manager's IS knowledge</li> <li>• IS investment</li> </ul>	Managerial time
Scupola (2002; 2003)	7 SMEs in Italy	E-commerce	Semi-structured interviews	<ul style="list-style-type: none"> <li>• 'Just-by-chance'</li> <li>• Customer readiness</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of ICT knowledge</li> <li>• Unfamiliar with the Internet</li> <li>• Fear of the Internet</li> <li>• Lack of critical mass</li> </ul>
Drew (2003)	50 SMEs in the East of England	E-commerce	Telephone interviews	<ul style="list-style-type: none"> <li>• Industry trends</li> <li>• Opportunities for growth</li> <li>• Competition</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of technical skills</li> <li>• Lack of knowledge</li> <li>• Insufficient funding</li> </ul>
Simpson and Docherty (2004)	2 UK SMEs	E-commerce	Case studies	<ul style="list-style-type: none"> <li>• Family pressure</li> <li>• Social benefits</li> <li>• Cost savings</li> <li>• External support</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of ICT knowledge</li> </ul>

Table 1 summarises 9 studies of ICT adoption by SMEs. Among the importance factors that facilitate ICT adoption, particularly e-commerce include perceived benefits (Iacovou *et al.*, 1995; Auger and Gallagher, 1997; Poon and Swatman, 1999; Mehrtens *et al.*, 2001; Beveren and Thomson, 2002), organisational readiness (Iacovou *et al.*, 1995; Mehrtens *et al.*, 2001) and external pressure (Iacovou *et al.*, 1995; Mehrtens *et al.*, 2001). Among the inhibitors are lack of knowledge (Chau, 2001; Scupola, 2002; Drew, 2003; Scupola, 2003; Simpson and Docherty, 2004), lack of resources (Auger and Gallagher, 1997; Drew, 2003) and fear of the Internet (Scupola, 2002; 2003). Interestingly, Scupola (2002; 2003) finds that 'just-by-chance' to be one of the factors that facilitate e-commerce adoption.

The sample sizes of SMEs that have been used in these studies range from 2 to 462. Data gathering methods are mainly semi-structured interviews and case studies (5 studies), postal questionnaires (3 studies), and telephone interviews (1 study). Studies using large sample sizes and combining semi-structured interviews with postal questionnaires are rare in the literature.

### 3. METHODOLOGY

The research was designed as an explorative case study (Yin, 1994). This approach can find new categories in addition to those in the literature. Semi-structured interviews were the main form of data collection. This method allows researchers to question interviewees closely on the major constraints and incentives encountered. It allows interviewees to talk freely about the subject, thus adding useful information from which it is possible to create new themes (Scupola, 2002). The questions addressed the following: SMEs' use of e-commerce; the perception of SME managers of e-commerce; factors significant in the adoption of e-commerce; and advantages and disadvantages of adoption. The interviews were conducted personally by telephone and lasted approximately 15 - 30 minutes. Whenever possible, the company's website was visited to gain better understanding of its use of e-commerce.

The companies were chosen for variety and convenience (Sekaran, 1992). The respondent was the SME manager running the company<sup>18</sup>. In the SME, the CEO tends to be the main decision-maker, information gatekeeper and the driving force of the company (Macdonald and Williams, 1993; Thong and

<sup>18</sup> The SME manager may be the CEO or managing director or the owner-manager, depending on the type of ownership of the company.

Yap, 1995; Raymond, 2001). Fourteen pre-interview calls were made be with SME managers in Malaysia to make appointments for full telephone interviews. Pre-interview calls made sure managers spare time to be interviewed so that the conversation would not be interrupted. Eight managers agreed to be interviewed. The telephone interviews were conducted in Spring 2005.

## **4. FINDINGS AND ANALYSIS**

### **4.1 Company descriptions**

The first company (C1) interviewed is a family owned business in the food industry. The business was started in 1995 and now has 18 employees. The company is in a rural area and serves the local population. So, most of the time, the manager communicates with customers face-to-face. Orders are also taken by telephone and facsimile. The company has a few computers with basic software, but no Internet connection. The manager believes looks to personal contacts and word of mouth to attract customers.

The second company (C2) designs and prints magazines and journals, mainly for government agencies. This company has been in operation since 2001 and is run by two business partners. Both of the managers have been involved with e-commerce since they started the business. They use e-mail to communicate with their customers. They have an interactive company homepage, believing this is the way to boost company image and to impress their customers. The managers hardly ever updated their homepage. They take orders via e-mail after they have met their customers face-to-face. However, payments are made through bank drafts or bank orders.

The third company (C3) provides ICT services. This company has been operated since 1997 and currently has 10 employees. It installs and maintains computers. It has been using the Internet since 1999, but only to communicate via e-mail and search for information. The company has a homepage providing company information and type of services offered. The homepage is rarely updated. The company has never traded online, the CEO believing that customers are not ready.

The fourth company (C4) is an ICT consultancy, offering services to government agencies. This company was founded in 1996 and has 30 employees. It started using the Internet in 1998 and now has broadband connection. All employees are provided with staff e-mail. This company has its own intranet system for sharing internal information, and an interactive website, providing company, product and service information. The website allows customers and suppliers to access the company current news. The company used to have online transaction facilities, but these were scarcely ever used by customers. Payment is now through bank drafts or bank orders.

The fifth company (C5) provides e-business solutions to customers by offering website spaces on their server and maintaining the customers' websites. This company started in 1998 with 3 employees and now has 16. This company has an interactive website with online payment facility. The manager is an ICT champion, using a lot of e-commerce activities in his daily business. He sells his business solutions internationally through his company website. He also buys digital products and services online. Most of his customers use credit cards for payment by phone, but hardly use the online payment facility on his company website. He still uses online transactions, believing that one day the people will also use these facilities.

The sixth company (C6) is a car factory workshop. This company has 40 employees and has operated locally since 1990. The company has opted not to use e-commerce in day-to-day business operations. The manager prefers face-to-face interaction with customers and relies on personal contacts and word of mouth to attract customers. Business has been good and the company's management has no intention of using e-commerce. The company has a few computers with basic software applications, such as word processing, spreadsheet, and financial packages.

The seventh company (C7) interviewed is a construction firm with 20 employees. The company started business in 2000 and started to use the Internet in 2003. E-mail is used for day-to-day business communication with suppliers and customers. The manager has set-up an interactive company website, providing company information and type of services offered. Potential customers are allowed to use online request for quotation for price enquiries. However, there is no online ordering or online payment facilities for business transactions.

The last company (C8) interviewed is an electrical company. The manager inherited the company from his father. The company has 8 employees and started business in 1988. The manager uses dial-up facilities to connect to the Internet. He started using the Internet in 2002 to search for business information and market trends. The manager sometimes uses e-mail to communicate with his loyal customers. He does not have a company website, believing that it is unnecessary for his business.

Table 2 summarises the characteristics of these companies:

Table 2. Company descriptions

Company	Type of business	No. of employees	Year founded	Type of Internet connection	E-commerce usages
C1	Food industry	18	1995	None	None
C2	Printing services	2	2001	Broadband	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> <li>- online brochureware</li> <li>- online catalogue</li> </ul>
C3	ICT maintenance consultants	10	1997	Dial-up	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> <li>- online brochureware</li> <li>- online catalogue</li> </ul>
C4	ICT consultants	30	1996	Broadband	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> <li>- online brochureware</li> <li>- online catalogue and online enquiries</li> <li>- online ordering and online payment</li> </ul>
C5	Service provider	16	1998	Broadband	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> <li>- online brochureware</li> <li>- online catalogue and online enquiries</li> <li>- online ordering, online billing, online payment and online purchasing</li> </ul>
C6	Automobile manufacturing	42	1990	None	None
C7	Construction	54	2000	Dial-up	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> <li>- online brochureware</li> <li>- online catalogue</li> </ul>
C8	Electrical components	11	1988	Dial-up	<ul style="list-style-type: none"> <li>- e-mail with customers/suppliers</li> </ul>

Six firms have Internet connection and e-mail. However, only three firms have broadband; the others rely on dial-up connection. Only two firms have online ordering, online payment and company intranet for internal integration. One manager had even decided to discontinue the Internet connection and the e-mail services since he hardly used the e-mail to communicate and wanted to stop his staff browsing the Internet while he was out of the office. One SME which once had online ordering and online payment activities had also discontinued these activities. Managers explained that the services were costly and hardly used. Only one manager had decided to continue with online transactions, and this was because his company is the provider for the e-business solutions.

## 4.2 Facilitators and inhibitors of e-commerce adoption

These interviews have provided some insights into the factors that influence and inhibit e-commerce adoption among SMEs as stated in Table 1. A few SMEs without an Internet connection declared that they were not interested in any Internet activities. Managers claimed that the Internet was not relevant to their business since they served only local people and most of the time they were with their employees, supervising their work. Others opposed the Internet, influenced by the failure rate of their peers. They stated that most of their colleagues who adopted the Internet had to deal with staff using the Internet to browse and chat. Interestingly, when these managers were asked about e-commerce, they hardly recognized the term. Some had not heard about buying and selling online.

Other SME managers who had adopted online catalogues were not interested in adopting online payments. They opposed online payment because they perceived that the system requires trust. In addition,

according to them, the system is expensive and requires ICT expertise to maintain. They were not interested in having ‘fancy stuff’ in the office. More money would have to be invested, more machines bought, more people with ICT skills hired and more staff trained; and they had no time for this. They claimed that few people bought and sold over the Internet, and that people were not ready to do so. Table 3 displays the facilitators and inhibitors of e-commerce adoption found in this exploratory study:

Table 3. Facilitators and inhibitors of e-commerce adoption by Malaysian SMEs

Facilitators	Inhibitors
Government penetration	Too costly
To enhance company image	Hardly used
Customer persuasion	Not relevant to business
Ease of communication	Failure rate of peers**
To establish contact with government	Lack of information on e-commerce
Being able to search for business information	Lack trust e-commerce
‘Nice to have’**	Lack of IT expertise
	Not interested in ‘fancy stuff’**

\*\* New factors that need further investigation

In this study, some findings, especially regarding benefits and barriers, are similar to those found in studies conducted in other countries. Some managers had adopted e-commerce because their peers had adopted it; others were influenced by government promotion. Attractions included perceived benefits such as improving the company image, ease of communication, and being able to search for business information and also external pressure such as establishing contact with government and customer persuasion. None of the managers conclude that organisational readiness as one of the factors driving e-commerce adoption. Some also thought e-commerce might be something just ‘nice to have’. This is true especially for small driven companies, which get acquainted with e-commerce due to some friends and relatives.

Factors such as too costly, lack of information on e-commerce and IT expertise are among factors that found in studies on the adoption of e-commerce. Lack trust on e-commerce such as security and privacy issues are also still major problems for companies adopting e-commerce (see, for example, Udo, 2001; Azmi, 2002; AlJifri *et al.*, 2003; Liu *et al.*, 2004). Companies need to protect themselves against not only computer fraud, but also viruses. More investment is needed to make this happen. Though many antiviruses have been designed to help, viruses are produced at an even faster rate.

## 5. CONCLUDING REMARKS

E-commerce has received much publicity, perhaps because it is so commonly assumed that e-commerce will dramatically change the way conventional business is done. The major contribution of this study is will be to the understanding of e-commerce usage among Malaysian SMEs. Some companies use more e-commerce than others, some are just starting to use e-commerce and some have never heard about e-commerce. Most SMEs managers are comfortable with e-mail and homepages, but not online transactions. Many feel that e-commerce is ‘nice to have’ or ‘fancy stuff’. Many are influenced by the failure rate of peers:

*“There is so much to do for the business rather than really care about what is going on with the technology. Actually the idea to use e-commerce is good and new things should be tried; but once you detect the weaknesses, there is no use to take risks anymore...”*

Interview with SME manager

The main limitations of this study are the small number of companies interviewed and the small geographical region. Further research is necessary to understand better the e-commerce adoption and usage

among SMEs in Malaysia. These issues will be further explored via surveys of SME managers in the country. Face-to-face interviews with SMEs managers, policy makers and government officers will also be conducted to capture in-depth information. This method allows researchers to question managers closely on the major constraints and incentives encountered. Further research will investigate the following research questions:

1. What are current levels of e-commerce adoption among SMEs in Malaysia?
2. What are the characteristics of SMEs and SME managers that have adopted and not adopted e-commerce?
3. What are the internal and external factors that influence and inhibit e-commerce adoption?
4. How does a SME go about adopting e-commerce?
5. Why do some companies use more e-commerce than others?
6. Why does the government encourage SMEs to adopt e-commerce?
7. What is the impact of e-commerce on SMEs?

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