DETERMINANTS OF E-COMMERCE ADOPTION AMONG ENTREPRENEURS

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ABSTRACT

DETERMINANTS OF E-COMMERCE ADOPTION AMONG ENTREPRENEURS

A research study has been carried out to find out the determinants of electronic commerce (e-commerce) adoption among entrepreneurs. A conceptual framework has been formed and modified to suit this research based on the original Technology Acceptance Model (TAM) which are including Perceived Usefulness and Perceived Ease of Use as the intervening variables. The external variable or independent variables chosen for this research were Demographic Profile and Entrepreneurial Characteristics. Age, Ethnicity and Education Level were chosen as the dimensions to be analyzed in Demographic Profile while Need for Achievement, Risk-taking Ability and Locus of Control were the chosen dimensions for Entrepreneurial Characteristics. A total of 290 questionnaires have been distributed via email to all the possible respondents whom are established business owners regardless brick-and-mortal, brick-and-click, or click only business in Kota Kinabalu, Sabah. However, only 170 respondents were sampled due to the constraint of time. SPSS statistical tools were used as the medium to analyze the data collected. From the results obtained, demographic profile has been proven to be invalid as the determinant while entrepreneurial characteristics are valid as the determinant of the e-commerce adoption. The intervening variables have shown positive relationship with the dependent variable, the degree of e-commerce adoption as well. Hence, it can be concluded that entrepreneurial characteristics (need for achievement, risk-taking ability and locus of control) have significant relationship with the e-commerce adoption and they are valid as the determinants of the degree of e-commerce adoption.

ABSTRAK

FAKTOR PENENTU USAHAWAN MENGGUNAKAN E-DAGANG

Satu kajian telah dijalankan untuk memperolehi determinan atau faktor penentu yang menyebabkan usahawan mengguna elektronik dagang (e-degang) dalam urusan perniagaan. Rangka konseptual yang sesuai telah diubahsuai daripada "Technology Acceptance Model" atau TAM yang asal untuk digunakan dalam kajian ini. "Perceived Usefulness" dan "Perceived Ease of Use" merupakan dua pembolehubah mencelah dalam rangka konseptual malah pembolehubah tidak bersandar yang digunakan dalam kajian ini ialah Butiran Demografik dan Ciri-ciri Keusahawanan. Umur, bangsa dan tahap pendidikan merupakan dimensi yang dipilih untuk Butiran Demografik manakala 'keinginan untuk pencapaian', 'keupayaan pengambilan risiko' dan 'lokus kawalan' merupakan dimensi yang dipilih untuk Ciri-ciri Keusahawanan. Sejumlah 290 soal selidik telah diagihkan melalui e-mel untuk semua responden-responden yang merupakan pemilik-pemilik perniagaan mantap tanpa menghiraukan jenis perniagaan biarpun ia berk<mark>edai sah</mark>aja, berkedai dan membuat perniagaan dalam internet, atau hanya membuat perniagaan dalam internet sahaja di Kota Kinabalu, Sabah. Bagaimanapun, hanya 170 responden yang membalas disebabkan kekangan masa. Alat-alat statistic SPSS telah digunakan sebagai bahantara untuk menganalisasi data yang dipungut. Dari keputusan yang dianalisasi, Butiran Demografik telah dibuktikan tidak sesuai untuk dijadikan sebagai faktor penentu manakala Ciri-ciri Keusahawanan telah dibuktikan sesuai untuk dijadikan sebagai faktor penentu yang menyebabkan usahawan mengguna elektronik dagang. Pembolehubah mencelah juga didapati menunjukkan hubungan positif dengan pembolehubah bersandar iaitu darjah penerimaan e-dagang. Oleh itu, adalah disimpulkan bahawa Ciri-ciri Keusahawanan (keinginan untuk pencapaian, keupayaan pengambilan risiko dan lokus kawalan) mempunyai hubungan positif nyata dengan darjah penerimaan e-dagang dan ia adalah sesuai unuk dijadikan faktor penentu yang menyebabkan usahawan mengguna elektronik dagang dalam urusan perniagaan.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The exponential growth of the internet has changed the rules of competition in many industry sectors. Many big corporations including SMEs are integrating their business into the internet where they can reach a larger market scope online. Doing business online has been a new trend nowadays and many customers are switching to shopping online. Therefore, more and more entrepreneurs are doing business online as there are demands that initiate the business especially among SMEs.

The internet is an exceptionally important new technology and it has received so much attention from a variety of aspects of people nowadays from various fields. More and more entrepreneurs are starting to do business online and it is not surprising that big corporations from different industries are opting to establish official websites of their own companies as well. Bloggers are gaining popularity and their counter hits per day can lead them to earn a fortune through advertisement sponsorship online.

Despite the fact that the internet is able to offer a great deal of advantages for entrepreneurs, the internet has proved its effectiveness in information gathering when the Web is used as the communication and information medium. Adopting e-commerce has also facilitated direct and indirect advertising on the Internet as well as easy access to the potential customers around the world which ultimately lowered the cost of communication; a cost saving method especially crucial for small firms (Walczuch *et al.*, 2000). The most significant factor that transformed the internet into a global communications phenomenon was the development of the World Wide Web (www) in the early 1990s. The introduction of hypertext that linked documents held on the internet servers has extended the functionality of the internet. This introduction which has facilitated access to particular parts of documents or even to other related documents held on other servers was called the hypertext transfer protocol (HTTP) and it was derived from a mark-up language called hypertext markup language (HTML). Within these servers, a unique addresses termed universal resource locators (URL's) are given to each documents or pages within documents and the ability to access pages, documents and servers from various different websites has shaped a network of interconnectivity and ultimately, give rise to the term of World Wide Web (Combe, 2006).

With all the advantages and benefits offered by the Internet, e-commerce adoption by entrepreneurs is rising significantly in recent years. As noted by Ho *et al.* (2007), e-commerce has been blooming in the business cycle where the traditional brick-and-mortal business has undergone transition to now leading dotcom or click-only business. The e-commerce adoption has been a strategic use of the organization, despite the size of the organization, as it provides opportunities for various type of business to flourish in the maturing of e-commerce. Although smaller firms are slower in adopting the e-commerce compare to their larger counterparts at the first place, however, the usage of e-commerce among small firms are growing rapidly in the recent years (Drew, 2003), suggesting that e-commerce has a significant beneficial impact in the business practices.

The internet is a tremendously imperative new emerging technology nowadays and it is not surprising that it has received enormous interest from executives, investors, entrepreneurs and business observers (Porter, 2001). Several observers have also recommended that major opportunities are made available for new entrepreneurs and SMEs businesses to thrive in the potential of e-commerce, according to Drew (2003).

Regardless of the widespread acceptance of internet use in corporate environments, the internet usage continues to diverge widely among small and medium sized enterprises (SMEs). The research study by Sadowski *et al.* (2002) has provided a clear understanding of the motivations for adoption and use of the internet by SMEs. The authors have found out that the establishment of communication needs is the driving force in the adoption of the internet by SMEs. However, further research is needed to strengthen the finding as suggested by the authors.

In the paper presented by Ozer (2005), the author has formed a conceptual model for the success of online business as the internet business environment is becoming increasingly complex and uncertain. The highly dynamic and uncertain nature of the internet environment has caused failures of large number of e-business soon after their market introduction. Hence, the conceptual model formed is hoped to be useful for researchers to develop and test research hypothesis as well as for practitioners to manage their e-business more effectively.

The past literature has offered a great number of studies in the area of ebusiness and despite the large number of earlier studies, more research is needed in this area which will integrate multiple disciplines into a single study that will ultimately, offer a holistic view of the e-business as stated by Ozer (2005) as well. There are, still, very limited empirical research has been performed to evaluate the determinants that

influence the adoption of e-commerce by a firm as stated by Lin & Lin (2008). Many unanswered questions in the e-commerce are still to be explored and how far into the future will small business fully embrace e-business is remain uncertain (Poon & Swatman, 1999). Hence, this research project is aimed to contribute into e-commerce through entrepreneurial perspective by determining the determinants which initiates entrepreneurs to adopt e-commerce.

1.3 Research Objectives

Doing business online is a trend nowadays among Malaysian entrepreneurs. Most of them do not possess an actual shop but aided with only a computer and internet connection, they are ready to do business online. After going through this research project, the objectives to be achieved are:

- 1. To identify the determinants of e-commerce adoption among entrepreneurs;
- To indentify the demographic profile influence on the degree of e-commerce adoption among entrepreneurs;
- To indentify the entrepreneurial characteristic influence on the degree of ecommerce adoption among entrepreneurs; and
- To identify the mediating influence of perceived usefulness and perceived ease of use on the degree of e-commerce adoption among entrepreneurs.

1.4 Scope of Study

In order to search for the answer to this research project concerning the determinants of adoption of e-commerce among entrepreneurs, the evaluation will be carried out based on the measures espoused from previous research on related study. The degree of e-commerce adoption are determined by the variables such as entrepreneurial characteristics, demographic factors, skill intensity, government policy, openness of economy, competitive environment and other firm-specific factors such as size of operation, export intensity, international orientation, wage rates, and profit margins (Lal, 1999; Lal, 2005; Porter & Donthu, 2006). However, only two variables will be focus in this research project due to time constraints and the variables focused are (1) demographic factors and (2) entrepreneurial characteristics.

The research design chosen for this research is cross-sectional study. The sample of this study will be using convenient sample that consists of entrepreneurs with established business regardless brick-and-mortal, brick-and-click, or click only business. The sample location will be focus primarily in Kota Kinabalu, Sabah.

1.5 Significance of the Study

The first e-commerce was founded in the early to mid-1990s. Survey in several countries has showed that SMEs have been slow in adopting e-commerce than their larger counterparts (Drew, 2003). Although in many countries small business provides the foundation for the entire economy, small business often face difficulties and hardship due to lack of resources as well as their fragility in the formative stage. However, the rate of internet usage in SMEs is growing quite rapidly. More and more SMEs are integrating internet into their business to form e-commerce as governments around the world have funded test-bed projects to encourage internet adoption and e-commerce among small business (Poon & Swatman, 1999).

The internet, no doubt, is able to offer great deal of advantages to small firms by providing 24 hour visibility around the world. The internet adoption does not require high investment costs or an advanced pre-existing telecommunication infrastructure as well. According to Lal (2005) the adoption of internet by SMEs has achieved a higher rate (68.8%) than the larger firms (66.7%). The exponential growth of retail outlets accessible via WWW has presents consumers with a bewildering range of opportunities to online shopping (Ennew, *et al.* 2005) which created a balance demand and supply in the virtual world.

The internet, which acts as an information-rich resources and an interorganizational communications tool, has drastically transformed the way firms gather, produce and transmit competitive intelligence. The adoption of internet into business has become one of the prerequisite to stay competitive in the market as the ability to stay ahead in the market via competitive intelligence will win the firm an unbeatable competitive advantage. The competitive intelligence has become internationally recognized and practiced discipline as it is a process of knowing what the competition is up to and staying one step ahead of them by gathering information about competitors and, ideally, applying it to short and long-term strategic planning of the firm (Teo & Choo, 2001). Moreover, early research which focused on case studies of small sample of organizations also emphasized on how companies have derived competitive advantage via e-business (Martinsons, 2002). These evidences have further highlighted the importance of adopting e-commerce and how, by understanding the relationship between determinants and e-commerce will benefit the organizational in practice.

According to the research done by Lin & Lin (2008), technology resources are key variables which lead to greater degree of success on implementing e-business. Thus, the top management and Information System executives who wished to deploy e-commerce will need to assess their technological investment, as suggested by the empirical findings. A favorable e-business or e-commerce environment should be

created also to improve the responsiveness market changes as well as to enhance customer services. With these underlined importance of understanding the ecommerce adoption, valuable guidelines can be provided to policy-makers and practitioners, especially the top management, in implementing e-business and accelerating the e-business development in their firm. Furthermore, this research might contribute towards academic theory as well when the theoretical model for ecommerce was projected from an entrepreneurial perspective.

1.6 Outline of Study

The next chapter, Chapter 2 is describing the history condition of internet and ecommerce adoption in Malaysia. Chapter 3 focused on literature review whereby related past literatures are review regarding on this research topic to support the significance of this research. Chapter 4 discuss mainly on the formation of theoretical framework for the research design along with the independent and dependent variables chosen. Hypotheses are formed based on the research framework as well in the Chapter 4.

The following Chapter 5 presented on the result of the analysis done on all the data collected by using different testes in SPSS. Chapter 6 is primarily concentrating on discussion of research finding together with the implication of the findings and limitation of research done. The last chapter, Chapter 7, is a chapter to conclude all chapters beforehand by summarizing the research done, findings and implications.

CHAPTER 2

E-COMMERCE ADOPTION IN MALAYSIA

2.1 The New Economy

The uses of the internet, digital technology, or information and communications technology (ICT) have significant contributions to the economy and together, these types of technologies have created a 'new economy'. Basically, the emergence or creation of this new economy is base on the entrepreneurship in knowledge creation and sharing, innovation and creativity, and utilizing information technology for developing and selling new products and services in the market. The dynamic changes in the marketplace have encouraged entrepreneur to incorporate innovation and information technology into the product and service development in order to stay competitive in the market. Hence, the new economy which defined in the late twentieth century will probably be the dominant driver of economies into the new millennium (Combe, 2006).

In the context of old economy, on one hand, the information flow was seen as physical in terms of cash, checks, invoice, bills of lading, reports, receipts, face-to-face meeting, analog telephone calls or radio and television transmissions, blueprints, maps, photographs, musical scores, catalogues, and direct mail advertisements. In the new economy, on the other hand, information in all forms have become digitalized and reduced to bits stored in computers and racing at the speed of light across the networks. This new world of possibilities has thereby created a significant invention which transformed the old economy to now new, digitalized, improved and wellintegrated economy worldwide (Carlsson, 2004).

The emergence of this new economy has been boosted by the development and advancement of the infrastructure that supports the internet, ICT and digital technology. With the aid of high-speed broadband internet access, digital exchanges and fiber-optic networks, more and more people are getting connected to the internet access everyday with greater flexibility and scope of activities where convergence of technologies take place. Convergence of technologies have brought the once separated distinct industry such as television broadcasting, internet and telecommunications together into one to offer the consumers greater scope for accessing services via one technology (Combe, 2006).

The same goes in the business level as well whereby organizations are no longer seen as individual entities, but rather, as a part of an integrated network through collaboration and partnership. ICT plays a key role in this scenario to enable the business transaction and communication runs smooth while the internet unlocks the gateway of exchanging information, products and services around the globe without any restraints of time or distance. The world is borderless now and the new economy is characterized by changes to the boundaries of whole economies as well as industries and firms. These changes have indirectly led to a noticeable hastening in globalization in the last few decades (Combe, 2006).

Knowledge sharing, encouraging innovation and creativity, integrating global supply chains, facilitating global trade and creating wealth have been made possible with the diffusion of information technologies. There is also local characteristic to the new economy as organizations were utilizing information technologies to serve local or regional demand of the market. Moreover, new economy has led changes in the competitive structure of industries as well. The traditional model has given way to a

need for organizations to adapt to dynamic changes in market conditions, seek new opportunities, enhance learning, embrace change and innovation, and create and share knowledge (Combe, 2006).

2.2 Migration from Traditional Business to E-commerce and E-business

The beginning of new networked economy has called for new concept and new understanding of doing business. Based on the three dimensions of business which are product, process and delivery agent, as stated by Bremser & Chung (2005), three categories of business can be identified namely, traditional business, partial e-business, and pure e-business. With the emergence of new economy in the past few decades, there is a visible trend of traditional businesses migrating either towards e-business or expanding to incorporate e-business into the organization. In order to compete in a dynamic changing environment, many firms are adopting organizational designs, such as networked incubators, which provide quick response, innovation and entrepreneurial behavior according to Bremser & Chung (2005) as well.

In the research done by Hong & Zhu (2006), technology integration, web functionalities, and web spending are the three drivers for e-commerce adoption. Although adoption is a necessary prerequisite for migration, however, factors affecting adoption may actually have a different effect on migration as well. Higher level of technology integration might make it easier for firms to adopt e-commerce, yet, this cannot assure the success on the internet. In contrast, web functionalities and web spending are positively related to the level of e-commerce migration after adoption. According to the authors as well, websites with more functionality such as easy browser, search engine, quick photo viewer, html link and other web applications have