

Factors Influence Small Medium Enterprises in Penang Island Reluctant to Use e-Commerce : A Research Proposal

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Abstract

The powerful of Internet has changed the world. The successful story from Amazon.com has encouraged some business owners to switch their business model to e-business model. In year 1997, Malaysia's government allocated some budget to setup Internet infrastructure and introduce Multimedia Super Corridor (MSC) to public. The main objective is to transform current practice to service based platform, and to attract world class companies while grooming local Internet communication technologies (ICT) companies. Besides that, the government had put efforts to increase Internet user population such as taxes deduction for family who purchase computers, educate the public the importance of master Internet technologies. After a decade of implementation, the e-Commerce adoption response from the Small Medium Enterprises (SMEs) still do not reach the considerable level, based on Association Chinese Chamber of Commerce & Industries of Malaysia SME's survey it shows 28% of the respondents involve into e-Commerce activities. Small Medium Enterprises contribute 99.2% to Malaysia's economic. This study intends to find out the level of e-Commerce adoption among SMEs in Malaysia, and potential factors that hindrance to the e-Commerce adoption.

Keywords: E-commerce; adoption; small medium enterprise; technology acceptance model; theory reasoned action

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1.0 INTRODUCTION

The decreasing cost of electronic components- silicon has bring a big impact to the global, which had proven the Moore's law said transistor in a given chip can be doubled bi-annually¹". It proved that this moore's law had changed the computer software and hardware industries. Nowadays Internet not only for searching information, but it also as medium to conduct business activities, such as promote, sales, recruit, exchanged information. At the same moments, many new innovation products and technologies also has to introduce to consumers. Entrepreneurs foreseen the powerful of the Internet technologies, therefore, they are switching their business model from 'brick and mortar' to 'brick and click'. One of the successful examples is Amazon.com had encourage business owners to involve into e-Commerce activities. In Malaysia, Small Medium Enterprises (SMEs) contribute 99.2% to country's economic^{2,3}. Based on the SME 2012 survey report conducted by the Associated Chinese Chambers of Commerce & Industries of Malaysia (ACCCIM) stated that only 28% of 965 respondents involved in e-Commerce⁴. The e-Commerce adoption rate is relative low compare to the developed countries such as United States, United Kingdom etc. The purpose of this paper is

to determine the level of adoption among the Small Medium Enterprises (SMEs) in Penang Island and factors that impedes to e-Commerce adoption.

2.0 BACKGROUND INFORMATION

"Small Medium Enterprise constitute the majority of business establishments in Malaysia at 99.2%^{2,3} and they contribute about 32% of GDP and 59% of the total employment⁵." Table 1 shows, three categories and respective information.

Table 1 Annual sales turnover or number of full-time employees^{6,7}

	Micro-enterprise	Small enterprise	Medium enterprise
Manufacturing, Manufacturing-Related Services and Agro-based industries	Sales turnover of less than RM250,000 OR full time employees less than 5	Sales turnover between RM250,000 and less than RM10 million OR full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million OR full time employees between 51 and 150
Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover of less than RM200,000 OR full time employees less than 5	Sales turnover between RM200,000 and less than RM1 million OR full time employees between 5 and 19	Sales turnover between RM1 million and RM5 million OR full time employees between 20 and 50

In year 2000, Sulaiman had concluded e-Commerce applications and usage⁸. There are nineteen categories of e-Commerce applications and usage in Malaysia, which are Prepaid cards, Smart cards, Credit cards, Electronic fund transfer, Logistics, Procurement, Online sales order, Online application, E-mail, Customer feedback, Online product updates, Online help FAQ, Electronic catalogs, Third party website, Homepage/website, Display Information & product, Research on Competitors, Research on Suppliers, and Research on Consumer. There some of definition about the term of e-Commerce,

Electronic commerce (e-Commerce) – “the marketing, promoting, buying, and selling of goods and services electronically, particular via the Internet- is the new wave in transacting business⁹.”

“The process of buying and selling of products and services across a telecommunications network often called electronic commerce or e-Commerce¹⁰.”

Strauss has defined the term of “e-Commerce as use of digital technologies such as the Internet and bar code scanners to enable the buying and selling process. E-Commerce is about transactions through distribution channels and e-tailing¹¹.”

■3.0 LITERATURE REVIEW

Business activities and transactions occur across telecommunications network where buyers, sellers and others involved in the business transaction rarely seen or know one other and maybe anywhere in the world. “The process of buying and selling of products and services across a telecommunications network often called electronic commerce or e-Commerce¹⁰.” Napier extends the meanings of e-Commerce, it includes primary activities (ie: promote products) and support activities (ie: research and development on product)⁷. In year 1997, the Malaysia government has introduced the Multimedia Super Corridor project to public, the objective is to attract world class Technologies Company while grooming local ICT companies. After one decade, from government's effort, the e-Commerce adoption rate considered moderate. Based on ACCCIM's 2012 SME survey, 54% of SMEs of the respondents have company website to promote products and company information⁴. The most preferable application is email^{2, 12} and the least of use payment gateway² (ie: paypal, 2checkout etc.). The email application is widely acceptable by the local SMEs, because they do not need to invest cost to setup email application, and furthermore, there are a

lots of service providers (ie: hotmail, yahoo etc.), which provided e-mail service freely.^{8, 12}

Among the factors, computer and Internet securities factor is the main hindrance that caused to the SMEs to adopt e-Commerce.^{2, 3, 4, 8, 13}. The rapid of changing technologies create many issues for example technical risks. Data and Information is the most valuable assets for a company. If the company's computer security measurements are considered weak and poor, if an intruder bypasses the security measurement, the valuable asset will be stolen; unexpected tragedies will be happen to the owner. In order to avoid such unexpected issue to them, they rather prefer current practice, so that they can avoid from technical risks. There are some reasons caused to local SMEs do not adopt e-Commerce application in their working environment, one of the reason is the employer's attitude, and their mindset, they perceive to setup and deploy Information technologies into their working environment require invest a lots of cost, furthermore, it need expensive cost to maintenance their IT Infrastructures.^{3, 13, 14} Local SMEs unlike others entrepreneurs from global, they rather prefer to be “follower” instead of to be “pioneer”. Lack of IT related skill workers also is one of the problem caused to the local SMEs suffer from technical issue.^{3, 14}

■4.0 OBJECTIVE AND PROBLEM STATEMENTS

4.1 Research Problem Statements

- ▲ What is the level of adoption rate of e-Commerce among Small Medium Enterprise in Penang Island?
- ▲ Do environment factors and e-Commerce characteristics have positive impact on e-Commerce adoption among Small Medium Enterprises in Penang Island?

4.2 Objective

- ▲ To determine the level of adoption e-Commerce business among Small Medium Enterprise in Penang Island.
- ▲ To determine the relationship between environment factors and e-Commerce characteristics on e-Commerce adoption among Small Medium Enterprises in Penang Island.

5.0 THEORETICAL FRAMEWORK

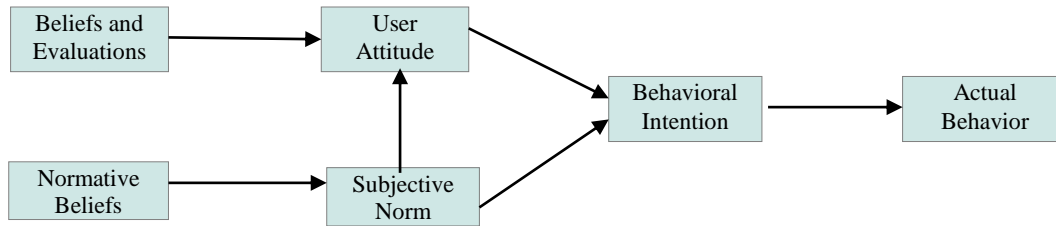


Figure 1 Theory reasoned action¹⁷

5.1 Theory Reasoned Action

Theory Reasoned Action (TRA) or Attitude behavior theory is a theory that derived from social psychology field. It is popular theory framework used to predict the user behavioral across variety of domains towards an object. There are a lots of researches applied this theory into their studies such as marketing, service quality, user satisfaction, anxiety etc.^{15, 16} In this theory reasoned action, Fishbein and Azjen¹⁷, “postulates that beliefs about an object lead to an attitude about it. This attitude leads to behavioral intentions regarding the objects. These intentions, in turn affect the actual behaviors toward the object, finally there is a feedback loop in which behavioral experiences can modify the beliefs about the object. The theory of reasoned action suggested that an individual's behavior can be predicted from the individual's attitude toward (a) the behavioral action, and (b) the social norms that influence the probability of performing the behavior.^{17, 18}” “The intention to accept or reject a particular technology is based on a series of tradeoffs between the perceived

benefits of the system to the user and the complexity of learning or using the system¹⁹.” This action can be explained by this theory. “Attitudes are defined as the positive or negative feelings of an individual toward a specific behavior, and these are influenced by individual beliefs²⁰.”

5.2 Technology Acceptance Model

Davis²¹ had introduced a parsimony model named Technology Acceptance Model (TAM). Technology Acceptance model which is derived from Theory Reasoned Action (TRA). In this model, there are two believe variables, perceive Ease of Use and perceive Usefulness.

Perceived ease of use is “the degree to which a person believes that using a particular system would be free of effort²¹.”

Perceived usefulness is “the degree to which a person believes that using a particular system would enhance his or her job performance²¹.”

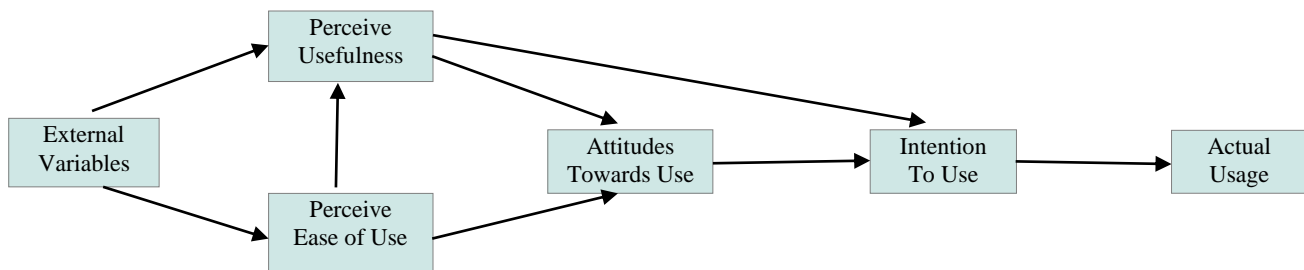


Figure 2 Technology acceptance model²¹

5.3 Selecting Model

Theory reasoned action and technology acceptance model are selected. Theory reasoned action is selected, it able to explain about an individual's attitude toward the implement or execute the behavior. Social norm is omitted because the adoption on the technology is depend on individual decision after evaluation and get the information from the external resource sources such as friends, subordinates, peers etc. Technology Acceptance model is selected, due to it structures parsimony and easy to explain the human perception about the acceptance about a new

technology, and able to apply into difference domains of practice.

6.0 HYPOTHESIS STATEMENTS

H1: Environment factors have positive relationship with e-Commerce adoption among Small Medium Enterprises in Penang Island.

H2: e-Commerce characteristics have positive relationship with e-Commerce adoption among Small Medium Enterprises in Penang Island.

7.0 PROPOSE FRAMEWORK

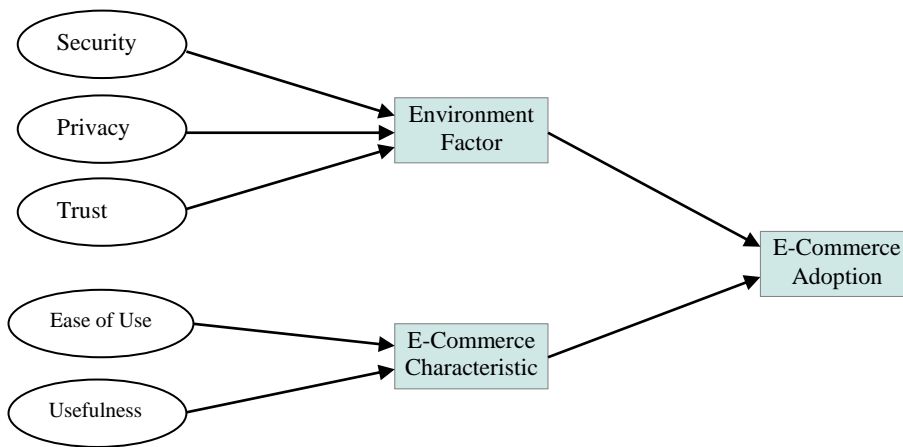


Figure 3 A propose research model

8.0 METHODOLOGY

In this paper, the research method will followed Uma Sekaran's research method and practice.

I.) Observation

First step of the entire research process, to sense the changing of current situation such as behavioral, attitude, feeling, perception are surfacing on one's environments²².

II.) Preliminary Interview Gathering

Second step to gathering or seeking related information in depth of what is observed²², such as interview, get information from journal etc.

III.) Theory formulation

Theory formulation is attempt to formulate related information/factors to conceptualize and theoretical frame to explain a causal relationship between the root and cause²². For example, Theory Reasoned Action (TRA) is a very popular and widely accepted theoretical frame work to explain an individual's attitude towards acceptance new innovation technologies.

IV.) Hypothesizing

Hypothesizing is logical linking between the information (ie: independent variable) to the research end finding (ie: depend variable). "From the theorized network of associations among

the variables, certain testable hypotheses or educated conjectures can be generated²²."

V) Further scientific data collection

"After the development of the hypotheses, data with respect to each variable in the hypotheses need to be obtained. In other words, further scientific data collection is needed to test the hypotheses that are generated in the study²²". A random sampling is used and send the questionnaires to target audience (ie: Managing director, executive etc.) from S.M.Es.

VI) Data analysis

"Data gathered are statistically analyze to see if the hypotheses that were generated have been supported²²". Correlational research is a method to indication as to how two or more factors are associate related to one another or, in effect, what they share or some have common characteristic, or how well a specific outcome might be predicted by one or more pieces of information.

VII) Deduction

"Deduction is the process of arriving at conclusions by interpreting the meaning of the results of the data analysis²²". From the statistical analysis, deduce or conclude that factors that influence e-Commerce adoption among Small Medium Enterprise in Penang Island.

8.1 Pilot Test

Table 2 Reliability test & result

		Mean	Min	Max	Range	Min/Max	Variance	Cronbach's Alpha
Environment Factors	Security	3.131	2.703	3.486	.784	1.290	.059	.833
	Privacy	3.503	3.243	3.703	.459	1.142	.035	.872
	Trust	3.446	3.270	3.541	.270	1.083	.009	.866
E-Commerce Characteristics	Perceived ease of use	3.541	3.405	3.676	.270	1.079	.012	.887
	Perceived usefulness	3.671	3.486	3.838	.351	1.101	.013	.890

In this research studies, non probability sampling method were applied. 60 sets of questionnaires were sent to retailers, services provider, undergraduates and public around Penang state. After two weeks, 39 copies were returned. After filtering the data, only 37 copies are considered valid, two copies were discarding due to incomplete answer and missing pages in a questionnaire booklet. The response rate is 37/60, which is 0.616%. Construct reliability test were use Cronbach's alpha. Based on Nunnally's suggestion the value range of 0.6 – 0.8 is acceptable range²⁴. Table 2 shows the statistical result and Cronbach's alpha value for respective elements.

9.0 DISCUSSION & CONCLUSION

The revolution of Internet has bring many impacts to all of us, it changes the vendor's business model from 'brick and mortar' to 'brick and click' model. Besides that, the Internet also brings many business opportunities to entrepreneur to start their e-business at Internet market. In the virtual market, there are many unknown challenges, in order to sustain their business in local market and fit inside the niche market, SMEs need aware from time to time and take in many considerations and understand the market trend, practice, consumers' behavioral, so that SMEs are always aware of the importance of e-Commerce, that will lower the business risks and bring high return of investment to their company.

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