RECEPTIVENESS OF E-BANKING BY MALAYSIAN CONSUMERS

by

KOAY PEI LING

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ABSTRAK

Evolusi menuju era Internet dan perbankan Internet telah menjadi transformasi paling asas dilalui oleh industri perbankan sehingga kini. Industri perbankan sedang mengalami perubahan yang pesat ekoran perkembangan teknologi maklumat dan komunikasi. Kajian tentang penerimaan perbankan Internet oleh individu amatlah berkurangan. Oleh itu, satu kajian patut dijalankan untuk memahami faktor mempengaruhi keinginan individu dalam penggunaan perbankan Internet.

Objektif kajian ini adalah untuk mengkaji faktor luaran seperti pengalaman penggunaan komputer, volum transaksi, latihan and tekanan luar yang akan mempengaruhi keinginan penggunaan perbankan Internet individu. Selain itu, kajian ini juga bertujuan untuk mengkaji tanggapan kebergunaan dan tanggapan tentang kesenangan penggunaan. Model kajian ini diubahsuai daripada model penghalusan TAM (Davis, 1989) yang dicadangkan oleh Venkatesh (1996).

Kajian ini mendapati bahawa tanggapan kebergunaan dan tanggapan tentang kesenangan mempunyai pengaruh kuat ke atas keinginan untuk mengguna. Selain itu, kajian itu juga mendapati pengalaman penggunaan komputer and pengaruh luar mempunyai pengaruh kuat ke atas keinginan untuk mengguna perbankan Internet. Pengalaman penggunaan komputer, volum transaksi dan tekanan luar mempunyai pengaruh kuat ke atas tanggpan kebergunaan memandangkan pengalaman penggunaan komputer mempunyai pengaruh kuat ke atas tanggapan kesenangan.

ABSTRACT

The evolution into the Internet and Internet banking era is set to be the most fundamental transformation that the industry would have ever had to undergo. Malaysia banking industries is undergoing rapid transition due to developments in information technology and telecommunications. There is little research on Internet banking adoption by individuals. Therefore, it is timely to conduct a research to understand individuals' intention to use Internet banking in Malaysia.

The objective of this research paper is to investigate the external factors that comprise of prior experience, volume of transaction, training and external pressures that will influence individuals' intention to use Internet banking, mediated by perceived ease of use and perceived usefulness. The model of this study is adopted the refined TAM Model (Davis,1989) proposed by Venkatesh (1996).

This study found that perceived usefulness and perceived ease of use have significant impact on intention to use Internet banking. Prior experience and external pressures have significant impact on intention to use Internet banking. The model is significant and the external factors are partially mediated by perceived usefulness and perceived ease of use. Prior experience, volume of transaction and external pressure have significant impact on perceived usefulness. Prior experience is found to have significant impact on ease of use.

INTRODUCTION

1.1 Introduction

Rapid innovation in Internet technologies and proliferation of growth in information and communication technologies has brought a total new business environment in conducting business (Hoffman, Novak & Chatterje, 1996). Therefore, companies need to adjust their business strategies in line with the global revolutions in order to remain competitive in the marketplace. The Internet has been identified as the world's fastest growing marketplace that offering limitless opportunities for marketing products and services (Clever, 1999). Internet sales are expected to exceed USD 1.2 trillion by the end of year 2002 compared to USD 50 billion at the end of 2000 (www.nua.ie).

Internet allows interactivity and connectivity between buyers and sellers to create a shared real-time commonplace. The rapid adoption of the Internet as a commercial medium of Internet application in transactions, payments and business communications have resulted in the creation of electronic commerce. Furthermore, electronic commerce (e-commerce) applications may considerably decrease the cost of service and allow for service differentiation and segmentation in service contracts (Alsop, 1999). With these advantages, it is no surprise that the Internet may also play an important role in information search and product choice decision of the entire purchasing process (Tih, 2000).

However, the growth of e-commerce in Malaysia is still at its infancy stage. The number of Internet users in Malaysia is estimated at 4.06 million, representing 17% of

the total population in 2001. (IDC, 2002 in The Star, 2002) At the same time, the computer ownership is 8 people per 100 populations in 2001 and is expected to increase to 15 by end of 2002 and hit 30 by 2005 if compared to the world-class standard of 40 (IDC, 2001 in The Star, 2001).

The advent of the Internet has transformed the traditional financial services provided by the banks. The current trend in the new era of electronic revolution in banking inevitably led to the introduction of Internet-banking. The advantages to Internet banking can be enormous. These include 24-hour access to accounts information, transferring funds and paying bills with a click of a button and reviewing transactions at individual's convenience rather than the bank's. Together with the proliferation of personal computers (PCs), more banks are offering Internet banking.

1.2   Overview of Financial Services in Malaysia

Today, Malaysian commercial banks have various delivery channels namely the brick and mortar branch office networks, automated teller machines (ATM's), automated self-banking channels, Tele-banking via the telecommunication channel and desktop banking.

Malaysian banking sector is undergoing rapid transformation due to the developments in both information technology and telecommunications. The major impact is the changes in the distribution channels of the financial institutions. The innovation of Internet banking has made it the most recent distribution channel for financial services. In fact, Pang (1995) reported that the major electronic revolution started in 1970's with the computerization of financial institutions.

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1.3   The emergence of Internet Banking in Malaysia

It is believed that financial transactions will be increasingly conducted online as the Internet becomes widely accessible and security is improved through technologies such as encryption and authentication. At the basic level, a bank will set up a web page to provide information on its products and services. Advance level of Internet banking involves provision of facilities such as accessing accounts, funds transfer and buying financial products or services online (Sathye, 1999). Internet is currently used by the financial services industry in Malaysia mainly for brand awareness and promotion.

From June 1, 2000, the Malaysian Central Bank provided a legal framework for locally owned commercial banks to offer Internet banking services. This offers local banking institutions a new frontier of opportunities and challenges further augmenting competition in the global financial market. However, foreign banks were excluded from engaging in transactional Internet banking until Jan 1, 2002.

Maybank, the largest locally owned commercial bank launched its own portal (www.maybank2U.com) on June 15, 2000. It has emerged as the first domestic bank to offer comprehensive Internet banking services in Malaysia. The services provided to individual customers include banking enquiry functions, funds transfer, bill payment, credit card payment, cheque services, fixed deposits, and summary of accounts transactions.

A review of the Malaysian banking websites in the Internet revealed that Maybank, Hong Leong Bank, RHB Bank, Public Bank, Arab Malaysian Bank, Bumiputera

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Commerce Bank, Southern Bank, Alliance Bank, Citibank and HSBC Bank are currently providing online banking services. Services available are account enquiry, online bill payment, funds transfer, checkbook application, fixed deposits, loan enquiry and detailed account information.

1.4 Research Problem

Today, e-commerce initiatives have increased even further than any mind would have imagined. Financial services on electronic channels will amount to USD 80 billion by the year 2003, up from about USD 14 billion in 2000 (Daniel, 2000). While Internet banking has been very successful and gaining popularity in the United States, it is relatively new to Malaysia.

The present available research materials are mainly centred on e-commerce adoption. There is limited research studies conducted on Internet banking adoption by individuals. Therefore, it is timely and worthwhile to conduct an exploratory research to understand individual's intention to use Internet banking in Malaysia.

1.5 Objective of the Study

The objectives of this research paper is to examine and answer the following questions:

1. What is the impact of perceived usefulness and perceived ease of use on the intention to use Internet banking?

2. What is the impact of perceived ease of use on perceived usefulness?

3. What is the impact of external factors (prior experience, volume of transaction, training and external influence) on intention to use Internet banking?

4. Do perceived usefulness and perceived ease of use mediate the effects of the external factors on the intention to use Internet banking?

The scope of the research is limited to individual perceptions and influencing factors associated with the intention to use Internet banking among consumers in the State of Penang, Malaysia. Receptiveness of Internet banking is measured by intention to use Internet banking in this study. The selection of Penang as the focal of this study is drawn from the fact that the level of education of its population tend to be higher. In addition, Penang state is the third largest state in terms of Internet users after Klang Valley and Johor according to Energy, Communications and Multimedia Ministry (The Star, 2001).

This study employed Davis's (1989) modified version of the Technology Acceptance Model (TAM). This model has been successfully used in predicting the acceptance of computer-based technologies.

1.6 Definition of Variables

1.6.1 *Internet*

Internet is a method of communication that utilizes networked computers as a medium. (Emerick, 1997). Internet enables direct transformation of information from providers to customers.

1.6.2 *Internet Banking*

Internet banking refers to the provision of facilities such as accessing accounts, funds transfer, and buying financial products or services via Internet (Sathye, 1999).

1.6.3 *Prior Experience*

Prior experience refers to individual's experience in using the computer and usage of computer to run Internet applications (Ibgaria & Guimaraes, 1995). A prerequisite in intention to use Internet banking is individual's access to computer or the Internet.

1.6.4 *Volume of Transaction*

Volume of transaction refers to the volume of banking transactions an individual transacts. Large volume of transactions is likely to push for technology adoption as it can help to streamline the operations and improve efficiency (Thong & Yap, 1995).

1.6.5 *Training*

Computer training refers to the amount of training an individual received from other users or computer specialists from within or outside the firm (Ndubisi, Jantan & Richardson, 2001; Igbaria, Zinatelli, Cragg & Cavaye, 1997).

1.6.6 *External Pressure*

External pressure refers to an individual's perceptions of normatively appropriate behavior with regard to the use of Internet banking. Individuals may use Internet banking if external pressure is strong; especially if such pressures are coming from supervisors, peers and subordinates (Igbaria, Parasuraman & Baroudi, 1996).

1.6.7 *Perceived Usefulness*

Perceived usefulness is defined as " the degree to which a person believes that using a particular system would enhance his or her job performance." (Davis, 1989).

1.6.8 *Perceived Ease of Use*

Perceived ease of use is the extent to which a person believes that using a technology will be free of effort. It is a construct tied to an individual's assessment of the effort involved in the process of using the system (Davis, 1989).

1.7 Significance of the Study

As innovations in Internet banking advances and the technological solutions for deploying Internet banking are advancing rapidly, little is known about the way in which Malaysian consumers will welcome this new Internet banking function. Such research will enable banks to formulate the appropriate strategies to encourage rapid migration of customers to Internet banking.

A Cybercitizen Finance Study by Cyber Dialogue (www.cyberdialogue.com) reported that the number of consumers banking online had grown to 6.3 million in 1998 in the United States. However, 3.1 million adults had also discontinued their use of Internet banking. Therefore, for the successful implementation of Internet banking in Malaysia, this study hopes to identify the various factors that influence consumer's intention to use Internet banking.

1.8 Organization of This Report

This report is organized into five chapters. The first chapter provides an overview of financial services in Malaysia, followed by the research problems and objectives. The literature is reviewed in Chapter 2, where the Refined Technology Model (TAM) and previous studies related to e-commerce and Internet shopping are discussed. Theoretical framework and hypotheses of the study are included in this chapter. The third chapter discusses the research methodology used for the study. Analysis of the findings of this study is presented in the fourth chapter. While chapter 5 discusses details of results, implications, limitations, suggestions and conclusion of the study.

Chapter 2

LITERATURE REVIEW

2.1   Introduction

With the extensive technology innovation and telecommunications, we have seen new financial distribution channels increasing rapidly both in numbers and form, from ATMs, telephone banking, PC banking to Internet banking. A broad range of financial distribution channels must be available to deliver varying service needs of consumer segments (Easingwood & Storey, 1996).

Developing alternative distribution channels is not only important in terms of reducing costs and improving competitiveness but also in terms of a financial institution's ability to retain the existing customer base (Kimball & Gregor, 1995) as well as to further attract new customers.

It was reported by IDC (The Star, 2002) that Malaysian Internet users are expected to reach 6.7 million by end 2005, following a compounded annual growth rate of 14.6% between 2000 and 2005. As consumers and companies become more familiar and comfortable with making purchases online, this increase in knowledge and comfort level will benefit banks by bringing more retail and commercial consumers to their virtual branches.

While the trend within banking industry is to replace human tellers with self-service distribution channels, the strength of customer intentions for usage of human tellers within the next two years support the concept that the branch will still play an

instrumental role in the delivery of services to customers in the future (Greenland, 1995; Woodruffe, 1995; Thornton & White, 2000).

Subsequently, as reported by Guru, Vaithilingam and Prasad (2001), most Malaysian consumers will patronize the bank branches and also find human interaction with tellers as important. It also indicated that the PC-based channels of banking have not realized its full potential in Malaysia.

2.2   Technology Adoption Model (TAM) and the refined TAM

TAM model (Davis, 1989) adapted from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1975) offers a powerful explanation for user acceptance and usage bahaviour of information technology.

Figure 2.1. Davis' (1989) Technology Acceptance Model
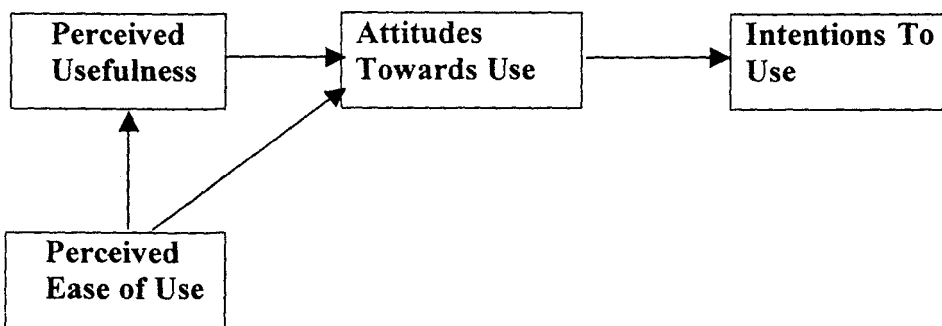
TAM theorizes that an individual's behavioral intention to adopt a system is determined by two beliefs, perceived usefulness and perceived ease of use. Perceived usefulness is defined as "the degree to which an individual believes that using a particular system would enhance his or her productivity" while perceived ease of use

is defined as " the degree an individual believes that using a particular system would be free of effort" (Davis, 1989). Between the two, perceived ease of use has a direct effect on both perceived usefulness and technology usage (Adams, Nelson & Todd, 1992; Davis, 1989).

Davis (1989) has also found that there is a relationship between users' beliefs about a technology's usefulness and the attitude and the intention to use the technology. However, the perceived usefulness exhibited a stronger and more consistent relationship with usage than did other variables reported in the literature. In addition, an individual may adopt a technology if he or she perceives it as convenient, useful and socially important even though they do not enjoy using the technology (Saga & Zmud, 1994). Thus, there might be a possibility of a direct relationship between beliefs and intentions. Furthermore, it is suggested that there are external variables that affect both perceived ease of use and perceived usefulness (Davis et al., 1989).

Subsequent research by Venkatesh (1996) refined the TAM suggesting that the mediating effect of attitude could be excluded as empirical evidence found that the attitude element did not fully mediate the effect of perceived usefulness on intention to use. Consequently, Davis and Venkatesh (1996) have adopted this modified conceptualization of TAM (Venkatesh, 1996) in their recent research.

Many previous researches have adopted and expanded TAM which has empirically proven to have high validity (Jantan, Ramayah & Chin, 2001; Davis, 1989; Adams, Nelson & Todd, 1992; Igbaria, Guimaraes & Davis, 1995; Igbaria, Parasuraman & Baroudi, 1996; Igbaria, Zinatelli,Cragg & Cavaye, 1997).

Figure 2.2. Refined Technology Acceptance Model (Refined TAM)
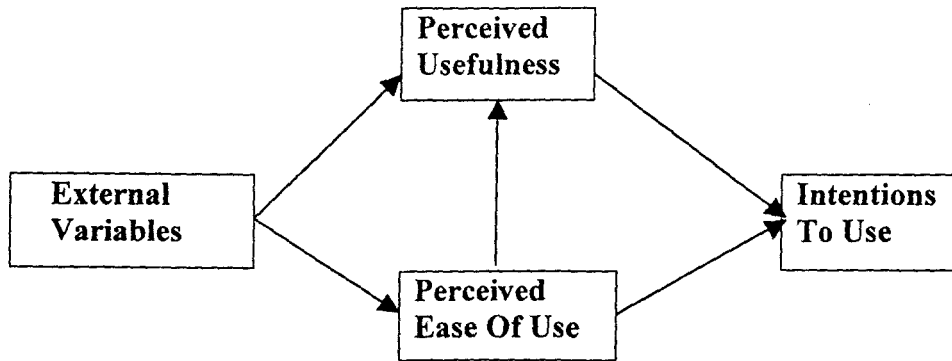
Recent research by Ndubisi, Jantan & Richardson (2001) had further extended the TAM application to the technology adoption of Malaysian enterpreneurs. In their findings, IT usage was influenced directly by perceived usefulness and indirectly (via usefulness) by perceived ease of use. However, they found that there is no direct relationship between perceived ease of use and usage.

In Malaysia, the refined TAM model was used by Jantan, Ramayah & Chin (2001) to study in various factors influencing personal computer acceptance by small and medium sized companies in Malaysia. Basyir (2000) replicated TAM model to study the various factors associated with acceptance of Internet shopping behavior. Fok (2001) adopted TAM that explicitly incorporates self-efficacy and its determinants as factors that are affecting perceived ease of use, perceived usefulness and the use of the Internet. Wong (2001) extended the refined TAM into examining the impact of extrinsic and intrinsic motivational factors in influencing individual's acceptance of Internet job search.

TAM is one of the most influential and widely used model in predicting the acceptance of new technologies. Therefore, Internet banking as one type of the technology is also feasible to adopt TAM to further investigate various factors associated with Internet banking adoption.

Figure 2.3 Model for adoption of Internet banking (Sathye 1999)

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┌──────────────┐
│ No security  │╲
│ concern      │ ╲
└──────────────┘  ╲
┌──────────────┐   ╲
│ Ease of use  │────╲
└──────────────┘     ╲
┌──────────────┐      ╲  ┌────────────────────────┐
│ Awareness of │       ● │ Adoption    of  Internet│
│ service and its│──────  │ banking by consumers   │
│ benefits     │       ╱ └────────────────────────┘
└──────────────┘      ╱
┌──────────────┐     ╱
│Reasonable price│──╱
└──────────────┘  ╱
┌──────────────┐ ╱
│Availability of│╱
│Infrastructure │
└──────────────┘
┌──────────────┐
│ Resistance to│
│ Change       │
└──────────────┘
```
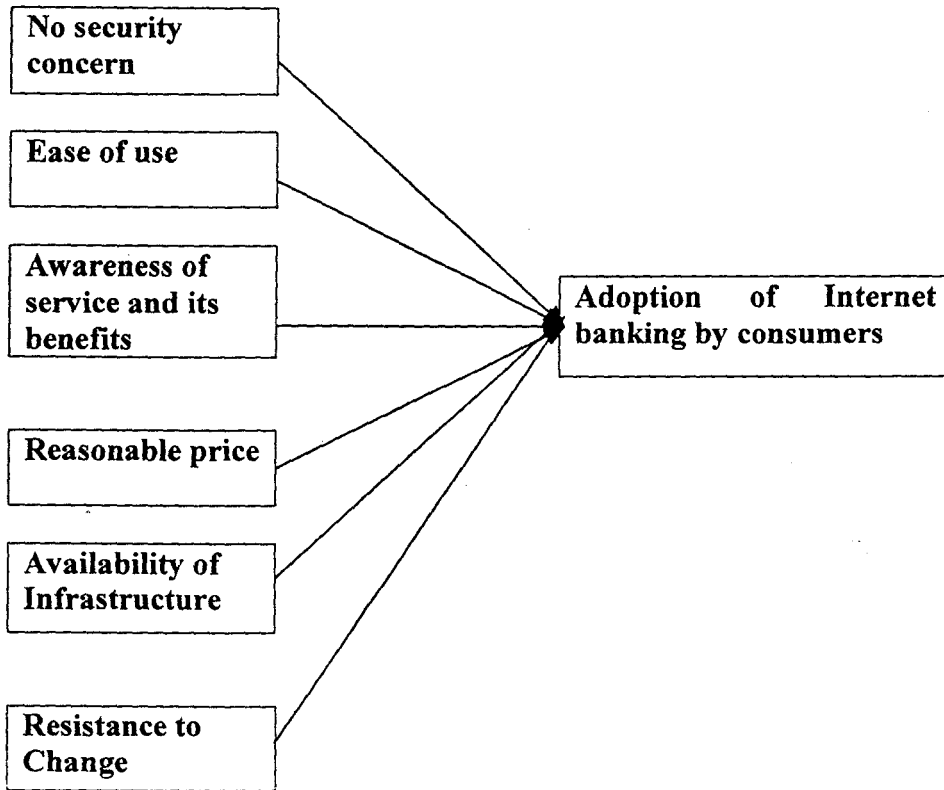
In addition to the above, Sathye (1999) proposed a model for Internet banking adoption, which argued that the intention of Internet banking in Australia is significantly influenced by variables of system in security, ease of use, awareness of service and its benefits, reasonable price, availability of infrastructure and resistance to change.

2.3 Theoretical Framework

The objective of this study is to study the external factors influencing individual's intention to use Internet banking. A research model based on the refined TAM model (Venkatesh, 1996) was developed using the two main constructs: perceived usefulness and perceived ease of use with the external variables to the model.

Past research by Black, Lockett, Winklhofer and Ennew (2001) has investigated a wide variety of factors influencing the adoption of Internet financial services in United Kingdom. Recent research by Ndubisi et al. (2001) has examined various external factors that affects technology acceptance among Malaysian entrepreneurs. Among the variables, prior experience, volume of transaction, training, and external pressure are external factors that are used in this study. Nevertheless, perceived product value, banking experience and perceived risks are used to measure perceived usefulness in this study.

2.3.1 *Perceived Product Value*

The perceived product value in this study can be measured in terms of price, quality and variety (Jarvenpaa & Todd, 1997).

The Wallis Report (1997 in Sathye, 1999) stated that the technology must be reasonably priced relative to alternatives for customer to adopt. Otherwise, the acceptance of the new technology may not be viable from customer's standpoint. Consumers today are more conscious of the expenses associated with banking as they are generally better informed about alternative options. The total costs incurred in

using Internet banking must be minimal or competitive (Jayawardhena & Foley, 2000).

Besides, the services provided by the banks should be innovative with high quality and user friendly to meet individual's expectation. Internet banking must also be able to provide a wide range of financial services that meet customer demands.

2.3.2 *Banking Experience*

Banking experience refers to the level of banking experience such as reliability and accessibility of using Internet banking. In Turkey, Polatoglu and Ekin (2001) reported that individuals who use Internet banking were significantly more satisfied in terms of reliability and accessibility of the Internet banking system.

Howard and Moore (1982) reported that consumers must be aware of the new brand before adoption. Therefore, it is an important factor that the banks have to create awareness on Internet banking to the consumers. Adoption means acceptance and continued use of a product, service and idea. Consumers go through a process of knowledge, persuasion, decision and confirmation before they adopt the product or services.

Also, according to Polatoglu and Ekin's (2001), as more and more banks in Turkey offer the Internet banking, the greater the awareness level among consumers and therefore the higher will be Internet banking adoption.

2.3.3 *Perceived Risk/ Security*

As for the perceived risk or security, O' Connell (1996 in Sathye, 1999) discovered that security concern is an important reason for slow growth of Internet banking in Australia. Lockett and Littler (1997) reported that perceived risks of the innovation were inversely related to adoption in telephone based direct banking services.

According to Stewart (1999), the failure of Internet as a retail distribution channel has been attributed to the lack of trust customers have in the electronic channel and in the web merchants. Sathye (1999) confirmed security concerns is a burning issue for financial transactions done over the Internet.

Figure 2.4. Research Model for Intention to use Internet Banking by Individual
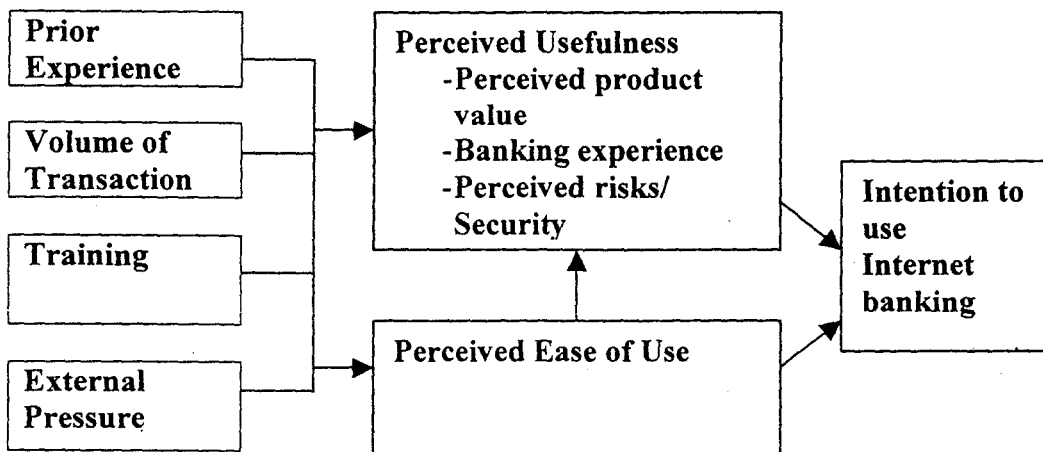
As mentioned earlier the framework is an adaptation of the TAM model suggested by Venkatesh (1996) which excludes the element of attitude. This study measures individual's intention to use Internet banking rather than the actual usage. This is due to the consideration that Internet banking is still relatively new in Malaysia and therefore, the percentage of individual using Internet banking is still very low.

Besides, the external variables used in this study were adapted to suit the study in Internet banking. Davis's list of external variables includes objective system design characteristics, training, computer self-efficacy, user involvement in design and the nature of the implementation process.

Based on the foregoing discussions, the independent and dependent variables are identified. The independent variables are prior experience, volume of transaction, training and external pressure. The dependent variable is the intention to use Internet banking. Perceived usefulness and perceived ease of use are categorized as intervening variables.

2.4   Research Hypotheses

The following hypotheses are developed based on the theoretical framework and literature review discussed.

Perceived usefulness and perceived ease of use influence the level of intention toward the usage of the technology (Davis et al., 1989). Adam et al. (1992) and Davis et al. (1989) reported that perceived usefulness has strong relationship with system usage.

Therefore, the following hypothesis is proposed.

Hypothesis 1: Perceived usefulness has a direct positive effect on intention to use Internet banking.

Davis et al. (1989) identified ease of use as an important determinant of system usage through perceived usefulness. Similar findings by Mathieson (1991) reported that

perceived ease of use has significant amount of the variance in perceived usefulness. According to Jantan et al. (2001), perceived usefulness and perceived ease of use have direct effect on system usage.

Cooper (1997) argued that ease of adoption is one of the important characteristics in technological adoption from the customer's perspectives. The degree to which an innovation is complicated and difficult to understand was one of the reasons for failure of home banking in United States (Dover, 1988). In addition, Daniel (1999) identified ease of use as one main factor for customer acceptance for Internet banking in the United Kingdom and Ireland.

Ndubisi et al. (2001) identified that there is an indirect positive relationship between perceived ease of use and usage via perceived usefulness. In addition, the study also proven that external factors have indirect influence on usage via perceived ease of use.

Thus, hypothesis belows are developed.

Hypothesis 2: Perceived ease of use has a direct positive effect on intention to use Internet banking.

Hypothesis 3: Perceived ease of use has an indirect positive relationship (via usefulness) on intention to use Internet banking.

Hypothesis 4: Perceived ease of use has a direct positive effect on perceived usefulness.

Hypothesis 5: External factors have an indirect relationship (via ease of use) on perceived usefulness.

The various factors include prior experience, data intensity, staff support, computer training, technical support and external influence were used as drivers to investigate whether or not the technology acceptance model is valid for entrepreneurs by research by Ndubisi et.al. (2001).

In this study, external factors consist of prior experience, volume of transactions, training and external pressures are used to investigate its impact on intention to use Internet banking in individual perspectives, mediated by perceived usefulness and perceived ease of use.

Prior experience in both computer and Internet is the key element that shapes an individual's beliefs in terms of using Internet banking. TAM (Venkatesh, 1996) suggests that external factors such as computer experience has direct effect on perceived usefulness and perceived ease of use in terms of technology usage.

Black et al. (2001) found that previous experience with the computer or Internet is one of the strongest influencing factors that affect Internet banking adoption.

Taylor and Todd (1995) discovered that experienced users with the similar systems will have higher intention to use the system. Therefore it is believed that an individual's prior experience with computer and Internet has a positive impact on perceived usefulness and perceived ease of use in using Internet banking.

Daniel (1999) observed that lack of access to computer or Internet as one of the possible factors for slow adoption of Internet banking. According to The Wallis Report (1997), households will conduct their financial transactions over the Internet as the Internet becomes more widely accessible. It is believed that individual with access to Internet or computer will find using Internet banking useful and easy to use.

Hypothesis 6a: Prior experience has a direct positive effect on perceived usefulness

Hypothesis 6b: Prior experience has a direct positive effect on perceived ease of use.

The volume of banking transaction involves an individual may increase the intention to use Internet banking. Thong and Yap (1995) reported that large amount of data or transaction will have significance effect for the organization to adopt the technology as this can ease the workload and streamline the whole operations. Generally, large volume of transactions is more cumbersome to handle if compared to low volume, assuming all other things are equal. Current studies believed that the more banking transactions an individual has to handle, the individual will perceive Internet banking useful but the less the ease of use perception.

Hypothesis 7a: The greater the volume of transaction, the more Internet banking is perceived to be useful.

Hypothesis 7b: The greater the volume of transaction, the less Internet banking is perceived to be easy to use.

Training refers to the amount of computer and Internet related training an individual's received from other users or computer specialists within or outside the organization. Personal computer training has a significant positive effect on perception and technology acceptance (Igbaria et al., 1995, 1997; Raymond & Bergeron, 1992). Current research expects training to have a positive impact on using Internet banking as knowledge about computer and their operations that gained through training may be beneficial in enhancing computer skills and reducing barrier to technology acceptance. Thus, Individual finds using computer useful and easy to use.

Hypothesis 8a: Training has a direct positive effect on perceived usefulness.

Hypothesis 8b: Training has a direct positive effect on perceived ease of use.

External pressure is the extent to which members of a social network influence one another's behavior (Rice, Grant, Schmiz & Torobin, 1990). Individual will conform to the accepted social norm in using computerized systems because of their belief that they will be perceived as being technologically sophisticated by those whom they consider important to their future well-being (Anandarajan, Igbaria & Anakwe, 2000; Igbaria, Parasuraman & Baroudi, 1996). Thus, we can expect individuals' intention to use Internet banking, to be characterized as normative orientation is influenced by the views of others, such as friends and family members.

Hypothesis 9a: External pressure has a direct effect on perceived usefulness

Hypothesis 9b: External pressure has a direct effect on perceived ease of use

TAM is one of the most influential and widely used model in predicting the acceptance of new technologies. Davis's (1989) findings that external variables influence behavioural intention to use, and actual usage, indirectly through their influence on perceived usefulness and perceived ease of use. Internet banking as one type of technology is also feasible to adopt TAM to further investigate various factors associated with Internet banking adoption. Therefore, hypothesis 10 was developed.

Hypothesis 10: The relationship between external factors (prior experience, volume, training and pressure) and intention to use Internet banking will be mediated by perceived usefulness and perceived ease of use.

Chapter 3

METHODOLOGY

3.1 Introduction

The research model for this study has been presented and discussed in Chapter 2. This chapter will further discuss the measurement, questionnaire, sampling frame and data collection method.

3.2 Measurement

There are three groups of variables being studied in this research:

(a)   Dependent variable- Intention to use Internet banking

(b)   Independent variables – Prior experience, volume of transaction, training and external pressure

(c)   Intervening variables- Perceived usefulness and perceived ease of use

Perceived usefulness attempts to measure the degree to which individuals perceive the benefits and advantages of using Internet banking in terms of perceived product value, banking experience and perceived risks.

Perceived ease of use attempts to measure the degree to which individuals believe using the Internet banking would be free of error and easy to understand.

Prior experience measures the level of individuals' experience in using computer and Internet. In this research, the measure of prior experience on the computer or Internet

is adapted from Basyir's (2000) study on Internet shopping. Prior experience is measured by aggregating the information concerning computer or Internet access, how long the respondents have been using the computer or Internet, frequency using computer or Internet, Internet Banking experience and frequency of using Internet Banking.

Prior experience is measured as:

$$\text{Prior exp} = \frac{\left[\dfrac{Access \times DurUse \times \text{FreqUse}}{4}\right] + (IB\exp \times FreqIB)}{2}$$

Where

Access= Access to computer or Internet (Yes/ No)

DurUse= Duration of using computer or Internet (<6 months up to > 2 years)

FreqUse= Frequency of using computer or Internet (divided into 4 categories)

IBExp= Internet Banking experience (Yes/ No)

FreqIB=Frequency of using Internet Banking (divided into 7 categories)

Volume measures the total banking transactions an individual transacts. Training measures the amount of computer training an individual received from other users or computers specialists from within or outside the firm. External pressure measures an individual's perceptions of normatively appropriate behavior with regard to the use of Internet banking. Ndubisi et al. (2001), Jantan and Ramayah (1999) and Ramayah, Jantan and Tadisina (2001) have conducted their research by using one item in the