

Small and Medium Enterprises' Adoption for E-Commerce in Malaysia Tourism State

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Abstract

E-commerce has been extensively capitalized by big companies. However, little is known about the adoption of e-commerce by small and medium enterprises (SMEs). Many might do so to reap the efficiency of the internet to benefit their businesses. Thus, the study aims to investigate factors affecting adoption of e-commerce by SMEs in Melaka. Five dimensions, namely, Perceived Ease of Use, Security, Relative Advantage, Perceived Compatibility, and Top Management Support were drawn from Technology acceptance model and UTAUT. This research had adopted a quantitative research method that utilized questionnaires to collect data from SMEs in Melaka. About ninety-two percent of 219 questionnaires were collected. Results indicated that these dimensions were significant to influence the adoption of e-commerce among SMEs in Melaka. This finding is useful for SMEs and other organizations to understand what factors are important in making decision about adopting e-commerce. We recommend future researches to study on the behavioral aspect of e-commerce decisions and implementations.

Keywords: E-commerce, Technology Adoption, Small And Medium Enterprises, Malaysia.

Introduction

Nowadays, the numbers of small and medium enterprises (SMEs) that are using e-commerce systems are on the rise. It is not only a tool for increasing income, but also an essential means of competition. According to (Pham, 2011), e-commerce has been making significant contributions to reduce costs of doing business, improve product or service quality, increase new customers and suppliers' penetration, and generate new ways or channels for product

distributions. These benefits not only can be achieved by large companies but also in SMEs. E-commerce is fast developing in the world and influencing all industries. This phenomenon has been expanding because of increasing availability of the Internet worldwide (Arshad, 2016).

In today's vibrant economic and business climate, companies must strategise to face challenges from strong and increasing numbers of competitors which are often tough and unpredictable. Thus, regardless of the sizes and scopes of their operations, companies must adapt to the change and innovation in technology and the way of business management. In order to cope with this phenomenon, managers are turning to e-commerce in their respective organizations. Not only big and medium sized companies must change, SMEs need to move fast as well to take advantage of the benefits that e-commerce offer to businesses.

The study was motivated by the limited studies related to e-commerce adoption by SMEs, especially in developing countries like Malaysia. Moreover, many literatures suggest that e-commerce adoptions are related to the nature and paradigms of a business. SMEs in Melaka are mostly family-owned businesses whereby technology such as e-commerce were new to them and needed more guidance by information technology experts or e-commerce providers.

The three main objectives of this paper are: (i) to study the key factors that influence the adoption of e-commerce among SMEs; (ii) to rank these factors in relation to e-commerce adoption among SMEs and (iii) to identify which factors are significant. This paper is structured as follows: introduction, literature review, methodology, results and discussion and finally conclusion sections.

Literature Review

E-Commerce Adoption

The adoption of e-commerce is defined as the use of computer networks which is principally the internet to share the business information, to conduct the business transactions, and to maintain the business relationships (Turban, 2004; Zwass 2003). If a business had achieved an interactive e-commerce status, the business is defined as having adopted e-commerce. Although e-commerce activities also include conducting more complex tasks such as online data gathering and online customer relationship management (CRM), this study looks at the more basic e-commerce activities. This includes having a website, utilizing emails, doing online marketing, conducting online sales, using online payments, and performing online purchases. According to Molla (2005), there are six-phase ecommerce status indicators which are relevant to the e-commerce in developing countries which are no e-commerce, static e-commerce, trans-active e-commerce, connected e-commerce, interactive e-commerce, and integrated e-commerce. Information success factors for e-commerce and such systems are crucial to assist management in making decisions (Arshad, 2015).

Perceived Ease of Use

Perceived ease of use is the degree to which a person believes that using a particular system would be free from physical and mental effort. It has also been defined as a user's subjective perception of the ability of a computer to increase job performance when completing a task (Grandon, 2004). Grandon (2004) found that perceived ease of use is the factors that will affect the e-commerce adoption and this is affirmed by (Saffu, 2012).

H1: Perceived ease of use will positively affect the e-commerce adoption among SMEs.

Security

According to Lip-Sam (2011), security is one of the factors that can influence the adoption of e-commerce in organizations. Security is one of the most addressed issues in implementing trust mechanisms because the main concern about e-commerce is whether it is safe to conduct on-line transactions as to protect businesses from fatal blow to business. To adopt E-commerce information safety, it is essential for the company to have integrity of the entire system (Alam, 2007; Arshad, 2016).

H2: Security will positively affect the e-commerce adoption among SMEs.

Relative Advantage

According to Rogers (1995), he defined that relative advantage as the extent to which an innovation is perceived as better than the idea it supersedes or its nearest alternative. Generally, the advantages were gained from the use of e-commerce in enterprises including the creation of a worldwide client database, worldwide distribution of information, reduced costs, rapid access to information, extension of the market worldwide, and improvement on the customer service. The higher the appreciation of the advantage of e-commerce by management, the more likely they are to adopt and implement e-commerce into their business (Grandon, 2004; Molla, 2005; Alam, 2007).

H3: Relative advantage will positively affect the e-commerce adoption among SMEs.

Perceived Compatibility

Perceived compatibility refers to the degree to which an innovation is perceived as being consistent with existing needs, values, past experiences, and technological infrastructure of potential adopters (Rogers, 1995). (Grandon, 2004) found that compatibility with a firm's culture and values was a statistically significant determinant of e-commerce adoption.

H4: Perceived compatibility will positively affect the e-commerce adoption among SMEs.

Top Management Support

Elahi (2008) suggested a few strategies for successful adoption and implementation of e-commerce technological innovations within organizations that has been often related to the support of top management. The characteristics of top management such as their education, experience, and physiological traits are essential toward adoptions of e-commerce for SMEs. (Elahi, 2008) stated that e-commerce can potentially influence the organization's competitive position as well as its business relationships. Therefore, it is important for the top management to get involved in order to gain a good understanding of the issues surrounding e-commerce and mobilize organizational stakeholders.

H5: Top management support will positively affect the e-commerce adoption among SMEs.

Material and Method

From literature review, this study proposed research model in Figure 1. Five main variables frequently cited in previous researches and theories were selected to be investigated in the context of Melaka small and medium enterprises.

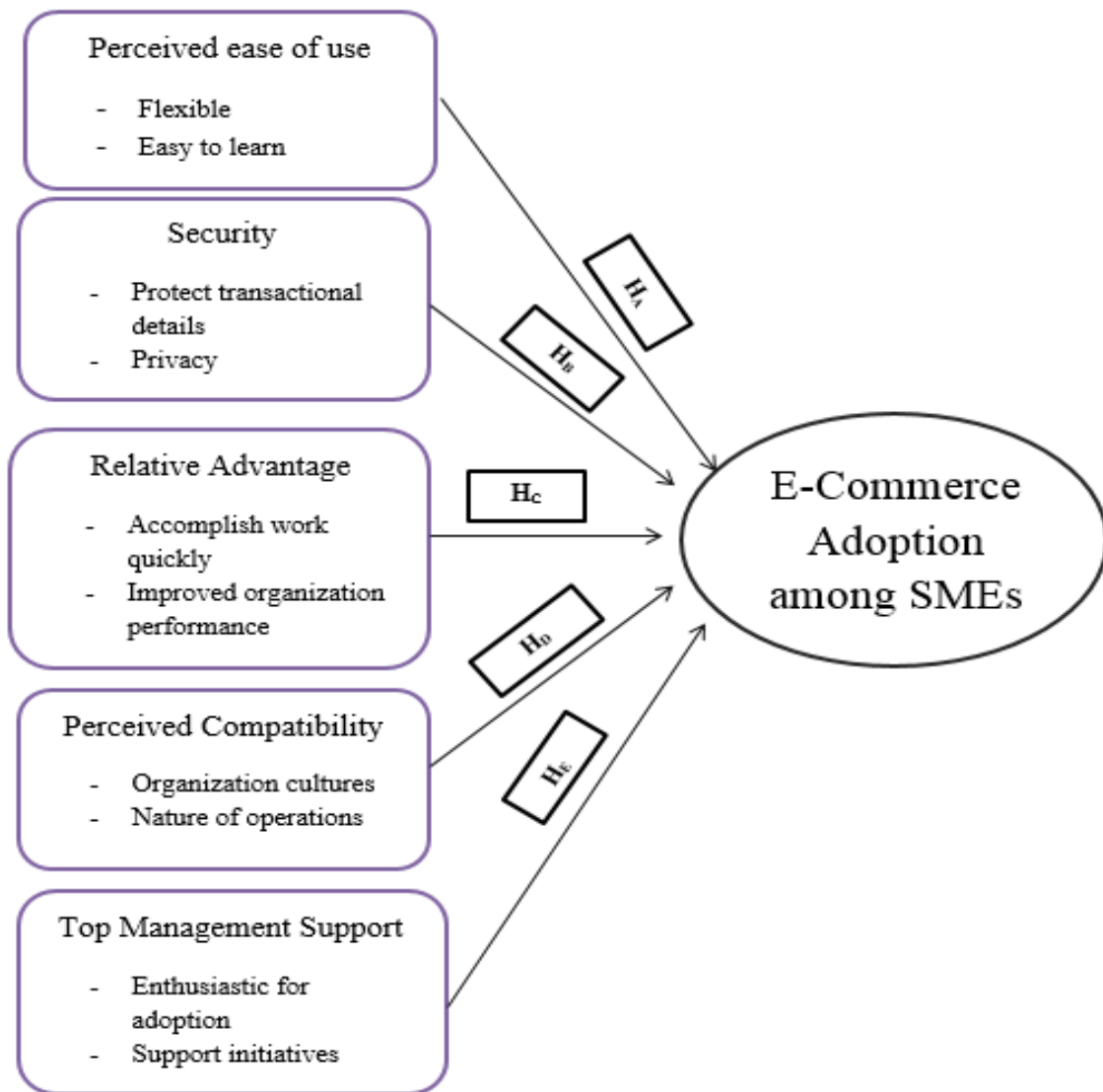


Figure 1: Theoretical framework of E-Commerce Adoption among SMEs in Melaka

This research had adopted a quantitative research method that utilized questionnaires to collect data from respondents which follow previous studies (Arshad, 2015, 2016). Targeted respondents were the SMEs in Melaka which adopted e-commerce. About ninety-two percent of 219 questionnaires were collected.

Result and Discussion

Demographic

Figure 2 illustrates demographic analysis of respondents in terms of types of business. The total numbers of respondents from production sector and service sector business were 88 respondents (44%) and 112 respondents (56%) respectively.

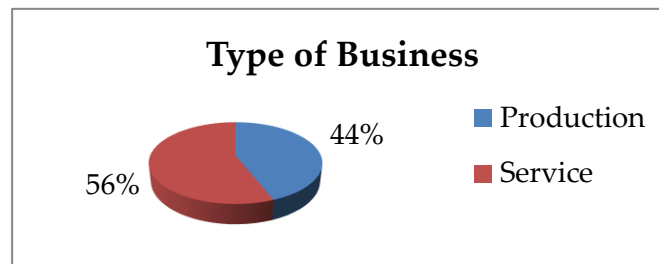


Figure 2: Types of Business

Next, Figure 3 shows how long the respondents have been using E-commerce. Approximately 39.5% or 79 respondents had used e-commerce for a period of less than 2 years and 45.5% or 91 respondents had been using e-commerce between 3 to 5 years. About 15% or 30 respondents had been using using e-commerce between 6 to 10 years.

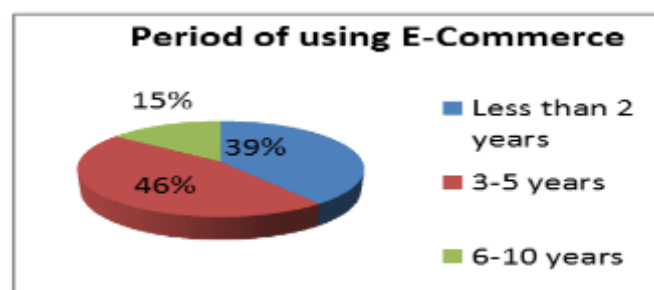


Figure 3: Period of using e-commerce

Research Hypotheses

There were five research hypotheses. Each hypothesis aimed to test on their relationships between each other and whether they strongly influence e-commerce adoption. Analysis and results for each hypothesis are presented in the following paragraphs.

H1: Perceived Ease of Use will positively affect the e-commerce adoption among SMEs.

Table 1

Coefficients of Perceived Ease of Use

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.357	.124		2.874	.004
	Perceived Ease of Use	.881	.031	.894	28.086	.000
R ² : .799						

Table 1 shows that there is a positive relationship between the perceived ease of use and e-commerce adoption factors among SMEs. The positive significant regression coefficient for the perceived ease of use implies that when for every unit increase in perceived ease of use, the possibility of the e-commerce adoption will increase by 0.881 units. Hence, Hypothesis 1 is accepted.

H2: Security will positively affect the e-commerce adoption among SMEs.

Table 2

Coefficients of Security

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.733	.188		3.891	.000
	Security	.808	.049	.760	16.444	.000
R ² : .577						

The p-value in Table 2 suggests that the relation between security and e-commerce adoption is significant. Thus, Hypothesis 2 is accepted.

H3: Relative advantage will positively affect the e-commerce adoption among SMEs.

Table 3

Coefficients of Relative Advantage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.225	.136		1.654	.100
	Relative Advantage	.915	.035	.883	26.523	.000
R ² : .780						

As depicted in Table 3, the R-square is 0.780, showing 78% contribution of relative advantage towards adoption of e-commerce. This relation is significant as indicated by p-value. Thus, Hypothesis 3 is accepted.

H4: Perceived compatibility will positively affect the e-commerce adoption among SMEs.

Table 4 shows that Perceived Compatibility scored are Beta = 0.887 and p = 0.000. As the p-value is less than 0.001, the perceived compatibility is significantly related to e-commerce adoption at 1% significant level. Hence, the hypothesis is accepted.

Table 4

Coefficients of Perceived Compatibility

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.531	.122		4.338	.000
	Perceived Compatibility	.851	.031	.887	27.084	.000
R ² : .787						

H5: Top management support will positively affect the e-commerce adoption among SMEs.

In table 5, the P-Value shows the relationship is significant at 0.000 which indicates that the Top Management Support has significant influence towards the adoption of e-commerce in SMEs. Hence, Hypothesis 5 is accepted.

Table 5

Coefficients of Top Management Support

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.147	.148		.995	.321
	Top Management Support	.916	.037	.871	24.927	.000
R ² : .758						

From Table 6, all of these variables are having high relationship in which all the correlation coefficients are ranged between $\pm 0.71 - \pm 0.90$. Perceived Ease of Use scored the strongest association with the adoption of e-commerce in SMEs at $r = 0.894$, followed by Perceived Compatibility, Relative Advantage, Top Management Support and Security. Perceived Ease of Use also proved to be the most important factor on the determinants of e-commerce adoption among SMEs through the R square value where it contributes 79.9% to the adoption factor.

Table 6

Correlation of Independent Variables and Dependent Variable

Variable	AD	EOU	SE	RA	PC	TMS
AD	1.00					
EOU	.894*	1.00				
SE	.760*	.824*	1.00			
RA	.883*	.915*	.786*	1.00		
PC	.887*	.921*	.759*	.912*	1.00	
TMS	.871*	.911*	.787*	.885*	.902*	1.00

Notes: AD, EOU, SE, RA, PC and TMS denote Adoption of e-commerce, Perceived Ease of Use, Security, Relative Advantage, Perceived Compatibility, and Top Management Support.
*Significance at 0.01 (2-tailed)

The results concur with previous studies on e-commerce adoption. The dimensions of perceived ease of use, security, relative advantage, perceived compatibility, and top management support are important predictors for successful e-commerce adoption in western countries, African, Australasian and Asian (Huy, 2012; Saffu, 2012).

Conclusion

This study intends to investigate the factors that affect the e-commerce adoption among the SMEs in Melaka. Data from the survey were collected and analysed. Correlation, reliability and regression tests were done to analyse the validity and reliability as well as the strength of relationship between the factors and whether hypotheses should be accepted or rejected. The dimensions or independent variables were perceived ease of use, security, relative advantage, perceived compatibility, and top management support. The study finds that all five dimensions are significant in making decision to adopt e-commerce among SMEs in Melaka.

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