

Full Length Research Paper

Determinants of electronic commerce adoption in Malaysian SMEs' furniture industry

Mohd Rizaimy Shaharudin^{1*}, Maznah Wan Omar¹, Shamsul Jamel Elias², Mahazir Ismail¹,
Siti Meriam Ali¹ and Mohd Ikhmal Fadzil¹

¹Faculty of Business Management, Universiti Teknologi MARA, P. O. Box 187, 08400 Merbok, Kedah, Malaysia.

²Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA, P. O. Box 187, 08400 Merbok, Kedah, Malaysia.

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This paper aims to identify the determinants towards the adoption of e-commerce adoption particularly in Malaysia's SMEs furniture industry. The scope of study in SMEs furniture industry can be considered as significant and appropriate in view of its establishments with significant effect to the overall Malaysian economy. The finding of the study indicated that adoption factors such as organizational readiness, external pressure, perceived ease of use and perceived benefit are positively related to e-commerce adoption. The result was found consistent with the outcome from previous studies in similar area. Hence, such generalization from the result of the study particularly in Malaysia SMEs can be considered as appropriate and relevant in view of the present competitive market environment that demands a better way of managing business as compared to the traditional means. Future research should take into considerations on other determinants towards the adoption of e-commerce among SMEs in Malaysia. For examples, top management support, presence of information technology (IT) skills, availability of consultancy, prioritization of e-commerce to the enterprise, perceived risk, enthusiasm of top management and compatibility with the work of the company.

Key words: E-commerce, organizational readiness, external pressure, perceived ease of use, perceived benefit.

INTRODUCTION

In delivering products and services to the customers, companies should have a strong channel of distribution so that they will be able to disperse widely their business in the local and international market. Thus, it is suggested that the company should implement on the usage of e-commerce (e-commerce) as a way to increase the number of distribution channels. Ideally, the more channels, the better, as the businesses are serving bigger markets in a wider geographical coverage. In recent years, small and large businesses are increasingly utilizing the multichannel distribution systems which can offer more advantages to face the challenging markets

(Kotler and Armstrong, 2010).

E-commerce has been defined in several ways. According to Grandon and Pearson (2004), e-commerce can be defined as the process of buying and selling products or services using electronic data transmission via the internet and the World Wide Web (www). E-commerce basically gives many benefits to the seller and buyers. By enhancing the credibility of the companies, e-commerce adoption helps businesses to keep abreast of industry the trends and ensuring that they are not left behind.

Firms may receive many benefits by adopting the business operations through the e-commerce. Instead of wide distribution, e-commerce basically helps a company to compete well and gain a competitive advantage. E-commerce is a significant way in competing in the marketplace. A study by Jacobs and Dowsland (2000)

*Corresponding author. E-mail: rizaimy@kedah.uitm.edu.my.
Tel: +604-4562162. Fax: +604-4562234.

indicated that small and medium enterprises are encouraged to adopt e-commerce as it helps them to compete with each other while Campbell (2000), Daniel and Myers (2000) described that e-commerce adoption helps to compete with the large companies. The latest trend of channel disintermediation through e-commerce helps the businesses to cut out the traditional intermediaries and sell directly to the final buyers (Kotler and Armstrong, 2010).

As small and medium enterprises (SMEs) are playing an important role in the country's economy development, the adoption of e-commerce is considered to be necessary. It does not only give the opportunity for SMEs to compete in the scope of local market, but also in the international scale. In addition, it helps the company to be closer to the customers as both parties can communicate via internet at anytime and anywhere. E-commerce also alleviates the level of services by conducting business operations in an efficient way which eventually could enhance the supplier-buyer relationships. The effects of the successful internet implementation especially to the small businesses with lack of wealth are enormous and essential (Chong et al., 2001).

However, SMEs in Malaysia are not really interested enough in the adoption of e-commerce and web-based technology. In a study by Zakaria and Hashim (2003), revealed that about only 15% of the Malaysian SMEs are utilizing the internet as a tool to expedite their business operations, which is still low in adoption quantity. This is further supported by Alam (2009) who indicated that SMEs in Malaysia is relatively slow in web adoption, where only 20% out of 600,000 SMEs in Malaysia were applying information technology in their daily operations. Additionally, there is a lack of similar study conducted to the SMEs as most of the studies in the past were focusing on larger companies (Daniel and Wilson, 2002). Thus, this study is deemed appropriate in identifying the determinants towards the e-commerce adoption particularly in Malaysia's SMEs furniture industry. Although the existence of the furniture industry in Malaysia is only within the scope of SMEs but the effect is enormous to the overall economy of the country. Hence, the selected area of study can be considered as significant and appropriate in view of its contribution to the industry and nation as well.

Definition of SMEs

SMEs lead to the creation of employment and also overall economic growth of a country. According to Mira (2006), SMEs plays an important role in the global economy. Temtime and Pansiri (2006) described that SMEs are creating job opportunities for the people. It will also lead to income generation and distribution. This is supported by Thurik and Wenneters (2004) who discovered that SMEs are acting as a foundation for

entrepreneurs and employment. In addition, SMEs are promoting for the economic and social development (Mutula and Brakel, 2006).

Mutula and Brakel (2006) described that there is no specific meaning of small and medium enterprise (SME) that has been accepted universally. Although every country has SMEs, each country has defined SMEs differently. They further elaborated that there are various terms of definition and one of the examples is the definition by the Organisation for Economic Cooperation and Development (OECD, 2005) which defined SMEs as enterprises that have not more than 250 employees. While, according to Gordon (2003), the South African Act has defined SMEs as having up to 100 to 200 employees or a turnover of five million Rand (US\$833,000). SMEs have a maximum of 300 employees in Vietnam while it has a maximum of 500 employees in Germany. In Belgium, SMEs have a maximum of 100 employees (Pham et al., 2011).

In Malaysia, the definition of SMEs is based on two criteria which is the number of employees and the sales turnover. These criteria also have been used to define SMEs in other countries such as the UK, USA, Japan, China, and Korea (Abdullah, 2010).

According to Bank Negara Malaysia in its official website, SMEs is an enterprise with full time employees not exceeding 150 or with annual sales turnover not exceeding RM 25 million. SMEs are an important sector in our economy.

Furthermore, SME association in their official website declared that SMEs represent around 99.2% of total business establishments in Malaysia and provide employment for about 56% of the total workforce. This is an important source of growth for the nation. In addition, SMEs are nurturing Malaysia economic development especially in the manufacturing sectors (Ramayah and Koay, 2002) that are expected to play a major role to transform Malaysia into the high-income economy in the future.

Malaysian furniture industry

Furniture industry in Malaysia contributes about RM4 billion (20%) from RM20.52 billion of Malaysia wood (including wood product) export (Bernama, 2011). Exports of wooden furniture are destined to 5 major countries such as United States, Japan, Australia, United Kingdom and United Arab Emirates (MTC, 2011). In the year 2009, the industry has contributed about 10.3% with export value of RM2.9 billion from the overall Malaysian manufacturing export.

According to Malaysian Timber Industry Board (MTIB), 70% of the plants are operating in small scale, penetrating the domestic market; whereas the remaining 30% are medium to large scale focusing more on export market (MTIB, 1995).

LITERATURE REVIEW

E-commerce adoption

E-commerce is becoming an important factor in developing business locally or globally. This is because the adoption of information technology is on the increasing trend and consequently leads to numerous changes in business activities. According to Turban et al. (2002), as the internet has been commercialized, people are becoming more responsive towards it and thus, lead to the existence of the term EC (E-commerce).

Kaynak et al. (2005) stated that there are various definitions of e-commerce. According to Baker and McKenzie (2001), world trade organization (WTO) defined EC as "the production, distribution, marketing, sale or delivery of goods and services by electronic means". Schulze and Baumgartner (2001) suggested slightly different definition from the E-commerce Team of European Union as specifically buying and selling products or services over the internet.

Kalkota and Whinston (1997) have defined e-commerce in several perspectives. In term of communication, e-commerce can be defined as the delivery of information, products or services, or payments through the telephone links or computer networks. Furthermore, e-commerce is referred to the application of technology in the automation of the transactions and workflows of the business in the perspective of business strategy whereas in service, it works as a tool to cut the services cost, improving the quality of goods and increasing the speed of distribution. In terms of online marketing perspective, e-commerce is applicable and not limited to the buying or selling products via the internet but also workable for other methods of online services transaction as well.

In addition, Lawson et al. (2003) described that e-commerce offers a range of services and opportunities for electronic trading in the international marketplace. The use of information technology does help business organizations to improve their overall business process and enhance the communication effectiveness with their trading partners. According to Premkumar and Roberts (1999), the use of computers and modern communication technologies can lead into significant changes of work practices of business which are compatible with its values and belief systems to ensure that the owner would adopt the new technologies.

Organizational readiness

According to Chong et al. (2009), the organizational readiness measures whether the organizations attributes are sufficient enough in adopting the e-commerce. They suggested that top management support is the most important factor to determine whether the company is ready to adopt the e-commerce. Beatty et al. (2001)

described that top managements support also refers to the commitment of the top management support to the technology in all level of the organization.

Furthermore, based on the outcome of study by Mirchandani and Mowarni (2001), the support from top management is essential and can be clearly differentiated between the adopters and non-adopters of e-commerce. In addition, Ives and Olsen (1984) in their studies found that top management support is good for the success of the new IT adoption.

Mehrtens et al. (2001) defined organizational readiness as the level of internet knowledge among non-IT professionals, rather than IT professional. According to them, organization should be more prepared with better and knowledgeable of non-IT managers about the internet. In addition, organizational readiness also includes the adequate computer system infrastructure within the firm to access and browse the Internet without any problems. In this case, the firm should be ready with an appropriate hardware and software for successful adoption of the e-commerce. With adequate number of infrastructure, the adoption and utilization of web is higher without further need for more investment in the computer systems.

In order to adopt new technologies, the existing infrastructure should be compatible with the new technology. According to Beatty et al. (2001), the existing infrastructure is important to the firm's adoption decision. The adoption may fail if the existing infrastructure does not match to the new innovation. Frambach (1993) stated in his study that technical compatibility is an important factor for internet adoption that will lead to the utilization of e-commerce. This is supported by Alam (2009) who in his study surfaced that the technical compatibility affected positively to the adoption of e-commerce among SMEs in Malaysia. Similarly, Tornazky and Klein (1982), Grandon and Pearson (2004) discovered that the technical compatibility has a positive effect on the e-commerce adoption.

Besides, organizational readiness also consists of organizational resources such as financial resources. According to Nelson and Shaw (2003), financial feasibility affected the rate of e-commerce adoption. Based on a study by Kuan and Chau (2000), organizational readiness is referred to the level of financial and technological resources that companies acquire. They stated that financial resources are the level of the available funds which are used to finance the installation, enhancement and ongoing expenses during the usage of the e-commerce. While technological resources are the level of the sophistication of IT usage and IT management in the organization.

In terms of the rate of adoption, small firms are likely to adopt e-commerce when they are in higher level of organizational resources (Kuan and Chau, 2000). On the other hand, according to Mehrterns et al. (2001), those organizations with high level of information technology tend to adopt e-commerce much faster in their business systems. More organizations are willing to adopt

e-commerce as long as it is consistent with the current work practices (Beatty et al., 2001).

External pressure

Merthens et al. (2001) defines external pressure as the pressure receive from existing internet users, especially customers, suppliers and potential employees who expect the company to be an internet user and wanted them to communicate electronically. According to them, firms are being influence by pressure from the internet users outside the firm who want to communicate with the firm via the internet. Thus, a firm will basically respond to the pressure by the internet users. According to them, internet users basically include customers, competitors and trading partners.

Grandon and Pearson (2004) found that small businesses are more affected by customer pressure since they are basically dependent on the customers to survive in the industry. They suggested in their study that the company which is able to create electronic links with their supplier can reduce their operations cost and become more competitive in the marketplace. Furthermore, they discovered that competition in the industry forced the companies to adopt internet in their business operations. For example, many companies have adopted EDI in their business to improve their inter-organizational transactions when the sales volumes are mounting. Similarly, according to Farhoomand and Drury (1997), pressure from the internal organization and external environment are the factors that encourage the adoption of technology. Klein (1998) and McCollum (1997), both also have agreed that actions from competitors have become a pressure for firms to adopt the e-commerce.

Competitive environments have strong influence on the adoption of a technology. There are several examples of companies in the U.S that adopted the internet because of the pressure from their rivalry (Dholakia and Kshetri, 2004). SMEs in developing countries are adopting e-commerce due to high pressure from their suppliers and customers (Dholakia and Kshetri, 2004). Furthermore, Chong et al. (2009) stated that a company decision to adopt e-commerce technologies might be forced by the competitive pressure and the anticipation of the market trends.

Kuan and Chau (2000) in their study defined external pressure as the influences from the external business environment which consists of two dimensions known as competitive pressure and the imposition by trading partner. Competitive pressure can be defined as the level of e-commerce capability in the firm industry as compared to its rivals; while the imposition of trading partners referred to the power of the chosen trading partner which has already adopt the e-commerce. A firm may feel pressure when it sees that large number of

competitors in the industry are adopting e-commerce and thus forcing it to adopt in order to remain competitive in the market place. Besides that, pressure also might come from the government policies that make adoption of e-commerce compulsory when it comes to the procuring of the government contracts.

Additionally, Mehrtens et al. (2001) revealed that firms are influenced to adopt e-commerce because they received more pressure from the internet user who demanded for a communication via the internet. Moreover, Allan et al. (2003) stressed that environmental factors such as competitive pressures provide a significant relationship with the e-commerce adoption. This is supported by Ghosh (1998) who mentioned in his study that several companies in United States have adopted e-commerce because of competitive pressure that they are facing in the market place.

Perceived ease of use (complexity)

Beatty et al. (2001) defined complexity as a degree of difficulty in the understanding of an innovation. Rogers (2003) defined complexity as the degree of difficulty associated with the understanding and learning about how to use an innovation. The introduction of new technology might require the employees to develop new skills in order to use the technologies. However, the introduction of technology can be intimidating particularly if it requires them to change their existing businesses practices or acquire new skills (Beatty et al., 2001). The measurement of perceived ease of use can be in a context of how IT: can be easily controlled, flawless, reasonable, adaptable to changes, user friendly and easy to become skillful (Davis, 1989).

Based on a study by Robertson and Gatignon (1986), companies are less likely to adopt innovation or technology if they need to acquire a high level of skill employees. This is because skillful workers are higher in terms of pay, causing an additional burden to the companies. Grandon and Pearson (2004) found that perceive ease of use is an important factors in the adoption of e-commerce. However, in a study by Husnayati et al. (2008), complexity was found not significantly related to the adoption of e-commerce amongst Malaysian manufacturing SMEs. This occurred because the sample of study has already involved largely with the internet applications. Hence, they did not perceive the implementation of e-commerce as a barrier due to the experience and familiarity of working with the systems.

Perceived benefits

According to Davis (1989), perceived benefit can be defined as "the degree to which a person believes that

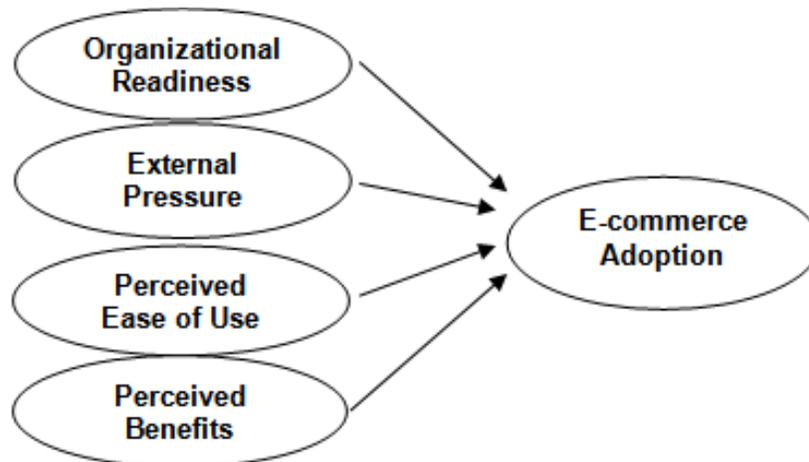


Figure 1. Proposed theoretical framework.

using a particular system would enhance his or her job performance". Mertherns et al. (2001) in their study found that perceived benefit is the efficiency benefits from the relative advantage of the internet over the traditional methods used before such as telephone, fax, and post in communicating with their customers and others. They further elaborated perceived benefits as often cheap and one of the ways for the employee to gather information about the competitors, government regulations, products and supplier stock level in an effective way. In addition, perceived benefits of electronic business by organization include direct benefits and indirect benefits and those benefits can impact the business processes.

Kuan and Chau (2000) defined perceived benefits as "the level of recognition of relative advantage that technology could provide to the organization". They mentioned that perceived benefit can be divided into two dimensions which is direct and indirect benefits. Here, the direct benefit is referred to the operational savings which are related to the internal efficiency of the organization. While, the indirect benefits refers to the tactical and competitive advantage which affect the business processes and relationship of the business such as organization images, improving competitive advantage, improving customer services and improving relationship with their business partners.

Alam (2009) in his study stated that companies would receive benefits as they adopt and utilize the web. Beatty et al. (2001) in their study found that the adoption and utilization of web-based is basically influenced by the benefits that they receive, such as reduced transaction costs, improved cash flow, increased productivity, better customer service, competitiveness, reaching new customers, better relationship with existing customers and improved operational efficiency. Additionally, e-commerce also offers many potential benefits and those who are quick to adopt the innovation are believe to benefit more than the late adopters.

Furthermore, Dembla et al. (2007) in their study discovered that perceived benefits are positively related to the adoption of e-commerce among small businesses. Grandon and Pearson (2004), Rogers (1991) and Fink (1998) shared the same opinion when they found that perceived benefits were strong determinant in the e-commerce adoption.

From the review of literature, Figure 1 depicts the proposed theoretical framework of the study.

Justification in the selection of the study predictors toward the e-commerce adoption

Past literatures at large, have mentioned variations and similarities between one study and another on the e-commerce adoption models. Table 1 shows the summary from the past review of literatures. However, for the sake of this study, only the identical dominant determinants from the past research have been selected as the main variables for further investigation. This is due to the fact that there is a lack of similar study being conducted specifically to the SMEs in furniture industry in Malaysia. Grandon and Person (2004) mentioned that so far the research investigating on the adoption of ecommerce by the SMEs is still small in number and insufficient. By choosing the most researchable determinants from the past studies, it is expected that the result could be more precise in representing the predictors to the SMEs in the furniture industry. Hence, as illustrated in the Table 1, four identified predictors from the past research were organizational readiness, external pressure, perceived ease of use and perceived benefit.

From Table 1, it is clearly seen that the selected four predictors were found to be dominant in the research model from the fourteen studies identified and reviewed. Based on the frequency, perceived benefit was being utilized the most (12 times) and followed by

Table 1. Previous study of e-commerce adoption models.

No	Author	Determinants with significant results	The study predictor 1: Organizational readiness	The study predictor 2: External pressure	The study predictor 3: Perceived ease of use	The study predictor 4: Perceived benefit
1.	Iacovou et al. (1995)	External pressure, perceived benefits and organizational readiness	✓	✓		✓
2.	Chwelos et al. (2001)	Readiness, external pressure and perceived benefits	✓	✓		✓
3.	Grandon and Pearson (2004)	Organizational readiness, external pressure, perceived ease of use and perceived usefulness	✓	✓	✓	✓
4.	Sutanonpaiboon and Pearson (2006)	Entrepreneurships, environment, e-commerce ease of use, usefulness for customers and organizational readiness	✓		✓	✓
5.	Wilson et al. (2008)	Top management support, management understanding of business benefits, presence of IT skills, availability of consultancy, prioritization of e-commerce to the enterprise, perceived risk, and customer demand	✓			✓
6.	Mirchandani and Motwani (2001)	Enthusiasm of top management, compatibility with the work of the company, perceived relative advantage and the employees' knowledge about computer				✓
7.	Poon and Swatman (1997)	Communication medium, management enthusiasm, perceived benefits, industry and product specificity, internet-to-internal systems integration, apply entrepreneurship to internet use				✓
8.	Alam (2009)	Manager characteristics, perceived benefits, organizational structure / readiness, technical competency and cost of adoption	✓			✓

Table 1. Contd.

9.	Kuan and Chau (2000), Mehrtens et al. (2001)	Perceived benefits, organizational readiness and external pressure	✓	✓	✓
10.	Farhoomand and Drury (1997)	External pressure		✓	
11.	Hoppe et al. (2001)	Relative advantage, compatibility, experience, usage, complexity, trialability, perceived risk, subjective norms, self-efficacy, technological support, government support			✓
12.	Beatty et al. (2001)	Perceived benefit and technical compatibility			✓
13.	Cook and Hunsaker (2001)	Organizational cultures/readiness	✓		
14.	Alam et al. (2011)	Relative advantage, compatibility, ease of use, image, security			✓

organizational readiness (8 times), external pressure (5 times) and perceived ease of use (4 times). Nevertheless, the study is not intended to leverage the predictors based on their weightage from the past outcome of the study. It is used merely to represent determinants that could potentially influence the adoption of e-commerce by Malaysian SMEs' furniture industry.

RESEARCH METHODOLOGY

Hypothesis development

Given the preceding discussion, the following hypotheses are proposed:

- H1: There is no significant relationship between organizational readiness and adoption of e-commerce.
- H2: There is no significant relationship between external pressure and adoption of e-commerce.

- H3: There is no significant relationship between perceived ease of use and adoption of e-commerce.
- H4: There is no significant relationship between perceived benefits and adoption of e-commerce.

Research design

This research is a quantitative research where sources of information are gathered from questionnaires. Surveys that collect quantitative data can be easier to complete for the sample, due to the basic layout which enables participants to answer the questionnaire quickly, as the responses require only a tick or a numerical response as opposed to a written response. The instrument utilized was through the self-administered questionnaire containing closed ended and scales to matrix questions. This study is a descriptive study which is interested in describing the characteristics of a population or phenomenon. This study also made use of hypotheses testing to determine the influence of the four factors (perceived benefits, organizational readiness, external pressure and ease of usage) towards the adoption of e-commerce adoption in SMEs furniture industry in

Malaysia. Pre-Testing of the questionnaire was made during the pilot study.

The type of sampling is probability sampling. Data collected were based on stratified sampling focused only to the SMEs in the furniture industry. The total population of 545 companies was based from the number of companies currently being registered in the furniture industry as published in the SME Info website. The targeted subject for this study consists of Chief Executive Officer, General Manager and Sales/Marketing Manager. A sample size of 345 respondents was chosen to be the subject of the study. The sample size fits the rule of thumb as proposed by Roscoe (1975), for which sample sizes larger than 30 and less than 500 are appropriate for most research.

Data analysis method

For the purpose of this study, the researcher used the statistical software package for social sciences (SPSS) version 17 to compute all the data gathered from the questionnaire. The techniques of analysis used in this study were descriptive (mean, standard deviation) and

inferential analysis (regression) to sum up the data collected. The survey questionnaire was structured into five separate areas. This structure was established so that the profile of the respondents' were reviewed, along with the respondents' perceived benefits, organizational readiness, external pressure, ease of usage and e-commerce adoption as a result of the overall perceptions.

In order to help describe the sample characteristics in the data analysis report, demographic data such as type of business, year in business, number of employees, capital investment and monthly sales amount are included in the questionnaire. These data are structured in a range of response option, rather than seeking exact figures. Subsequently, all the study variable scales are measured using Likert scale rated varying from 1 to 5 (highly disagree to highly agree). The questionnaires were divided into three sections. The first section is the measurement of general information of the SMEs. The second section is the measurement of the dependent variable, e-commerce adoption with five measurements that address their perception on the strategic value of the e-commerce. The third sections presented respondents with four independent variables with perceived benefits (6 measurements), organizational readiness (6 measurements), external pressure (6 measurements), and ease of usage (5 measurements). The questionnaires have been adapted from the previous research by Grandon and Pearson (2004).

The questionnaires were self-administered mail and personal-administered through interviews directly with the medium to high ranking employees in the SME. All the returned questionnaires were used and analyzed. The data was statistically analyzed using the statistical package for social sciences (SPSS) version 17. Appropriate analysis was undertaken by using the statistical packages and features available in the SPSS software to obtain the desired result. Some data were even represented graphically for better understanding on the research data and result. The descriptive statistics, frequency analysis, factor analysis, reliability test, and multiple regressions were used to sum up the data collected.

RESULTS

Here, we present the findings of this study. The data are interpreted using the mean, factor analysis and regression methods of SPSS.

Pilot study

There was no improvement required to the questionnaires as the respondents' feedbacks were satisfactory and appropriate.

Response rate

In this study, 98 responses were received from 345 questionnaires distributed. According to Hussey and Hussey (1997), for mail distribution method, in order to avoid sample bias, response rate should be more than 10%. In this relation, the response rate for this study of 28.4% means that the sample bias was avoided and the responses received represent the population adequately and appropriately.

Demographic profile

The result of the demographic profile shows the study is focused on companies in furniture industry (100%) with year in business from 5 to 8 years (51%), number of employees between 5 to 50 people (68.4%) and annual sales turnover of less than RM250,000 (57.1%). Besides that, out of 98 respondents, 64.3% have less than 10 units of office PC, 66.3% have connection to the internet access, 75.5% are without the company's own website and 75.5% are not utilizing e-commerce in their business operations. The details of the information are shown in Table 2.

Descriptive analysis

The findings obtained from the questionnaire have been evaluated according to mean (\bar{X}) and standard deviation (S.D) in order to determine the respondents' score level of determinants towards the adoption of e-commerce. From a five-point scale, the study has taken a position that any score of 3.00 and above indicates that the respondents perceived the predictors as a fair to good. On the other hand, the result indicates low perceptions of predictors if the mean value falls below 3.0.

In Table 3, the mean and S.D. values of the respondents' opinions about the four predictors are seen. The results show that the ranges of the mean values vary between 3.72 and 4.41 and the mean of these values (overall mean) is 4.09. It can be translated as; in overall the respondents agreed that all predictors (organizational readiness, external pressure, perceived ease of use, perceived benefits) are essential towards the adoption of e-commerce.

Validity tests

Based on KMO measure of sampling adequacy test in Table 4, it was found that the factor analysis data was appropriate with the value of 0.770, which falls between the ranges of being great and appropriate. KMO should be 0.60 or higher in order to proceed with factor analysis (Tabachnick and Fidell, 2001). These rates reveal that the questionnaire form is valid (Hoxley, 2000; Mitchell, 1994). Bartlett's test was utilized with the result which indicates a highly significant result with $p = 0.000$ ($p < 0.05$) and therefore factor analysis is appropriate and accepted.

Factor analysis is a data reduction technique used to reduce a large number of variables to a smaller set of underlying factors that summarize the essential information contained in the variables (Coakes and Steed, 2007). The principal-components analysis was performed on all the variables to confirm that concepts have been correctly measured with the right variables loading on each factor.

Factor analysis with a varimax rotation procedure was

Table 2. Demographic information of respondents (N = 98).

Variable		Frequency	Percentage
Industry	Furniture	98	100
	Less than a year	10	10.2
Year in business	1-4	20	20.4
	5-8	50	51.0
	9-11	12	12.2
	> 12	6	6.2
Total		98	100
No. of employees	Less than 5	12	12.2
	5-50	67	68.4
	51-99	10	10.2
	100-150	9	9.2
Total		98	100
Annual sales turnover	< RM250,000	56	57.1
	> RM250,000 < RM10m	28	28.6
	> RM10m < RM25m	14	14.3
Total		98	100
No. of personal computer (PC)	< 10	63	64.3
	> 10 < 20	20	20.4
	> 20 < 30	12	12.2
	> 30	3	3.1
Total		98	100
Access to internet	Yes	65	66.3
	No	33	33.7
Total		98	100
Website availability	Yes	24	24.5
	No	74	75.5
Total		98	100
Utilization of e-commerce	Yes	24	24.5
	No	74	75.5
Total		98	100

Table 3. The distribution of the respondents' opinions about perceptions of quality.

	Items	Mean	S.D.
V1	Organizational readiness	4.41	1.1
V2	External pressure	4.01	1.0
V3	Perceived ease of use	3.72	0.9
V4	Perceived benefits	4.21	0.9
	Total	4.09	0.9

employed to identify underlying dimensions of product quality. In Table 5, the load values of the factors are shown. This study has utilized both exploratory and

confirmatory factor analyses. Exploratory factor analysis attempts to determine the number of factors, while confirmatory factor analysis attempts to test how well the

Table 4. Factor analysis result.

KMO and Bartlett's test	Result
Kaiser-Meyer-Olkin measure of sampling adequacy	0.770
Bartlett's test of sphericity (sig.)	0.000

Table 5. Principal component loading matrix for importance variables.

Items	Component			
	F1	F2	F3	F4
A1 Reap operational benefits	0.915			
A2 Improve distribution channels	0.912			
A3 Reduce cost of business operations	0.858			
A4 Improve customer services	0.799			
A5 Provide effective support role operations	0.611			
A6 Top management is enthusiastic about the adoption of e-commerce		0.751		
A7 Technological resources to adopt e-commerce.		0.748		
A8 The financial resources to adopt e-commerce		0.704		
B1 Support cooperative partnerships in the industry		0.613		
B2 Help make decisions for managers		0.588		
B3 Provide information for strategic decision		0.542		
B4 Provide managers access to methods and models area decisions			0.723	
B5 Support strategic decisions of managers			0.594	
B6 E-commerce consistent with the existing technology infrastructure			0.520	
B7 Perceives that e-commerce is consistent with values			0.503	
B8 Increase ability to compete				0.569
C1 Provide managers better access to information				0.558
C2 Improve productivity of managers				0.540
C3 Support linkages with suppliers				0.514
Percentage variance explained	14.2	12.5	8.7	7.2
Percentage cumulative variance explained	14.2	26.8	35.6	42.8

measured variables represent the number of constructs. From the result of exploratory factor analysis, all four factors can be accepted for the rotation component matrix. In confirmatory factor, being 0.50 or a higher of the factor load value is a good criterion for selection. Items with the result of less than 0.50 were omitted and disregarded from being analyzed. This reduction is possible because the attributes are related and the rating given to any one attribute is partially the result of the influence of other attributes.

From the result of the factor analyzing, it can be seen that the eigenvalues of the scale factors are varied between 7.2 and 14.2% and four factors have explained 42.8% of the total variance. The factors are: the first factor consisting of five items is "organizational readiness"; the second factor consisting of six items is "external pressure"; the third factor consisting of four items is "perceived ease of use"; and the fourth factor

consisted of four items is "perceived benefits".

Reliability tests

Cronbach's alpha coefficients has been utilized to measure the reliabilities and internal consistencies of the scales used. According to Cronbach (2004), when measuring the difference, it is appropriate to undertake Cronbach's alpha tests on the reliability and internal consistency of the scale. Cronbach's alpha can be interpreted as a correlation coefficient, it ranges in value from 0 to 1 (Coakes and Steed, 2007). From the reliability analysis in Table 6, all factors were found to be good reliability with all the Cronbach's alpha results above 0.6. The result of reliabilities that are under 0.6 is considered to be poor, while in the range of 0.7 the result can be acceptable and if the result show range between 0.8, it is

Table 6. Reliability tests result.

No.	Variable	Cronbach's alpha result	Result
1.	Organizational readiness	0.901	Good scale
2.	External pressure	0.737	Good scale
3.	Perceived ease of use	0.910	Good scale
4.	Perceived benefit	0.609	Good scale
5.	E-commerce adoption	0.703	Good scale

Table 7. Adjusted R-square and Durbin-Watson test.

Test	Result
R-Square	0.483
Adjusted R-Square	0.465
Durbin Watson	1.418

Table 8. ANOVA test.

Test	F	Significant
ANOVA	37.430	0.000

considered as a good result (Sekaran, 2003).

Regression analysis

Multiple regression analysis was applied to identify which independent variable (from the four identified predictors) is significant to predict the outcome of the dependent variable – e-commerce adoption. This is essential as the result of regression is an equation that represents the best prediction of dependent variable from several independent variables.

In order to assess the model, the adjusted R-Square test was utilized to determine the proportion of mean variance of the dependent variable that is explained by the independent variables. Table 7 shows the adjusted R-Square and Durbin-Watson test. Adjusted R-Square test result of 0.465 shows an acceptable medium predictive power of independent variables on the dependent variable. The auto-correlation with residuals Durbin-Watson test results of 1.418 indicated sign of no autocorrelation is almost present. This is due to the fact that an ideal result suggested for Durbin-Watson is close to 2 (Öztürk, 2005); nonetheless, it is sufficient for the statistic that falls between 1 and 3 to implicate significant difference which exists between the dependent and independent variables (no autocorrelation).

Furthermore, as shows in Table 8, the result of coefficients show that all factors have significant influence ($p < 0.05$) towards e-commerce adoption with

high beta of 0.612, 0.222, 0.182 and 0.172, respectively. The suggested VIF value of less than 10 for all variables with high tolerance levels (above 70%) show that the problem of multi-collinearity has not existed and all data are mutually exclusive (Hair et al., 2010).

As for the interpretation, the test indicates that organizational readiness, external pressure, perceived ease of use and perceived benefit have significant influence towards the e-commerce adoption of SMEs in the furniture industry. By examining the t statistic for all the independent variables, it has apparently confirmed that these variables have significant relationship due to strong significant level ($p < 0.05$) with e-commerce adoption. Hence, it is likely to state that the hypothesis for H1, H2, H3 and H4 are inappropriate and can be rejected.

In measuring the relative importance among the predictors, the results in Table 9 shows organizational readiness is the highest ranking with beta of 0.612, followed the second by external pressure with beta of 0.222, third ranking by perceived ease of use with beta of 0.182 and lastly by perceived benefit with beta of 0.172.

DISCUSSION

The objectives of this research are to examine whether there is a significant influence between independent variables (organizational readiness, external pressure,

Table 9. Result of coefficients.

Variable	Standardized coefficients			Collinearity statistics	
	Beta	t	Sig.	Tolerance	VIF
Organizational readiness	0.612	10.774	0.000	0.725	1.370
External pressure	0.222	3.908	0.000	0.990	1.009
Perceived ease of use	0.182	3.129	0.003	0.839	1.209
Perceived benefit	0.172	3.033	0.003	0.813	1.358

perceived ease of use, and perceived benefits) towards the dependent variable (e-commerce adoption). The result shows that adoption factors such as organizational readiness, external pressure, perceived ease of use and perceived benefit are positively related to e-commerce adoption. The findings have made a contribution in terms of creating an understanding of what influence the adoption of e-commerce by SMEs in furniture industry in Malaysia.

Since the results are consistent with the previous research outcome, the findings can be generalized not only to the SMEs in the furniture industry but also to SMEs in other field as well. For example of similar study in Malaysia by Alam (2009) to 272 companies in manufacturing sector and 96 service oriented SME companies in Klang Valley, Malaysia which discovered that organization culture (including its readiness) and perceived benefit have significantly influenced the internet adoption. However, another study conducted by Alam et al. (2011) found that perceived benefit was insignificant effect on ICT adoption intention among SMEs in Malaysia. This happened due to the fact that most of the respondents were inexperienced with the ICT; therefore, they could not see any underlying benefits behind the ICT adoption in their organizations.

In addition, the result of this study is supported by Husnayati et al. (2008) who have carried out similar research to 107 Malaysian SMEs in manufacturing sector. They found that out of five determinants model, only three were found to significantly influence the adoption of e-commerce on which one of it was the factor of perceived benefit by the user. Nevertheless, perceived ease of use was found not significantly related to the adoption of e-commerce in the study as the respondents have already experience and familiar with the e-commerce implementation, thus they did not perceive it as an obstacle to work with the computer application systems. On the other hand, a study by Alam et al. (2011) revealed that perceived ease of used was positively affect towards ICT adoption and the result was consistence with the several results of the past study.

Without denying the contribution of the traditional methods, the e-commerce implementation is capable of offering SMEs with a good strategy of efficient, effective and cost saving business operations that can increase the benefit to the customers. Consequently, the overall

objective of building profitable relationship with the customers will be met.

From other perspective, the results show that in terms of ranking of the relative importance, organizational readiness was the highest rated by the SMEs, followed by external pressure, perceived ease of use and perceived benefit of the e-commerce. However, these results contradict with the TAM model where perceived benefit and perceived ease of used were the most significant determinants toward the e-commerce adoption (Grandon and Pearson, 2004).

Firstly, organizational readiness that includes the support from management, employees as well as stakeholders is essential in ensuring flawlessness of full e-commerce implementation throughout the entire network of communication internally and externally. Furthermore, when there are enough technologically and financially supports, the rate of adoption of e-commerce by the organization is expected to be much faster, stronger and easier.

Secondly, external pressure such as social factors is an important determinant of adoption of e-commerce. Companies will enjoy adopting e-commerce if their usage of e-commerce is approved by their suppliers, customers, consultants, communities and other external stakeholders of the organization.

Thirdly, SMEs' perceived the ease of use as another crucial determinant in adopting e-commerce. User friendly e-commerce systems can promote SMEs' to adopt e-commerce much faster in their business operations. However, when the users are familiar and rely much on the systems, it is expected that the factor will no longer be valid in predicting the influence towards the adoption of e-commerce. This happened when the traditional business operations have been fully replaced causing them to develop substantial favouritisms towards the e-commerce implementation.

Lastly, SMEs perceived that the use of e-commerce offers benefits to them such as easier job execution that consequently simplifying the overall operational processes enhances the capability to accomplish the work task much faster and improve the overall job performance. For example, reducing the communication error and enhancing the order fulfillment for the customers. The SMEs will be motivated to adopt the e-commerce upon realizing such benefits of adopting and

implementing e-commerce in their business operations.

Conclusion

As a conclusion, organizational readiness, external pressure, perceived ease of use and perceived benefits are discovered to be the determinants toward the adoption of e-commerce in Malaysian SMEs in furniture sector. Although, the establishments of furniture businesses in Malaysia are mostly being operated in small scale plants such as workshops and backyard factories, they still believe that invention of e-commerce could bring operational and administrative benefits to their organizations. The result was found consistent with the outcome from the previous study in the similar area. Hence, such generalization from the result of the study particularly in Malaysia SMEs can be considered as appropriate and relevant in view of the present competitive market environment that demands a better way of managing business as compared to the traditional means. Out of the four determinants, organizational readiness is the most essential factors that could motivate SMEs to adopt e-commerce, followed by the second of external pressure, third of perceived ease of use and finally the perceived benefits. The establishments of such rankings are essential especially to the SMEs which have yet to embark on their e-commerce functions by taking the right initial step to encapsulate them in their organizational e-commerce plan. Such proper measures could be used as guidelines during the e-commerce implementation stage with a flawless and effective application for the benefit of the companies as well as to the whole SMEs furniture industry in Malaysia.

Recommendations

It is recommended that SMEs' should be ready in term of organizational readiness, in order to adopt e-commerce in their business operations. Organizational readiness includes the consistent value, culture and work practices in the organization itself. In addition, SMEs are needed to meet adequate resources of technological and financial, prior to adopt the e-commerce. The firm should ensure that their existing technological facilities are updated, obtain financial and employees support to ensure that the e-commerce adoption can be implemented smoothly and effectively. Although the traditional methods cannot to be totally eliminated, it still can be reduced in stages until full implementation of e-commerce in the organizations.

In terms of external pressure, SMEs are needed to adopt e-commerce in their business routine due to the pressure from the industry such as competitors and the government. Such adoption can be used by SMEs as value added tools in order to gain a competitive advantage in the industry. As a consequent, SMEs can become more competitive and non-vulnerable in

combating the high intense of competition due to the forefront practices of e-commerce applications in the business operations.

Furthermore, SMEs' companies should design a user friendly application system to motivate the users on the usage of the systems. Ease of use system will lead to a belief that the application system is more useful and enjoyable to use. In this context, employees should be sent for an intensive training to develop IT skills and savvy to the e-commerce applications. When the users discovered more benefits of using e-commerce, the level of perceive benefit can be alleviated to a level where the confidence towards the traditional means are no more attractive and encouraging. Among the benefits that can be enjoyed from e-commerce applications such as to enable the companies to accomplish specific tasks more quickly, improve job performance, increase productivity and increased the effectiveness of the job performance.

Future research

It is recommended that future research should take into consideration other determinants towards the adoption of e-commerce among SMEs in Malaysia; for examples, top management support, presence of IT skills, availability of consultancy, prioritization of e-commerce to the enterprise, perceived risk, enthusiasm of top management and compatibility with the work of the company. With the availability of additional determinants, the measurements can be further expanded to increase significantly the accuracy and generalizability of the study.

REFERENCES

- Abdullah A (2010). Measuring TQM implementation: a case study of Malaysian SMEs. *Measur. Bus. Excell.*, 14(3): 3-15.
- Alam SS (2009). Adoption of internet in Malaysian SMEs. *J. Small Bus. Enterprise Dev.*, 16(2): 240-255.
- Alam SS, Omar NA, Nik Hisham NMH (2011). Applying the theory of perceived characteristics of innovating (PCI) on ICT adoption in the SMEs in Malaysia. *Austral. J. Basic Appl. Sci.*, 5(8): 8-17.
- Bank Negara Malaysia (2011). Standard Definition of SMEs. Retrieved from www.bnm.gov.my/index.php?ch=8&pg=14&ac=1037
- Beatty RC, Shim JP, Jones MC (2001). Factors influencing corporate web site adoption: a time-based assessment. *Inform. Manage.*, 38(6): 337-354.
- Campbell K (2000). Still dreaming of a level playing field. *Financial Times*, 17 February, p. 17.
- Chong AYL, Lin B, Ooi KB, Raman M (2009). Factors affecting the adoption level of c-commerce: An empirical study. *J. Comput. Inf. Syst.*, 13-22.
- Chong S, Pervan G, Bauer C (2001). Implementation success of internet-based electronic commerce for small- and medium-sized enterprises in Australia, in Bob O'Keefe, Claudia Loebbecke, Joze Griar, Andreja Pucihar, Gregor Lenart (Eds), 14th Bled Electronic Commerce Conference, Bled, Slovenia: Kranj Mioderna Organizacija, pp. 243-259.
- Chwelos P, Benbasat I, Dexter A (2001). Research report: empirical test of an EDI adoption model. *Inform. Syst. Res.*, 12: 304-321.
- Coakes SJ, Steed L (2007). SPSS: Analysis without anguish: Version 14.0 for Windows. Fabolous Printers Pte Ltd: Singapore.

- Cook CW, Hunsaker PH (2001). *Management and Organizational Behavior*, McGraw-Hill, New York, NY.
- Daniel E, Myers A (2000). Levelling the playing field: e-commerce in SMEs. EPSRC End of Award Report. Retrieved from <http://www.cranfield.ac.uk/som/ecom>.
- Daniel E, Wilson H (2002). Adoption intentions and benefits realized: a study of e-commerce in UK SMEs. *J. Small Bus. Enterprise Dev.*, 9(4): 331-348.
- Davis FD (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Q.*, 13(3): 319-338.
- Dembla P, Palvia P, Krishnan B (2007). Understanding the adoption of web-enabled transaction processing by small businesses. *J. E-commerce Res.*, 8(1): 1-17.
- Dholakia RR, Kshetri N (2004). Factors Impacting the Adoption of the Internet among SMEs. *Small Bus. Econ.*, 23: 311-322.
- Farhoomand A, Drury D (1997). A model of organizational adoption of information technology. Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL), pp. 417-425.
- Fink D (1998). Guidelines for the successful adoption of information technology in small and medium enterprises. *Int. J. Inf. Manage.*, 18(4): 243-153.
- Frambach R (1993). An integrated model of organizational adoption and diffusion of innovations. *Eur. J. Market.*, 27(5): 22-41.
- Ghosh S (1998). Making the business sense of the internet. *Harv. Bus. Rev.*, 76(2): 126-135.
- Gordon G (2003). SME survey. *Sunday Times Business*, February 16, pp 15.
- Grandon EE, Pearson JM (2004). E-commerce adoption: an empirical study of small and medium US businesses. *Inf. Manage.*, 42: 197-216.
- Hair JF, Black WC, Babin BJ, Anderson RE (2010). *Multivariate data analysis*. Seventh edition, Pearson Prentice Hall.
- Hoppe R, Newman P, Muger P (2001). Factors affecting the adoption of internet banking in South Africa: a comparative study, paper presented at the Department of Information Systems, University of Cape Town, South Africa, 17 October.
- Hoxley M (2000). Measuring UK construction professional service quality: what, how, when and who. *Int. J. Qual. Reliab. Manage.*, 17(4-5): 511-526.
- Husnayati H, Rafidah MN, Mohd AS (2008). Perceived attributes of e-commerce and the adoption decision: The case of Malaysian SMEs. *J. Teknol. Maklumat Multimedia*, 5: 107-125.
- Hussey R, Hussey R (1997). *Business Research: A Practical Guide for Undergraduate and Postgraduate Students*. Great Britain: Macmillan Press Ltd.
- Iacovou L, Benbasat I, Dexter A (1995). Electronic data interchange and small organizations: adoption and impact of technology. *MIS Quarterly*, pp. 465-485.
- Ives B, Olsen MH (1984). User involvement and MIS success: Review of research. *Manage. Sci.*, 30(5): 586-603.
- Jacobs G, Dowsland W (2000). The dot-com economy in Wales: The long road ahead. UK Academy of Information Systems Conference, Swansea, 65: 590-596.
- Kalakota R, Whinston A (1997). *E-commerce: A manager's guide*. Addison-Wesley, Reading, MA.
- Kaynak E, Tatoglu E, Kula V (2005). An analysis of the factors affecting the adoption of e-commerce by SMEs, Evidence from an emerging market. *Int. Market. Rev.*, 22(6): 623-640.
- Kotler P, Armstrong G (2010). *Principles of Marketing*. Pearson Prentice Hall, Thirteenth Edition, New Jersey, NJ.
- Kuan KKY, Chau PYK (2000). A perception-based model for EDI adoption in small businesses using a technology-organization-environment framework. *Inf. Manage.*, 38: 507-521.
- Lawson R, Alcock C, Cooper J, Burgess L (2003). Factors affecting adoption of e-commerce technologies by SMEs: an Australian study. *J. Small Bus. Enterprise Dev.*, 10(3): 265-276.
- Malaysia Timber Council (MTC) (2011). Retrieved from <http://www.mtc.com.my/info/>.
- Malaysian Timber Industry Board (MTIB) (1995). Retrieved from <http://www.mtib.gov.my>.
- Mc Collum T (1997). Making the internet work for you. *Nation's Business*, 85(3): 6-8.
- Mehrtens J, Cragg PB, Mills AM (2001). A model on Internet adoption by SMEs. *Inf. Manage.*, 39: 165-176.
- Mira K (2006). Case studies of e-commerce adoption in Indonesian SMEs: The evaluation of strategic use. *Austral. J. Inf. Syst.*, 14(1): 69-80.
- Mirchandani AA, Mowarni J (2001). Understanding small business e-commerce adoption: An empirical analysis. *J. Comput. Inf. Syst.*, 41(3): 70-73.
- Mitchell VW (1994). How to identify psychographic segments: Part 1. *Mark. Intel. Plan.*, 12(7): 4-10.
- MTIB Turun Unjuran Eksport. (2011, September 23). *Bername.com*. Retrieved from <http://www.bernama.com.my/bernama/v5/bm/newsbusiness.php?id=615406>.
- Mutula SM, Brakel PV (2006). E-readiness of SMEs in the ICT sector in Botswana with respect to information access. *Electronic Libr.*, 24(3): 402-417.
- Nelson MJ, Shaw ML (2003). The Adoption and Diffusion of Interorganizational Systems Standards and Process Innovation. *J. Comput. Inf. Syst.*, 41(3): 70-73.
- Öztürk E (2005). *SPSS Uygulamalı Çok Degiskenli _statistik Teknikleri*. Editör: Seref. Kalaycı, Asil Yayın Dagıtım, Ankara.
- Pham L, Pham LN, Nguyen DTT (2011). Determinants of e-commerce adoption in Vietnamese SMEs. *Int. J. Entrepreneur. Int. J. Entrepreneur.*, Retrieved from http://findarticles.com/p/articles/mi_qa5538/is_201101/ai_n58120754/.
- Poon S, Swatman P (1997). Small business use of the Internet: findings from Australian case studies. *Int. Market. Rev.*, 14(5): 385-402.
- Premkumar G, Roberts M (1999). Adoption of new information technologies in rural small businesses. *Int. J. Manage. Sci.*, 27: 467-484.
- Ramayah, T, Koay PL (2002). An exploratory study of internet banking in Malaysia. The Proceedings of The 3rd International Conference on Management of Innovation and Technology (ICMIT '02 & ISMOT '02), Hangzhou City, PR China, 25-27th October.
- Robertson TS, Gatignon H (1986). Competitive effects on technology diffusion. *J. Market.*, 50(3): 1-12.
- Rogers EM (1991). The 'critical mass' in the diffusion of interactive technologies in organizations, in: K.L., *The Information Systems Research Challenge: Survey Research Methods*, 3: 217-245.
- Rogers EM (2003). *Diffusion of innovations* (5th ed.). New York: Free Press.
- Roscoe JT (1975). *Fundamental Research Statistics for the Behavioral Sciences*. New York, NY: Holt, Rinehart and Winston.
- Sekaran U (2003). *Research methods for business: a skill-building approach*, 4th ed., Wiley, New York, NY.
- Schulze C, Baumgartner J (2001). Don't panic, Do E-commerce, A Beginner's Guide to European Law Affecting E-Commerce The European Commission's Electronic Commerce Team, Information Society Directorate General. Retrieved from http://europa.eu.int/ISPO/ecommerce/books/dont_panic.pdf.
- Sutanonpaiboon J, Pearson M (2006). E-commerce adoption: perceptions of managers/owners of small and medium sized enterprises in Thailand. Southern Illinois University.
- Tabachinc BG, Fidell LS (2001). *Using multivariate statistics*, A Pearson Education Company, Needham Heights, 589.
- Temtime ZT, Pansiri J (2006). Proactive marketing and financial management for small and medium enterprises. *BIAC J. Bus., Manage. Train.*, 3(1): 53-67.
- Thurik R, Wennekers S (2004). Entrepreneurship, small business and economic growth. *J. Small Bus. Enterprise Dev.*, 11(1): 140-159.
- Tornazky LG, Klein KJ (1982). Innovations characteristics and innovation adoption implementation: a meta analysis of findings. *Transact. Eng. Manage.*, 29(11): 28-45.
- Turban E, King D, Lee J, Warkentin M, Chung HM (2002). *E-commerce*, 2nd ed. Prentice Hall, Englewood Cliffs, NJ.
- Wilson H, Daniel E, Davies I (2008). The diffusion of e-commerce in UK SMEs. *J. Market. Manage.*, 24(5): 489-516.
- Zakaria M, Hashim MK (2003). Malaysian SMEs perceptions of e-business: some empirical evidence. Proceedings of the National Seminar on E-commerce, Kuala Lumpur, Malaysia, 31-38.