An Investigation of Key Adoption of E-Commerce in Smes in Malaysia

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E-commerce, particularly website, adoption by SMEs is often viewed as a basic building block of economic development. Yet, the components that impact the e-commerce adoption success and how these components affect economic development are rarely unexplored, especially within the context of managerial and organisational characteristics. A field survey was conducted to understand key factors that facilitate the adoption of e-commerce within the SMEs in Malaysia. 522 SMEs had successfully participated in the survey over the last two years. 10 SME managers were interviewed to get the detail insights of the study. The results revealed a number of interesting findings. Two important factors for SMEs in this study to adopt e-commerce were found: SME location and the manager’s experience of living abroad. To encourage e-commerce adoption, SMEs in developing countries need not only to have appropriate technology infrastructure installed, but also to be in a location with good public transportation services and efficient delivery methods. SME managers also need experience of buying and selling on the Internet, which they might gain while living abroad. From the research findings, a series of recommendations for e-commerce adoption among SMEs in Malaysia emerges, providing guidance for policymakers, practitioners, and academics.

Field of Research: ICTs, Internet, Malaysia, e-commerce, SMEs

1. Introduction

Since the Internet began to be used commercially in business, electronic commerce (e-commerce) has been an important topic, particularly in business and management. It has been suggested that SMEs may adopt e-commerce because of its immense benefits (Poon and Jevons, 1997; Daniel et al., 2003; Martin and Matlay, 2003), such as SMEs can sell 24 hours a day, and seven days a week (Martin and Matlay, 2003). Despite the benefits e-commerce can offer to SMEs, research shows that e-commerce has not been readily adopted by SMEs (Fillis et al., 2004; Grandon and Pearson, 2004; Sahadev and Islam, 2005, Pool et al., 2006; MacGregor and Vrazalic, 2007). Even when e-commerce is adopted, evidences from many countries, particularly developing ones, show that the adoption is still limited to e-mails and web pages (Grandon and Pearson, 2004; Ordanini, 2006; MacGregor and Vrazalic, 2007; Alam et al., 2011). Indeed, many SMEs are still waiting the benefits of e-commerce, particularly a website with online transaction capabilities, in their businesses.

In order to understand the phenomenon, both practitioners and academics have been interested in identifying the factors affecting e-commerce activities and understanding how these factors affect e-commerce development or the extent of its use. For example, MacGregor and Vrazalic (2007) found that age of SMEs is an
important factor in e-commerce adoption: younger SMEs tends to adopt e-commerce more frequent compare to older ones, while Alam et al. (2011) found that ease of use is important for SMEs to adopt e-commerce. Although researchers have argued on certain e-commerce adoption factors, at present, it is still important to study the e-commerce phenomenon, since it is continuously evolving (Alam et al., 2011), and the generalizable evidence is still lacking.

This paper seeks to address this gap in the current literature - to understand and analyse the key factors that might influence SMEs to adopt e-commerce. The paper is structured as follows: Section 1 presents the research problem, section 2 is a literature review, section 3 describes the conceptual framework, and section 4 presents the methodology of the study. Findings and discussion are presented in section 5 and conclusions and implications are presented in section 6.

2. Literature review

2.1 Defining E-commerce

There are quite a number of e-commerce definition available in the literature, however there is no agreed definition of what it is (Kendall et al., 2001; Daniel and Wilson, 2002). Zwass' e-commerce definition, "e-commerce as "sharing of business information, maintaining business relationships and conducting business transactions by means of telecommunication networks" (Zwass, 1996, p.1), is among the first. Later, other e-commerce definitions emerged in the literature. Some researcher came out with their own definition (e.g. Wigand (1997)), some have adapted Zwass' definition (e.g, MacGregor and Vrazalic (2007)), while some other narrow the scope by looking at 'selling and buying through Internet' (e.g. Turban et al. (2003). No matter what the definition is, two common elements are necessities in e-commerce: 1) kind of business activities that occur, and 2 ) kind of technological means that enable these activities. This study adapts Zwass’ e-commerce definition that highlights the use of the Internet technology.

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

A list of business activities that organisations conducted on the Internet was reviewed. It was found that there are just three basic components of e-commerce, which are e-mail, online buying, and websites (for online selling of products and services). These three components have been used by many other e-commerce studies to describe e-commerce adoption by firms (e.g. Kendall et al., 2001; Daniel et al., 2002; Fillis et al., 2004; Grandon and Pearson, 2004; Pool et al., 2006). In line with these researchers, this study will also use these three types of e-commerce components to understand e-commerce adoption among SMEs. In addition to the e-commerce components, the website activities were also been investigated.
2.2 Small and Medium-sized Enterprises (SMEs)

SMEs are important to almost all economies in the world, especially to those in developing countries and to those with major employment and income distribution challenges. SMEs contribute to output and to the creation of “decent” jobs (ILO, 2014); they are a nursery for the larger firms of the future, are the next (and important) step up for expanding micro enterprises (MacGregor and Vrazalic, 2007). Part of the reasons is because SMEs constitute more than 90% of businesses in a country (BERR, 2008, OECD, 2009). In the UK, for example, there are an estimated 4.3 million businesses, of which 99.9% are SMEs (BERR, 2008), while in Malaysia, SMEs (commonly called Small and Medium-size Industries, SMIs) account for more than 90% of total businesses (Malaysia, 2010).

Similar to e-commerce, there is no unique definition to apply to the whole world. Every country has its own definition of SMEs and there is no formal categorisation of what constitutes an SME (Ghobadian and Gallear, 1996; Curran and Blackburn, 2001). Even within countries, definitions of SMEs vary (Beaver, 2002) rendering definitions that vary even amongst those government agencies as each seems to have its own criterion. This is further complicated by definitions varying over time (Hashim and Wafa, 2002). However, these varying definitions do suggest that any definition of SMEs must include a quantitative component such as number of employees, amount of capital, amount of assets and sales turnover (Yap et al., 1992; Hashim and Wafa, 2002).

For the purpose of this study, an SME is defined by the number of people employed by the firm because it is more objective and transparent compared to turnover (Curran and Blackburn, 2001). In line with the definitions of SMEs used in other countries (European Commission, 2002), an SME in this study is defined as a firm employing 10 to 250 employees. Firms with less than 10 employees will be excluded since these are likely to approach IT issues very differently and because their numbers would swamp those of larger SMEs (Hussin et al., 2002).

2.3 SME and SME Manager’s Characteristics

It has traditionally been argued in the IT literature, that the organisational characteristics, such as industry sector, size, and age, and managerial characteristics such as manager age and education play an important role in the firm’s e-commerce adoption (Scupola, 2003; Chuang et al., 2007). There is an indication that these factors have some positive relationship with e-commerce, particularly ICT adoption. For example, Hashim et al. (2011) found that SMEs in the service sector adopt e-commerce readily more than SMEs in the manufacturing sector, buying online is dominated by smaller SMEs and younger SMEs seem to adopt e-commerce more frequent that older ones. On the other hand, managerial factors, such as level education and age of a SME manager, have been found to have a positive influence on technology adoption of firms (Cragg and King, 1993; Igbaria et al., 1997; Chuang et al., 2007; MacGregor and Vrazalic, 2007). Managers with a higher level of education, would adopt technology in their firms
Premkumar and Roberts, 1999), while younger managers tend to dominate the ‘new economy’, characterised by e-commerce, software, and creative businesses OECD, 2009).

Despite of these influencing factors that have been studied by researchers, there are some other few factors that have not been studied in great details, such as, firms’ location and firms’ IT resources, and also manager ethnicity and experience living abroad. It maybe that most of the studies are based in western countries; thus, these factors are not in a great concern. But for a developing country such as Malaysia, these factors may give an impact in e-commerce adoption. For that reasons, these factors will be investigated to understand if they affect SMEs in Malaysia to adopt e-commerce.

Location

Firm location has both positive and negative influences on e-commerce adoption among SMEs. The main argument is that if SMEs are connected to the Internet, location becomes less important for e-commerce adoption, because SMEs can sell and buy online anywhere and anytime (Lee and Park, 2002, Daniel et al., 2003). However, Haig (2002) argues that accessibility to e-commerce depends on where the SMEs are located. For instance, SMEs in London have two times as many websites as SMEs located in Yorkshire. In Malaysia, SMEs are located in fourteen states across the country, operating in industrial regions, small villages, and big cities. In the northern region, particularly Penang, many SMEs have access to the Internet, due to rapid industrial growth (Ramayah et al., 2003). However, in East Malaysia (i.e., Sabah and Sarawak), most SMEs have the least use of e-commerce in their businesses, due to fewer basic access facilities (Paytner and Lim, 2003). Meanwhile SMEs located in industrialised regions, within the high-technology sector, adopt more ICT (Mohd Osman, 2001).

Proposition 1: The location of SMEs influences e-commerce adoption.

IT resources

Previous studies showed that there is a positive relationship between IT resources and ICT adoption (Ismail and King, 2007; Shiels et al., 2003; Ndubisi and Jantan, 2003). Ismail (2004) classified IT resources in two forms, namely IT expenditure of a firm and IT skills of staff within a firm. SME firms with more IT expenditure tend to adopt more complex ICT (Shiels et al., 2003; Ismail and King, 2007). In addition, the use of advanced systems is significantly related to the IT skills that a firm has, and how much money a firm invests in ICT (Ismail, 2004; Ndubisi and Kahraman, 2005). Furthermore, Ndubisi and Jantan (2003) found that computing skills and technical backing are strong anchors that influence system use. Thus, the following propositions are forwarded:

Proposition 2a: IT expenditure influences e-commerce adoption.
Proposition 2b: IT skilled staff influences e-commerce adoption.
Ethnicity

Ethnicity can be considered as an important factor in determining ICT utilisation (Flamm and Chaudhuri, 2007; Middleton and Byus, 2011). In a recent study, Middleton and Byus (2011) found that there is a continuing digital divide on ICT adoption between Hispanic and Non-Hispanic SME owners/managers. The Non-Hispanic SME owners/managers were found to adopt a wider range of ICTs and use them for both administrative and analytical purposes. The Hispanic SME owners/managers on the other hand, not only failed to adopt a full range of ICTs, but they were less likely to use ICTs for long-term strategic analyses (Middleton and Byus, 2011).

In Malaysia, ethnicity is clearly an important consideration when formulating support policies due to its multi-ethnic society (Mohd Osman, 2001). The Malaysian government has given more financial and technological support to Bumiputras than the Non-Bumiputra. In Malaysia, the word Bumiputra usually refers to Malay and indigenous groups, while other ethnic groups are Non-Bumiputra. Part of the reason is because the Non-Bumiputra, particularly the Chinese community in Malaysia has dominated the business scene and is superior in terms of business skills and technology development (Mohd Osman, 2001). On the other hand, the Bumiputras, which have lower income (Saari et al., 2010) compared to the Non-Bumiputras, are lacking in financial and technological development. Thus, this study provides a good opportunity to assess whether government support has an influence on e-commerce adoption by Bumiputra SME managers compared to Non-Bumiputras.

**Proposition 3**: SME manager’s ethnicity influences e-commerce adoption.

Experience Overseas

The benefits of living overseas are exposure to new languages, ways of thinking, and first-hand experience of other cultures (Schulz, 2001). Managers who had overseas experience were able to adapt ideas and concepts proven successful in the developed markets to their own countries, which in turn could bring more advantages to their firms (Rodriguez, 2005). Having overseas experience allows the SME managers to have broad understanding on handling businesses in foreign countries (Inkson et al., 1997), thus encouraging them to be more open to e-commerce (Rodriguez, 2005).

**Proposition 4**: SME manager’s experience living overseas influences e-commerce adoption.

3. Conceptual Framework

In this study, an extension of innovation model is proposed. This conceptual framework is based on the seminal work of Rogers (1989), and Tornatzky and
Fleischer (1990), which was later extended by Thong and Yap (1995), Iacovou et al., (1995); Scupola (2003), and Chuang et al. (2007). As a whole, the framework incorporates the SME characteristics (firms location and IT resources) and SME manager characteristics (manager's ethnicity and experience overseas). Figure 1 shows the graphical representation of the conceptual framework of the study.

Figure 1: Conceptual framework of the study

The framework in Figure 1 has been used to investigate the adoption of e-commerce among SMEs in Malaysia. Each of the factors will be investigated to see if there are any sorts of relationship with e-commerce adoption.

4. Methodology

The data for this paper have been gathered by means of a large-scale survey administered to SMEs all across Malaysia. The survey is one of the most widely-used research techniques, particularly in social sciences (Burton, 2000). There are examples in the literature of the use of the survey as the most suitable method for a study that targets a large number of companies located in wide geographical area (see, for example, Daniel et al., 2002; MacGregor and Vrazalic, 2007). A total of 3535 SMEs with 10 to 250 employees was constructed from three prominent databases in Malaysia.

Face-to-face and telephone interviews were also carried out with SME managers who adopt e-commerce. Ten SME managers that adopt e-commerce (respondents from the returned survey) were interviewed. The interviews are important to provide the researcher with detailed insights into the issues being studied (Greene et al., 1989; Silverman, 1993; Creswell, 1994). This method also allows researchers to question the managers closely and discuss any issue regarding e-commerce.

5. Findings and Discussion

5.1 The Sample

547 SMEs returned the questionnaire, but only 522 SMEs (14.8%) questionnaire were found to be useable for the data analysis. Surprisingly, of the 522 respondents,
514 (98.5%) have an Internet connection and almost three-quarters of them were using the Internet for the past ten years. This indicates that most SMEs in this study are aware of the Internet. Of the 522, 497 (95%) use e-mail in their businesses. However, only 309 have websites (to indicate online selling) and only 149 (29%) have ever bought online.

5.2 Characteristics of SME and SME Manager

5.2.1 Location

More than half of the respondents are located in the Central region of Malaysia. This is not surprising because the Central region is the most densely populated, and this is where Kuala Lumpur, the capital city of Malaysia, is located. Most of the national infrastructure, such as highways, airports, ports and industrial estates, is here, which explains why many firms prefer the location. Table 1 displays the percentage of e-commerce adopters by location. More than half of the respondents to this survey that use e-commerce come from the state of Selangor, the Federal Territory of Kuala Lumpur, and Penang. Only slightly above 5% of SMEs in the East Coast of Peninsular Malaysia and East Malaysia have e-mail and websites. This is no surprise because these states lack infrastructure and have very limited broadband services (only 2% SMEs have broadband services).

Table 1: E-commerce adopters by location

<table>
<thead>
<tr>
<th>Region</th>
<th>States</th>
<th>E-mail</th>
<th>Website</th>
<th>Online Buying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>Selangor, Kuala Lumpur</td>
<td>50%</td>
<td>53%</td>
<td>55%</td>
</tr>
<tr>
<td>Northern</td>
<td>Penang, Perak and Kedah</td>
<td>24%</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>Southern</td>
<td>Johor, Melaka and Negeri Sembilan</td>
<td>16%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>East Coast</td>
<td>Pahang, Terengganu and Kelantan</td>
<td>5%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>East Malaysia</td>
<td>Sarawak and Sarawak</td>
<td>4%</td>
<td>3%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Two managers interviewed argued that they hardly get connected to the Internet when they are in East Coast and East Malaysia: “The Internet line in rural areas is so slow. I have to wait hours and hours to upload and download information from the Internet. My firm has a website, but we hardly ever update it due to the above reason.” (SME manager from firm VII). “We only have a dial-up connection at the moment. There is no ‘streamyx’ service available in this area. How can we do more without these facilities?” (SME manager from firm C)

The crosstab analysis of website activities by region also displays a similar pattern. SMEs in the Central region dominate the website activities. While it is often said that e-commerce allows SMEs to be located anywhere they can be connected to the Internet (Daniel et al., 2002), this study finds this is not true. Many SMEs are located in region where there is appropriate infrastructure such as good transportation systems, uninterrupted power supplies, broadband services, and also could provide skilled and professional workers.
5.2.2 IT Resources of the Responding SMEs

IT resources are said to facilitate e-commerce adoption among SMEs. Almost 100% of respondents use computers in their business, regardless of firm size. Only 3 out of the 522 SMEs in the survey do not use a computer. The firms participating in this study have been using computers for more than 18 years on average. Nearly three-quarters of respondents claim that they have been using the Internet for more than 5 years. The Internet can be considered as part of the basic infrastructure in most firms now. Yet, most SMEs in this study seem to spend little on IT. Only one third of these SMEs allocate more than 5% of their annual budget to IT. One of the managers interviewed stated that he only allocated small amount of money to invest in IT: “I only use a computer to keep information about my customers and the firm inventory. I only browse the Internet during leisure time at home, but not in the office. So, I only allocate a small portion to IT expenditure in my firm’s annual budget.” (SME managing director from firm II).

This study finds higher IT spending does not determine e-mail usage among the SMEs. However, SMEs with higher IT expenditure are more likely to have a website and buy online. Similarly, SMEs with higher IT expenditure also seems to use more website activities than SMEs with lower IT expenditure.

There are only 150 SMEs (29%) in this survey that employ IT specialists; larger SMEs are more likely to employ IT specialists than smaller ones. Almost half of these SMEs (49%) hire programmers, and employ system managers (43%). Web designers are the IT specialists least likely to be employed in SMEs.

More than two-thirds of the responding SMEs do not have specialist IT staff. Some of the SME managers interviewed claim that SMEs face difficulties in attracting people with relevant IT skills to join the firms. They argue that people with IT skills demand higher salaries and perks, which are rarely available in small businesses. Almost half of the SME managers interviewed state that they do not need IT specialists because they can train their own staff to take care of the IT systems: “I have a few IT specialists in our firm. As e-commerce solution companies, I think we need them to monitor our servers and IT infrastructures to make sure our operations are on the tip top side.” (SME managing director from firm I).

This could be one of the reasons why this study finds that SMEs without an IT specialist in the firm adopt e-commerce more than those with IT specialists (see Figure 2).
Interestingly when come to website activities, analysis shows that SMEs in this study need an IT specialist, particularly in respect of complex websites.

5.2.3 Ethnicity

Most surveyed SMEs in Malaysia are controlled by Chinese. This was expected because the Chinese have dominated commerce in Malaysia since independence. Nearly two-thirds of SME managers in this study are Chinese. Malay managers are slightly more than one-quarter of respondents. Indian and other ethnic groups comprise less than 5% of respondents. Of the 66% of Chinese SME managers, 84% have Non-Bumiputra status firms and 16% have Bumiputra status firms. Of the 27% Malay managers, 83% come from Bumiputra status firms and only 17% of them are from Non-Bumiputra. So, there are Chinese SME managers that may own Bumiputra status firms, and Malay managers who may own Non-Bumiputra status firms. This could be an indication that the ethnic groups have started to work together.

Many ICT firms in Malaysia are owned and controlled by Chinese managers, particularly in the big cities. The Chinese community in Malaysia has traditionally been superior in terms of business and technological skills, while the Malay has shown less interest in starting and developing commercial enterprises (Mohd Osman, 2001). So, it was expected that Chinese SME managers would have adopted more e-commerce than Malay SME managers. However, results show there is not much difference in e-commerce adoption between these two races: Malay SME managers use e-mail, have website, and buy online as much as Chinese SME managers. Indeed, there is also not much difference in terms of website activities adoption: the Malay SME managers adopt website activities as much as the Chinese SME managers (see Figure 3).
5.2.4 Experience Overseas

Over one-third of the SME managers taking part in this study have lived overseas for more than six months in a single period. Figure 4 displays the percentage respondents have lived overseas for more than six months. Of the one-third of managers who have lived overseas, most have been in Western countries (the United Kingdom, followed by the United States and Australia). These are the countries where most Malaysian students go to study. These three geographical areas use English as their first language (English is now a compulsory second language in Malaysia education (Malaysia, 2008b)). They also comprise some of the world’s most developed economies and have some of the highest standards of living; the opportunities they offer for further personal development, education, and employment are unmatched anywhere in the world (Rodriguez, 2005).

Most of the SME managers argued that living abroad for a considerable period is one of the most powerful and enduring intellectual experiences. This is confirmed by two of SME managers interviewed: “There is a big difference between those who have lived abroad before and those who just live locally. They are more open, vocal and able to survive, whatever the conditions.”(SME managers from firm I and IV). “I served the government for more than 30 years. I have stayed in more than 10 countries over the last 20 years. After retirement, I opened this business. I have
more than 50 employees now and the firm is expanding. The experience that I had during my years overseas has opened my eyes. I grab all the good ideas that I got in each country to implement in this firm and try to avoid the poor ones.” (SME managing director from firm I)

The region where the SME managers have lived may also influence their ICT awareness. The ideas and concepts that have proved successful in overseas markets are adapted to their own national market (Rodriguez, 2005). Personal contacts made while living abroad may be turned into business contacts or into sources of practical information (Rodriguez, 2005). SME managers may also look for an overseas niche to fill with the product or service that their firms offer. Interestingly, a few managers interviewed have started to send their staff overseas not only to further study, but also for industrial training to bring new perspectives to the business. “I have stayed in both the US and the UK. In the US, I was taught to express my views ‘straight and to the point’, criticising directly and informally; whereas in the UK, people are more courteous in criticising other people’s views and a lot of metaphor is used. I use both ways in my firm. It depends who I am with.” (SME manager from firm VIII).

Figure 5 displays the impact of living overseas on e-commerce adoption. Data shows that SME managers who lived overseas for a period tend to use e-mail and adopt websites little more than those managers who have not lived overseas. However, there is an indication that SME managers who have lived overseas are more likely to buy online than those who have not. This is especially true for SME managers with higher education. More than one half of the SME managers with at least a bachelor degree in this study have lived overseas more than six months in a single period. Most of them (more than 50%) have lived in the United Kingdom or United States.

Figure 6 shows a crosstab analysis between respondents living overseas and website activities used. Data shows that SME managers who lived overseas for a period tend to use complex websites more than those managers who have not lived overseas. Indeed, one manager who had lived overseas claimed that he enjoyed buying and selling through eBay while he was living abroad. “I studied for five years
in the United Kingdom. I am very familiar with eBay and Paypal systems. I have bought and sold online before. It was really convenient. I even made some profit selling on eBay. This was only my personal experience. One day I would like to implement e-commerce in my firm, but of course not now. It may be when e-commerce has matured in the country.” (SME managing director from firm VI)

Figure 6: Respondents with experience of living overseas and website activities

5.3 Discussion

Previous studies argued that the location of an SME has some pattern of association with e-commerce adoption (Hadjimanolis, 1999; Haig, 2002). Haig (2002), for example, argued that SMEs in urban areas tended to have adopted more e-commerce than SMEs that were located in rural areas. Similarly, Hadjimanolis (1999) also found that most SMEs in the remote area were hardly connected to the Internet because they had limited technology infrastructure. This study also found that the locational differences of an SME in Malaysia were very important for e-commerce adoption. The survey revealed SMEs in remote areas seem to adopt e-commerce less than SMEs in urban areas. This is probably because the remote areas were less developed and have less infrastructure. SMEs in this study needed a location with appropriate infrastructure, particularly with high broadband penetration, uninterrupted power supplies, skilled and professional workers, and good transportation systems. This was confirmed during the interviews with the SME managers. This is one of the most important findings of this study. SMEs, particularly in the developing countries such as Malaysia, need not only appropriate infrastructure, but also proper public transportations with an efficient postal system to adopt e-commerce.
Consistent with previous studies (e.g., Goode and Stevens, 2000; Ismail, 2007), this study also found that firms which spend more on IT adopt more complex e-commerce activities than other firms. This finding was also confirmed by Martin and Kambill (1999) who claimed that more investment for technology and knowledge allowed new e-commerce technology to be more assimilated and exploited. Another outcome found in the questionnaire responses was that SMEs without IT specialists had websites and bought online more than those with IT specialists. However, when it comes to having complex websites, SMEs need an IT specialist. This finding is consistent with other studies that claimed that one factor that inhibited SMEs from adopting e-commerce was the absence of IT specialist staff in the firms (Jones et al., 2003; MacGregor and Vrazalic, 2007). Despite this claim, one interesting finding from the interviews was that SMEs which adopt e-commerce asserted that they do not need IT specialists to adopt e-commerce; whereas SMEs which do not adopt e-commerce claimed an absence of IT specialists is one of the biggest impediments. Hence, there were mixed view in terms of having IT specialist in the firm. It may be that those SMEs that adopt e-commerce have IT savvy staff or they only adopt simple websites, whereas those which do not adopt e-commerce may simply give the absence of IT specialist as a reason for not adopting e-commerce.

Studies showed that the experience of managers is important, because it is linked with the resources and capabilities of SMEs, which will influence SME managers to adopt innovation. Nevertheless, according to Rodriguez (2005), not only is SME managers’ experience important, but the experience of SME managers that have lived overseas for more than six months is also an important factor in effective innovation, which is found in this study. This study found that managers who had experienced living overseas, particularly in developed countries, such as the UK and the US, tended to adopt e-commerce more readily than those who had not lived overseas. Indeed, the survey and the interviews revealed that these managers also adopted more complex e-commerce, such as online buying and websites with online payment. This is one of the important attributes found in this study. Living abroad increased the managers’ awareness of e-commerce and exposed them to new ways of thinking. Appropriate e-commerce systems, such as PayPal and eBay, which are popular in the UK and the US, gave the SME managers opportunities to experience buying and selling online. These experiences will open up the managers’ thinking before they are ready to adopt e-commerce in their own country.

While previous studies showed that ethnicity may play a role in the use of IT applications (Flamm and Chaudhuri, 2007; Middleton and Byus, 2011), this study found that there was no pattern of association between ethnicity and e-commerce adoption. The difference between the findings of previous research and that of the present research may be attributed to the difference in the roles of respondents in previous studies and the present research. In previous studies, the minority group was found to be the one lacking IT adoption. While in this study, the minority group, which is usually the Chinese (as Non-Bumiputras), adopted e-commerce as much as the majority group i.e., the Malays (as the Bumiputras). There was no difference in terms of e-commerce adoption among these two ethnicities.
6. Conclusions and Implications

Taking the results of the present study and others on organisational and managerial demographic characteristics, an implication can be drawn. Although some studies found that the effect of SME location and manager’s experience living overseas on e-commerce adoption is very little and in some cases not at all (Chuang et al., 2007), this study found otherwise. The effect of these two factors on the extent of e-commerce adoption in SMEs in this study is remarkable. Hence, it can be said that when e-commerce is applied to a specific area such as SMEs in developing countries, effects of these two factors seem greater compared with other studies. Overall, these factors contribute to the technological diffusion literature, particularly the DOI and TOE frameworks. It highlights the importance of organisational and managerial demographic characteristics on the extent of e-commerce adoption in SMEs in this study. Two contributions found in this study are described below:

- First is with regard to SME demographic characteristics - the location of an SME. Location of an SME is found to be a factor to encourage e-commerce adoption. However, it is not the location per se which matters most, but most importantly the infrastructure in that location. SMEs need a location with appropriate technology infrastructure with high broadband penetration, and also basic infrastructures, such as uninterrupted power supplies, public transportation service and also an efficient postal system. This is one of the most important findings this study.

- Another contribution is regarding managers living abroad. Managers who have lived overseas, particularly in the developed countries tend more readily to adopt e-commerce, such as online buying and websites with online payment. There is scant research conducted on how overseas experience affects the decision of e-commerce adoption in SMEs. This study provides an important contribution.

The above findings have enormous implications for practitioner, academicians, and policymakers. For academicians, the two factors found in this study can be add-ons to the list of influencing factors which can be found in the DOI theoretical framework. Maybe the next study of e-commerce should include these two factors in the more rigorous quantitative analysis part. For practitioners, they should not see e-commerce as just an add-on to the current marketing channel, but rather how to integrate it with their current business to get the maximum out of it. In order to do that, they need to educate themselves and experience selling and buying online before they will be ready to adopt e-commerce. A clear message from this study is that in encouraging SMEs to adopt e-commerce, policymakers should provide the entire necessary platform to undertake e-commerce, such as a good transportation system and ICT infrastructure. SMEs should decide for themselves what the best option is for their business.
7. References


