Government ICT Assistance Programmes: A Website Analysis of MALAYSIAN SMEs

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Abstract

E-commerce, one of the areas of ICT that interests governments, has received particular attention. It is said that e-commerce is crucial for economic success and gives SMEs a major advantage in the marketplace. Yet, reality seems to be quite different from this rhetoric. This paper explores the extent of e-commerce adoption amongst SMEs in Malaysia that have received government e-commerce grants. It highlights preliminary findings from an exploratory study of 101 websites of funded SMEs. Only 68 of the 101 websites are operational at all. Many SMEs have e-mail and websites, but very few bother with anything more sophisticated. This result is surprising if e-commerce really is so valuable to SMEs. Implications are discussed and some concluding thoughts are made.

Keywords Internet, government, e-commerce, SMEs

INTRODUCTION

There is a considerable literature on government assistance for the adoption of information communication technologies (ICT) (see, for example Lee, 1981; Boocock, 1994; Mohd Asri, 1999; Chan and Al-Hawamdeh, 2002; Newton, 2006). In many countries, ICT is being seen as a ready means through which governments can address issues of economic development. Stories of the 'successful introduction' of ICT by specific countries become examples that other countries are encouraged to follow (Macdonald, 2002). Governments everywhere seem to believe that ICT is the key to economic growth. Indeed, many countries have invested heavily in ICT in the hope of economic development.

One of the areas of ICT that interests governments is e-commerce. Most governments design e-commerce policy initiatives to assist businesses, particularly SMEs. They believe e-commerce will change fundamentally the way business is done. It follows that if e-commerce is crucial for economic success, businesses not involved in e-commerce will be left behind in the global marketplace (Corbitt and Thanasankit,

2002). For example, it is argued that, through adopting e-commerce, SMEs can compete with large organizations because the Internet provides equal access to both. Yet, very little is actually known about how SMEs are using e-commerce to interact with the customers and to what extent SMEs have gained from ICT policy initiatives.

This article presents the preliminary findings of a study of e-commerce adoption by Malaysian SMEs that have received a government e-commerce grant. It addresses two issues: (1) what use is currently a mode of e-commerce by SMEs in Malaysia, (2) how effective is government ICT assistance to these SMEs. 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. Section 5 presents the discussion and concluding remarks are presented in section 6.

LITERATURE REVIEW

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 role that SMEs play in their national economies. In most European countries, SMEs constitute more than 90% of businesses (OECD, 1998; 2000; Scupola, 2009). In the UK, for example, there are an estimated 3.7 million businesses, of which 99.8% are SMEs (DTI, 2001). SMEs account for between 30% and 70% of the gross domestic product of most countries (OECD, 1997). In Malaysia, SMEs (commonly called Small and Medium-size Industries, SMIs) form the bulk of companies in the country and they play a crucial role in the country's industrialization. They now account for more than 90% of total businesses (Malaysia, 2004).

There is no agreement on what precisely a SME is (Curran and Blackburn, 2001). Each country has its own definition of SMEs, and even within countries definitions of SMEs vary (Beaver, 2002). 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). 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; Cragg and King, 1993). They are more practical as "information about employment is readily available and considered by managers to be less confidential" (Pratten, 1991). 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).

Information and Communication Technology (ICT) Programmes to Assist SMEs

Governments everywhere design programmes to assist SMEs, usually on ground of market failure. SMEs are known to lack capital and credit facilities, skilled labour and infrastructure. They also lack funding for R&D, international marketing and employee training (Gilbey, 2005). Even in the best of climates, SMEs are highly vulnerable and 'high risk', particularly in the early phase of commercialising ideas and implementing business plans (Newton, 2006). SMEs, particularly start-up companies, need significant injections of funding and management skills to help them take advantage of fleeting market opportunities (Gilbey, 2005). So, governments everywhere design policy programmes to help SMEs.

Policy programmes for SMEs differ across national economies to suit local conditions and circumstances (Harvie and Boon, 2002). Many of these programmes are based on promoting information and communication technology (ICT) policies. Governments believe that ICT is a key driver for economic growth and makes a significant contribution to the social fabric of a country (Taylor and Murphy, 2004; Newton, 2006):

> *"When the idea that ICT boosts productivity is fashionable, as it is at the moment, there is lot of interest in funding, commissioning and publishing studies that show ICT boosting productivity".*

> *(Macdonald, 2004, p.103)*

One of the areas of ICT that interests governments is e-commerce. E-commerce is said to be crucial for economic success, especially for developing countries and SMEs (Corbitt and Thanasankit, 2002). Policy makers are convinced that e-commerce will give a tremendous boost to SMEs because e-commerce opens the company's doors to the entire world (Colecchia, 1999). Distance is no longer a barrier. Companies can sell their products and services anywhere as long as the other parties are connected to the Internet. Through e-commerce, there is no need for intermediaries; customers can relate directly to producers (Turban *et al.*, 2003). Businesses that are not involved in e-commerce will be left behind in the global marketplace (Corbitt and Thanasankit, 2002). So, governments are advised to provide the right environment to support e-commerce: adequate telecommunications services, the appropriate legal environment, secured banking and Internet operations, as well as a trained workforce (Colecchia, 1999).

What is E-commerce?

There is no consensus on the definition of e-commerce Grandon and Pearson, 2004). However, there are two common elements to most definitions. First, e-commerce involves 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; 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 adopted, focusing on Internet-based technology (Poon and Swatman, 1999; Scupola, 2003; 2009):

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

> (Zwass, 1996, p.1)

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; Lawson *et al.*, 2003; Brown and Lockett, 2004); (2) in terms of business activities (for example, Raymond, 2001; Daniel, 2003); and (3) the mix of Internet applications and business activities (for example, Kendall *et al.*, 2001; Beveren and Thomson, 2002; 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, 2003). Twelve e-commerce activities are examined to investigate the extention of e-commerce adoption in SMEs (Refer section 3.3, p.5 in this article).

E-commerce Policy Initiatives

Some governments design e-commerce policy initiatives based on the private sector promoting e-commerce (for example, the USA, Australia, Japan, the EU and the UK) and some intervene directly (a 'jump start' policy) (for example, Ireland, Singapore and Hong Kong) (Corbitt and Thanasankit, 2002). When programmes depend on the private sector, the aim is a predictable, minimalist, consistent and simple environment for e-commerce. In Australia, government applies a 'light touch' but plays a key role through online delivery of government service. In Japan, the government promotes e-commerce as part of internationalization policy. For example, there are no customs duties on electronic components (Corbitt and Thanasankit, 2002). In the UK, government e-commerce initiatives aim to modernize business by creating confidence in e-commerce. Government plays a role as an enabler of e-commerce. To facilitate this, the UK government has appointed an 'e-Minister' and 'e-Envoy' reporting directly to the UK Prime Minister (Corbitt and Thanasankit, 2002).

Most small economies look to 'jump-start' e-commerce policy programmes. The Irish government, for example, is developing infrastructure to support e-commerce and skills in the university sector. To jump-start Singapore as an e-commerce hub, the Singapore government focuses on the sectors in which Singapore has an inherent advantage as a hub. Incentive schemes and other support programmes are used to encourage international and local companies to base their e-commerce activities in Singapore (Kendall *et al.*, 2001). In Hong Kong, e-commerce policy programmes are focused primarily on building the IT infrastructure to support e-commerce by both business and government. The government acts as the primary promoter by providing financial support, policy encouragement and infrastructure development. Schools in

Hong Kong are required to make ICT a fundamental part of the school curriculum (Corbitt and Thanasankit, 2002).

There are usually mixed results from government assistance programmes. From their analysis of the governments' and consultants' reports on e-commerce in fourteen countries, Corbitt and Thanasankit (2002) conclude that most e-commerce policy programmes to assist SMEs have produced significant results, governments with 'jump-start' policy programmes having substantially more success. This result is perhaps to be expected. Consultants and policy makers tend to talk about the benefit of government assistance and put the blame on SMEs that have not seized opportunities. European Union programmes for SMEs, for example, tend to talk about successes, but not failures (Rodriguez, 2005). It may be that governments are attracted to interfere in the affairs of SMEs by the prospect of being seen to be doing good rather than by any conviction that their policies will be effective (Macdonald *et al.*, 2001, p.1).

E-commerce Schemes in Malaysia

In Malaysia, the government has designed ICT schemes to encourage SME involvement in ICT, particularly in e-commerce. Among the e-commerce schemes are:

1. the e-commerce grant for manufacturing SMEs, encouraging them to trade online
2. the e-manufacturing grant for SMEs to use ICT to integrate themselves in the global marketplace
3. the Technology-Industry-Government for e-Economic Revolution (TIGeR) project for manufacturing SMEs to join the online global supply chain, and
4. the TIGeR e-Logistic partnership with the Royal Customs and Excise Department (RosettaNet) project for SMEs to integrate their systems with the e-commerce customs declaration of non-dutiable exports.

Of the schemes to encourage SMEs in Malaysia to use ICT, the e-commerce grant is one of the most popular (SMIDEC, 2001). It was introduced by the Small Medium-sized Industry Development Corporation (SMIDEC) in July 2000 to assist SMEs in promoting their product beyond domestic boundaries, and specifically to participate in e-commerce. The objectives of the e-commerce grant were (SMIDEC, 2001):

1. to encourage SMEs to have a website,
2. to encourage SMEs to advertise their product and services on the website,
3. to encourage SMEs to engage in online transactions,
4. to assist SMEs to participate in e-commerce,
5. to assist SMEs to overcome skill constraints when engaging in e-commerce.

Under the e-commerce grant scheme, SMEs obtain grants of up 70% of project costs to a maximum of RM10,000. This grant is for companies to design a welcome page for an electronic product catalogue, and also covers the costs of a community portal. The community portal is a person or a company responsible for advising the SME

how to match the business to the possibilities of e-commerce (SMIDEC, 2001). This involves not only creating the welcome page and product catalogue, but also designing and branding, advertising and administration training, administration services, daily backup services and support. SMEs choose their portals from thirteen e-commerce portals listed on the SMIDEC website (SMIDEC, 2001). However, the grant covers only the costs of the first year of the e-commerce project (SMIDEC, 2001). More than 3,500 SMEs applied for the e-commerce grant, but just 1,818 applications were approved. It was expected that by utilizing the e-commerce grant (which had been fully utilized few years ago), these SMEs would by now have their own websites, be able to market their products and services on the net, and would be preparing to sell online.

METHODOLOGY

The research was designed as an exploratory study of websites. Content analyses of the website message itself, not the communicator or the audience was employed (Salam *et al.*, 1998). This method is useful for examining trends and patterns in websites (Steve, 2001). It involves identifying and counting certain activities or attributes in the websites (Riley *et al.*, 2000). It allows inferences to be made which can then be corroborated with other methods of data collection (Holsti, 1969). Other approaches were adapted from previous studies, particularly on locating company website addresses, determining website operability, and identifying types of e-commerce activities (see, for example, Soh *et al.*, 1997; Salam *et al.*, 1998; Laudon and Traver, 2002; Adham and Ahmad, 2005). It is important to emphasize that this study looked at only company websites and e-commerce activities dependent on the websites. Other e-commerce activities were excluded.

The sample was drawn from the SMIDEC database. The SMIDEC database provides a list of all manufacturing SMEs with an e-commerce grant from the government. It is not available commercially; however, it has been provided through a personal contact. 101 Malaysian SMEs websites were extracted. Company websites were identified and tested several times for operability. The contents of all operable websites were examined in the Spring 2010 for evidence of e-commerce activities and how well SMEs were using the Internet to inform consumers. The steps taken to locate company website addresses and determine their operability (adapted from Adham and Ahmad, 2005) were:

1. clicking on the hyperlinks provided on the SMIDEC database;
2. testing for website presence in thirteen community portals provided by SMIDEC; and
3. using the search function in Google website (www.google.com) to confirm the websites.

When hyperlinks were found to be inactive, or direct hyperlinks were missing from the SMIDEC list, a second step was performed to find the website in the community portals. This step involved clicking on the hyperlinks of e-commerce portal websites provided by SMIDEC. The company's name was then entered into the search boxes of the community portals. For companies whose websites could not be located in the

SMIDEC list or e-commerce portals provided by SMIDEC, names were keyed into Google search engine. If a listing of the company was not found, the conclusion was that these companies did not operate a website.

First, all websites were checked to ensure the address really belonged to the company. All website addresses were tested for operability (i.e. they had no downloading problems). All functioning websites were then analysed to determine whether they were company websites or provided by the community portals. Each of the qualifying websites was evaluated to determine their e-commerce activities: whether the website provided company information (online brochureware) (i.e. contact method and location and company e-mail), whether the website offered details about the company's product and services (online catalogue), whether the company could receive online enquiries and online requests for quotations (RFQ), whether it could carry out online ordering and online payment, and whether it had customer feedback, a site search facility, interactive communication, online order tracking and stock check availability (adapted from Laudon and Traver, 2002, p.180).

FINDINGS AND ANALYSIS

Out of 101 SMEs examined, only 68 websites (67.3%) were operable. The remaining 33 (32.7%) websites were either suffering from technical problems that rendered them inoperable, or the website addresses provided did not exist. Out of 68 functioning websites, 30 had company addresses, while the other 38 were provided by the community portals. Table 1 and 2 display the result of the investigation of the functioning websites.

Table 1 Contact method on the websites (n=68)

	Company address & location	Company phone number	Company e-mail	Staff e-mail	Webmaster e-mail
Number of SMEs with:	68	68	62	0	0

Of the 68 operable websites evaluated, 9 (13%) provided online brochureware only and none provided staff e-mail or webmaster e-mail. It may be the SMEs did not provide e-mail addresses of staff on their websites. It is also unknown whether websites are maintained by webmasters or out sourced elsewhere.

The investigation shows that many SMEs have e-mail and websites. Most SMEs provide company and product information on their websites. Not many are involved in online transactions (only 3 websites offer online payment to customers). The conclusion is that many SMEs are comfortable with e-mail and very basic websites and very few bother with anything more sophisticated. These findings concur with other studies of e-commerce adoption by SMEs (see, for example, Beveren and Thomson, 2002; Drew, 2003; Brown and Lockett, 2004; Fillis *et al.*, 2004). E-commerce in SMEs is limited to the simplest of activities. This may be why the UK government has not even tried to measure the engagement of SMEs in complex applications (Brown and Lockett, 2004).

Interestingly, the analysis also revealed that 31 (30%) SMEs were engaged in more sophisticated e-commerce activities, such as online RFQ and online ordering. However, most of the RFQ forms submitted did not return any feedback and the online ordering form was never accessible. Indeed, correspondence through the e-mail address provided on the websites did not generate any reply.

Table 2 Website features (n=68)

	Number of SME websites with:
Online catalogue	59
Online form enquiries	55
Online request for quotation (RFQ)	38
Online ordering	31
Online payment	3
Customer feedback	5
Site search facility	2
Chat or interaction	0
Online order tracking	0
Stock availability check	0

DISCUSSION

This result is surprising given what is said about e-commerce and SMEs. Much of the literature claims that e-commerce gives SMEs a major advantage in the marketplace: it is supposed to abolish geographic and time barriers, improve communication with customers, suppliers and employees, create new ways of doing business, help SMEs compile customer histories, and generally drive income growth (Adham and Ahmad, 2005). However, results from this exploratory study suggest that SMEs are yet to use e-commerce to play active role in global marketplace. The next questions that arise are: Why have some companies become adopters of e-commerce, while others have not? What has happened to the other 33 SME websites which are not accessible? Are these SMEs still using e-commerce? Do the 68 SMEs really engage in e-commerce activities, or do they just satisfy the government's requirements?

This study provides some evidence of the effectiveness of government ICT assistance. There is a need to evaluate government ICT programmes if SMEs are ever to benefit from them:

> *"If ICT is important, then it is also important that ICT policy initiatives be correct – rather than simply highly visible – if opportunities are not to be missed and resources wasted".*

(Macdonald, 1987, p.231)

Policy makers should design initiatives if appropriate to the SMEs they are meant to help. To do this, they must be aware of the nature of the SME sector. They should not see SMEs as miniature large firms that, nurtured and given the opportunity, and

will grow and become MNCs (Storey, 1994). SMEs should not be given uniform treatment because they are not all the same. For example, the needs of a company with 10 employees differ substantially from those of a company with 100 or 250 employees (Rodriguez, 2005). Perhaps government programmes to help SMEs, especially in adopting ICT, should be much more selective, directed only to those companies that fit the criteria of the model employed (Scupola, 2003).

CONCLUDING REMARKS

It is hard to be positive and constructive about the e-commerce grant scheme, and particularly about its encouragement to SMEs to adopt e-commerce. This was an exploratory study and only a small number of websites was analysed. These issues will be further explored via large surveys of SMEs in Malaysia - not just SMEs involved in the e-commerce grant scheme. Further research is necessary to understand better to what extent SMEs in Malaysia have adopted e-commerce, and what factors facilitate its adoption and usage among SMEs in Malaysia. 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. Why does the Malaysian government encourage SMEs to adopt ICT, particularly e-commerce?
3. Are government policy initiatives appropriate to e-commerce adoption?

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