

of the results and analysis. The final part consists of the discussion, conclusions and practical implications of the research.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this day and age, many organizations are implementing e-business in their businesses as a part of their business strategy to stay competitive in the business environment. Together with the development of online facilities, banking environment should provide online banking services to their customers to run their daily operations (Alain, 2010).

Online technologies have brought changes in the way financial institutions plan and deliver their services to customers although branch based retail banking still remain in practice in conducting the banking operations. (Wang, 2003). There are 3 primary reasons for the development of the online banking. First cost saving. The cheapest way of conveying banking products to customers is via the online banking channel. This is proven since online services require less staff and fewer physical branches in serving customers. (Sathye, 1999) (Tero Pikkarainen, 2004) (Yahya Dauda, August 2007). Many customers believe branch banking is taking too much of their time and effort. Thus, this has directed the customers to use self servicing channel (Heikki Karjaluo, 2002). Online banking also helps customers to avoid travelling to and from a bank branch. So, online banking saves time and money, provides convenience and accessibility, and has a positive impact on customer contentment which ultimately leads to a better customer satisfaction (Thornton and White, 2001). Customers are free to handle their banking affairs whenever they want. They can also have more privacy when interacting with their bank. It is proven that online banking offers customers more benefits at lower costs (Mols N ,1998). As a result, cost saving, time and convenience are identified as major reasons for the using of the online banking. (Polatoglu, 2001) (Erdener Kaynak, 2005).

Normally the bank's website acted only as information media to customers. Nevertheless, the development of secured electronic transaction technologies has made more banks to use online banking as an informational as well as a transactional medium (Tan, 2000).

The access via online will assist the customers to make price comparisons across suppliers quickly and easily. As a result, this pushes prices and margins downward (Devlin, 1995). Online

banking offers full range of services including some services not offered at branches. The biggest benefit of online banking is that it is cheap or even free to customers. Nevertheless, price seemed to be one factor militating against online banking (Sathye M. , 1999). This enable customers to be more loyal to their bank than non-online banking customers (Mols, 1998).

Online banking does not only benefit customers but also the bank itself. (Kesseven Padachi, 2007). Cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and fulfillment are the main benefits that are enjoyed by the banks (Chanaka Jayawardhena, 2000) (Kesseven Padachi, 2007). Online banking creates a path in reducing paper work and human error, which subsequently minimize disagreements besides lowering fees (Ahmad Kaleem, 2008), (Kiang, 2000). Online banking able to provide low transaction cost together with high speed of service unlike traditional banking services (Asst.Prof.Dr.Burcu İlter, 2009). The more transactions can be converted online, the more money will be saved. Besides that, online banking also strengthens the relationship between the bank and the service users, because it brings banking services directly to a customer's home, office, or in to the mobile phone. This creates customer loyalty and retention. Online services are a must for banks that have to compete with a growing number of services from other financial institutions. In addition, banking is no longer tied to time and place. As a result, global competition is expected to widen (Helve, 2000). Once a customer uses full-service of the online banking, he or she is unlikely move to another financial institution (Sheshunoff, 2000).

This behavior can be found in the consumer behavior theory which explains about switching cost. Switching from one bank to another requires much time and effort from the individual consumer.

Electronic banking customers are more valuable to banks than other customers with similar demographics. Electronic banking services can achieve better cross-channel productivity and performance (Burns, 2000). Hence, he concluded that the competitive advantage of online banking is very important for banks.

In many developing countries, online banking is still in the beginning stage although online banking is very common in many developed countries (Alain Yee, 2010). Most of them are still not using online banking channels due to several reasons. An access to the internet is needed in order to utilize the service. In addition, new online users need first to learn how to use the service (Mols N. B., 1999). Secondly, those who do not use online banking often complain that online banking have no social dimension, for example, the way you are served in a face-to-face situation is not the same as online banking (Mattila, 2003). Thirdly, customers whom facing security issues (Sathye, 1999); (Hamlet, 2000); (Howcrowft, 2002). Even though, electronic banking offer many opening for the banks, it is also restricted due to safety concerns, complexity and technological problems (Sathye ,1999); (Mols N.,1999). The term trust describe a measure of risk (Hewer, 1999). However some dispute that banks can enhance long lasting relationships with customers only if trust, commitment, honesty and cooperation is developed between them. (Tyler, 1999) Study found that there are many customers' who complain about computer logon times which are more often than not longer than making a telephone call (Nancy B., 2001). Besides that, users also felt that they have to check and recheck the forms filled in online, as they are concerned about making

mistakes. Customers are unsure that a particular transaction has been completed due to frequent slow response time and delays of service deliver (Jun, 2001). Customers are not willing to use online channels for commerce because of the disruption of information access (Min, 1999). Online banking adoption studies has been carried out in many developed and Western countries. Yet, studies for a developing and fast growing country such as Malaysia remain very few. Therefore this study attempts to investigate the factors that can influence users' acceptance of online banking in Malaysia.

2.2 TECHNOLOGY ADOPTION MODELS

Many of previous studies and research with various frameworks has been carried out to review the adoption scenario of IT application in the market, such as online banking. They were proposed to identify the factors or determinants influencing the acceptance of technology in the consumers' context (Lin, 2005). One of the most common models used by researchers in the study of individual's adoption of technology is Technology Acceptance Model (TAM) (Davis F. ,1989). TAM proposed that both the perceived usefulness and perceived ease of use can be used to forecast the attitude towards using new technology. This influences the behavioral principle to use the actual system directly (Davis F. , 1989); (Venkatesh V. M., 2003). Perceived usefulness is defined by Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis F. , 1989) As a result, customers will adopt the system if they believe the system will bring benefits such as reducing time spent on going to bank and improving effectiveness (Rao, 2003). According to TAM, perceived ease of use is "the degree to which the prospective adopter expects the new technology adopted to be a

free effort regarding its transfer and utilization” (Davis F. , 1989). The chances of customers to use the system will be greater if they feel that online banking is easy to use and free of hustle. A comprehensive evaluation of analysts of technology adoptions by organizations and individuals that were issued out between 1992 and 2003 and found that TAM is one of the most widely used technology adoption model (Jeyaraj, 2006). Although TAM was first introduced in 1989, it is still being widely used (Jeyaraj, 2006). However, many studies states that TAM itself is inadequate to explain users decisions to adopt technologies, therefore they use TAM as a base model and extended the model by adding more variables to the model depending on the types of technologies they studied. For example, (Kamarulzaman, 2007) on his study of internet shopping adoption drew upon TAM and included personal and cognitive influence. (Amin, 2007) also modified the original TAM by including professed reliability and the amount of information on mobile credit card were supplementary to his study of mobile credit card usage intentions. Various extensions to the TAM were also carried out in the study of online banking such as those conducted by (Tero Pikkarainen, 2004) also used TAM as a base. It included a variety of causes such as security and privacy, enjoyment and amount of information. Other researchers have also tried to merge TAM with other technology adoption models. TAM was applied with other technology adoption models such as Innovation Diffusion Model and TAM2, which is an addition of TAM in their study on online banking execution in Brazil (Hernandez, 2007). Nevertheless, the model is a combination of TAM with another model known as Innovation Diffusion Model which looks at a technology’s characteristics in the study of technology adoption.

2.3 DIFFUSION OF INNOVATION THEORY

Diffusion of Innovation Theory (DOI) One of the widely used models in the area of innovation adoption by Rogers' "Diffusion of Innovation theory" (Rogers E.M, 1999, 2003). According to Roger there are two levels of adoption. First, innovation must be purchased, acquired and adopted by individuals or organizations. Then, it must be either accepted or rejected by the ultimate users in the society or community. The comparative newness of these innovations and the linked hesitation is what distinguishes innovation adoption decisions from other types of decision making (Gerrard, 2003). However getting a new idea adopted, even if it has obvious advantages, is difficult. From the time when they become accessible, to the time when they are widely adopted, many innovations need a lengthy period of many years. Furthermore the same innovation may be attractive for one situation but unattractive for another potential adopter. (Erol, 1989); (Erol ,1990); (Gerrard, 2003). There are five main characteristics of innovations: Relative advantage, compatibility, complexity, observability and trialability as the most important explanation of the rate of innovation adoption (Yusof, 1999); (Sohail, 2002); (Rogers, 2003). Most of the difference in the rate of adoption of innovations, from 49 to 87 percent is explained by these attributes (Rogers, 2003). Thus, the diffusion literature provides an ideal framework to be applied to the present research which, seeks to extend the study area in a service innovation context, the innovation being banking industries perspective.

Based on accessible studies, this research will also use TAM as the base model and will enlarge the model by including constructs from Innovation Diffusion Model (DoI)

together with some other controlling variable like perceived enjoyment, quality of internet connection, Government support, Trust, security and privacy and computer self efficiency in the research which we believe are important predictors for the adoption of online banking in Malaysia.

2.4 LITERATURE OF VARIABLES

2.4.1 Perceived usefulness (PU)

Two components of Technology Acceptance Model (TAM) are perceived usefulness and perceived ease. Perceived usefulness is the extent to which the individual believes that online banking is more beneficial when compared to traditional way of carrying out banking transactions. These benefits consist of allowing them to conduct banking activities anytime, anywhere (Alain, 2010). According to (Davis 1989) perceived usefulness defined as the extent to which a person thinks that using a specific system will improve that particular person's job performance. Perceived usefulness has a strong influence on users intentions to adopt the technology based on past studies on technology adoptions.

2.4.2 Perceived ease of use (PEOU)

Similar like perceived usefulness, perceived ease of use is also derived from TAM. Perceived ease of use refers to the degree to which a person believes that using a particular system would be free of effort (Davis, 1989). Besides perceived

usefulness, perceived ease of use has also been validated as important element in the adoption of an information technology, like online banking (Wang, 2003). Based on (Rogers, 1995) findings, difficulty of one particular system will discourage the adoption of an innovation. Given that users do not have face-to-face interaction in an online environment, user friendliness and the ease of use of the web sites will lessen the threat to use internet banking by the customers. An application perceived to be easier to study and easier to apply than another is more likely to be accepted by users. However, not all studies indicate that perceived ease of use has a significant influence on the adoption of online banking (Tero Pikkarainen, 2004). The study found out that perceived ease of use was not statistically significantly affecting the use of online banking. Consequently, perceived ease of use has less impact on technology acceptance. Compare to (Wang, 2003) found that perceived ease of use had a significant positive effect on the attitude and behavioral intention. This finding refers to the fact that users who have a higher computer self-efficacy are likely to have more positive perceived ease of use.

2.4.3 Perceived Enjoyment (PE)

Enjoyment refers to the degree of which the activity of using a computer is perceived to be enjoyable in its own right (Davis F. B., 1992). However this statement is slightly differing from perceived usefulness, which can be seen as an extrinsic motivation but Perceived enjoyment, is known for intrinsic motivation to

use the information systems. Definition of perceived fun and perceived playfulness are quite similar to perceived enjoyment's concept; which in this research all are handle as the same (Tero Pikkarainen, 2004). Some of the studies focused on perceived fun and perceived playfulness (Tero Pikkarainen, 2004), (Igarria, 1994). He also mentioned that perceived fun refers to the performance of an activity for non apparent of reinforcement other than the process of performing the activity. Perceived playfulness as consisting of three parts which is curiosity, enjoyment and concentration. Both of the study has found be significantly impact on the intention to use the internet. Apart from that there are a number of studies on perceived enjoyment, for example, (Nysveen, 2005); (Tero Pikkarainen, 2004) (Teo, 1999); (Igarria M. L., 1995) and (Davis F. B., 1992) have noticed the importance of the construct. Out of these, the studies conducted by (Nysveen, 2005) and (Teo, 1999) highlight that perceived enjoyment significantly affects objective to use electronic system. For example (Nysveen, 2005) found that perceived enjoyment correlates positively with the intention to use mobile chat, which is a stronger determinant for female users compared to male users.

2.4.4 Perceived Reliability (PR)

Reliability speaks about the soundness of web site design and includes feature such as functioning web site and dependable web site design. Element like "24 h service", constant enhancement of financial information, "up to date mainly on the salary day when you go in the morning it's updated" (Mary Loonam, 2008)

and web site design were deemed important to e-banking consistency. As a financial institution banks do not provide any promotional deal such as buy one get one free, or physically send products to end users, online banking reliability related more towards the availability and actual content of its services.

2.4.5 Triability and Observability

Trialability is defined as “the degree to which an innovation may be experimented with on a limited basis. Trialability allows individuals to “test drive” an innovation before it is being adopted. In another words its enabling users for trial perhaps prove how easy it is to use online banking over the traditional methods. It might be removing certain perception on the complexity. Especially for those who are hesitant and worried about the service, it may give them the necessary confidence (Brown, 2004). It has been elaborated by Roger’s definition for trialability as “ the extent to which users would have possibility to test the innovation prior to committing to its usage”. The context of online banking innovation noticed that there are two different kind of views for trial such as provide an opportunity for the potential users (Brown, 2004); (Polatoglu V. &., 2001) and (Kolodinsky, 2001) or enabling users to note the achievement of

online banking by others also known as persuade of user group (Al-Sabbagh, 2004). Observability, which is defined as “the degree to which the results of an innovation are visible to others.

2.4.6 Government Support

Government support is one of the important attendances in the adoption of online activities (Jaruwachirathanakul, 2005);(Tornatzky, 1982).Government can assist to support the online banking adoption by investing in the infrastructure. Government from Singapore, Japan and Malaysia are the good example of heavy investment in IT infrastructure (Chong ,2008). Besides supporting with the good infrastructures, the Malaysian government has implemented a clear cyber law, improve users confidence in online banking and promote various online services such as e-government web sites that are easily accessible. Rosetta Net adoption identifies that Malaysia plays an important role in online services through incentives such as grants and tax exemptions (Chong , 2008). Apart from Malaysia, a study in Singapore by (Tan M. a., 2000), found that government’s support significantly persuade the users’ intention to adopt online banking Implementing and the adoption of Electronic data interchange (EDI) an online programme through educational system which steted as one of the success storey of Singapore government (Burn, 1995).

2.4.7 Information on online banking

The amount of information that the users has about online banking has been identified as a major factor impacting the adoption (Tero Pikkarainen, 2004). Based on the study by (Sathye M. , 1999) found 69% of business customers were not using online banking because they were not clear about the benefits of online banking. Low awareness of online banking is a factor in causing people not to adopt online banking. It has been argued that amount of information is positively correlated with intention to use online banking (Tero Pikkarainen, 2004). This also emphasis that the amount of information about online banking to be considered as the most influential factor in explaining the use of online banking services. However another study which is contradicting with the above finding; according to Ramayah and Ling (2002) who conducted a research in Penang, Malaysia found that awareness is not an issue because their respondents are aware of online banking. This means the banks have been successful in promoting and creating awareness of the products and services on the users.

2.4.8 Security

Security and privacy over the online transaction is also one of the major issue and important factor for customers to consider before the adoption on the online facility. Some of the customers tend to avoid online banking as they believe it can be easily vulnerable to misleading and fraud. This perception can spoil consumers' confidence towards online banking. Based on finding by (Sathye M. ,

1999), 73% avoided the adoption of online banking due to safety and security issue over internet. Apart from that he also found that consumers are not willing to change the existing way of banking to the new way (e.g online banking) unless their specific needs has been satisfied. A comprehensive study on the adoption of online banking in Brazil and their results are consistent with other studies, which support the importance of security and privacy in influencing the adoption of online banking (Hernandez, 2007).

2.4.9 Trust

Trust is an important element which affects consumer's attitude that determines the success of the adoption of online business (Chen, 2007). Trust is one of the essential factor and complex in the online banking than traditional banking because the nature is underlying virtual environment. So, customers need to trust the online environment and online transaction before proceeding. Without trust the consumer will avoid making any online transaction. Technology trust plays an important and influencing role in the usage of online banking (Grabner-Krauter, 2008). One of the factor which influences the technology trust is whether the system is secured or not and they recommended that it is possible for banks to improve the security of the system to increase the level of consumers trust. In view of the fact that the impact of trust on intention to adopt online banking is difficult to be ignored in this study (Alain, 2010).

2.4.10 Quality of Internet connection

Quality of Internet connection is seen as one of the important factor for any online based applications (Li, 2004). It has been emphasized that Internet access as one of the factors affecting the adoption of online banking (Sathye, 1999). It is not possible to use online banking without a proper Internet connection. It has been found that problems such as slowness, poor navigational possibilities, poor interactivity and critical incidents such as lack of help and empathy by internet banking service providers, cause of move to another financial institution or negative word-of mouth (Broderick, 2002) and (Kesseven Padachi S. R., 2007).

2.4.11 Demographic characteristics

Many studies have explore the effects of the customers' demographic characteristics such as educational level, Income, Age and gender on their attitude towards online banking and the individual behavior in the acceptance of new technology. According to (Lee, 2001) identified that the adopters of online banking tend to be younger, more wealthy, highly educated with good knowledge of computers.

2.4.11.1 Age

It is identified that elderly customers have negative attitude towards technology and innovations compared to the younger ones. The

younger people were identified to be more interested in using new technologies. They like the Internet to conduct activities such as looking for new products and its information to compare and evaluate their options. Age has a significant influence on user acceptance of online banking (Czaja,1998), (Czaja,2001) and (Wang,2003) Moreover, young individuals are more likely to adopt online banking (Alagheband, 2006). Generally, (Harrison, 1992) suggest that there is a strong relationship between age and the acceptance of innovation where he found that older consumers are found to hold more negative attitudes towards new technologies.

2.4.11.2 Income

Wages has shown strong impact on the adoption and diffusion of technology; especially age between 26 and 45, with higher income, higher occupational positions, and higher educational qualifications (Venkatesh V. a., 2001). According to a European survey conducted in 2002, adult decision makers with a personal annual income of 77,240 USD are fast in taking up new technology, with 26 per cent using a WAP (wireless application protocol) phone (Crawford, 2002).

2.4.11.3 Gender

Studies have found that there is a difference between the males and females in using various types of technology (Burke, 2002). Gender as an important determinant of short-term usage, and can be used to predict sustained usage behavior in individual adoption and continued usage of technology in work places (Venkatesh V,2000).

2.4.11.4 Education Level

Education also plays vital role to determine the attitude toward technology use. Higher educated customers such as university graduates are more comfortable in using online banking, reason being is education often positively correlated with an individual's level of Internet literacy (Burke, 2002).

2.4.12 Attitude and behavior

Based Social cognitive theory's human behavior as an interaction with personal factors, behavior, and the environment (Bandura, 1977); (Bandura 1986).This also has been agreed by Kelman's findings in his studies indicates that social influences have direct effects on the user's attitude and indirect effects on their behavioral intentions via attitude.