

## CHAPTER 2

### LITERATURE REVIEW

This chapter provides the definition and introduction of IB, TAM and each construct such as: perceived usefulness, perceived ease of use, trust, government support and social influence. We also look at these constructs in some previous studies and then based on those literatures the hypotheses of this study will be developed.

#### 2.1 Internet Banking

The competitive pressures and the changing requirements of consumers have urged upon the banking industry to develop new and innovative technologies and tools (Juwaheer, Pudaruth, & Ramdin, 2012). IB has revolutionized the banking industry worldwide (Malhotra and Singh as cited in (Yang, Lu, Gupta, Cao, & Zhang, 2012)).

Shih and Fang as cited in (Juwaheer et al., 2012) describes internet banking as a new type of information system that uses the innovative resources of the internet and WWW (world wide web) to enable customers to effect financial activities in virtual space. For example, it allows customers to perform a wide range of banking transactions electronically via the bank's web site (Tan, 2000).

Traditional banks are often characterized by long queues especially during peak hours (The Times of India as cited in [24]), but with IB users do not have to do that and can perform common banking transactions such as writing cheques, paying bills, transferring funds, printing statements, setting up fixed deposits, purchasing investment related funos and enquiring about account balances whenever and wherever (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010). Internet banking has evolved into a "one stop service and information unit" that promises great benefits to both banks and consumers (Tan, 2000).

IB is common in many developed nations, but for many developing countries IB is still very much at its infancy, especially for countries like Vietnam, which are still building up their IT infrastructure. Although online banking is quite strange to many



Vietnamese users and is still at an early stage of development, but with 31.304.211 Internet users hold 35,58 % of population (according to Vietnam network information center - <http://www.vnnic.vn/en/stat/report-internet-statistics?lang=en>) , there is a huge market potential for banks to explore.

## 2.2 Technological Acceptance Model

It has been found that user's attitude towards the acceptance of a new IS has a critical impact on its success (Succi & Walter, 1999) (F. Davis et al., 1989) (Venkatesh & Davis, 1996). Researchers have been trying to explore factors that influence on individual's acceptance of IT in order to enhance its usage. Several theoretical models have been proposed that have their roots in ISs, psychology and sociology (Venkatesh, Morris, Davis, & Davis, 2003). The current study proposes the application of the TAM to find out factors which have significant influence on the adoption of IB system. TAM as illustrated in Fig. 2.1 is one of the most utilized models for studying IS acceptance (Al-Gahtani, 2001) (Venkatesh & Davis, 1996) (F. Davis et al., 1989).

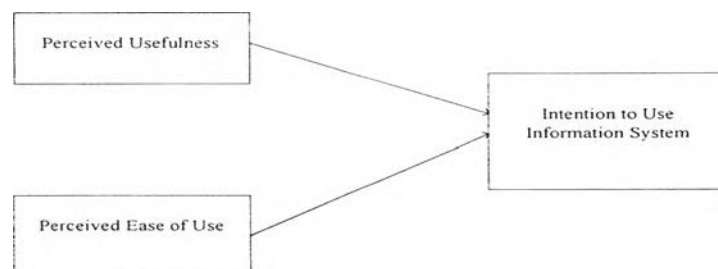


Figure 2.1: Technology Acceptance Model (TAM) (Based on Davis et al. 1989)

Davis (F. Davis, 1989) developed the TAM in studying the determinants of IT usage. The reason for its popularity is because of its parsimony and the wealth of empirical support for it (Agarwal & Prasa, 1999) (Adams et al., 1992). Among the many replications and adaptations of the model or its instrument, there is a common agreement among them that the model was valid in predicting individual's acceptance of various technologies (Adams et al., 1992) (Chin & Todd, 1995) (Doll, Hendrickson, & Deng, 1998) (Segars & Grover, 1993).

The goal of TAM is to provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified (F. Davis, 1989). TAM can be seen as an adaptation of the generic Fishbein and Ajzen's Theory of Reasoned Action (TRA) and was developed to explain individual system use in the workplace (F. Davis et al., 1989). This is a psychological theory that seeks to explain an individual's action which is determined by his/ her behavioral intention to perform it (Fishbein & Ajzen, 1975).

TAM suggests that the perceived usefulness and ease of use can be applied to predetermine the attitude towards using new technology which on the other hand influences the behavioral intention to apply the actual system directly (F. Davis et al., 1989). Perceived usefulness (PU) is described as "the extent to which a person believes that using a system will increase his or her job performance". Perceived ease of use (PEOU) is defined as "the degree to which a person believes that using the system will be free of effort regarding its transfer and utilization" (F. Davis et al., 1989).

Many researches state that TAM itself is insufficient to explain users' decisions to adopt technologies, so they use TAM as a base model and extended the model by adding additional variables to the model depending on the types of technologies they studied (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010). Various extensions to the TAM were also conducted in the study of online banking such as those conducted by [16] the authors drew upon TAM and included government support and trust. Other researchers have also attempted to combine TAM with other technology adoption models. In (Juwaheer et al., 2012) the authors combined TAM with theory of reasoned action (TRA) and theory of planned behaviour (TPB) in their study on Factors influencing the adoption of internet banking: a case study of commercial banks in Mauritius. Hernandez and Mazzon as cited in [16] applied TAM with Innovation Diffusion Model and TAM2, which is an extension of TAM in their study on online banking implementation in Brazil.



Rely on existing researches, my study will also apply TAM as the base model and extend the model by including the Vietnamese's government support, social influence and Vietnamese consumers' trust on security and privacy since the unclear internet laws and regulations in Vietnam which I believe are important for the studies of online banking adoption in Vietnam.

The Vietnamese government is aware that e-Commerce will hold an important role in their country development, so the government is trying to issue policies, regulations, directions or develop the infrastructure to support financial sector and banking. For example, a national project called "Electronic commerce technique" has finished partially during the time this report has been made, and will soon be approved and applied by the government (cuong, 2003). Therefore, I believe that it is important and necessary to investigate if the Vietnamese government's support can impact on the adoption of online banking. As with many internet technologies, it is crucial to examine if users' trust on security and privacy will influence the acceptance of online banking. Vietnam is an agricultural country and everyone keep strong relationship with their relative, friend, peer, colleague and people around them. Thus, before they decide to adopt a new technology they often reference their family, friend and colleague, especially people who are important to them. That why I include social influence factor in my research.

For above reasons, my study keep the original variables derived from TAM which are perceived usefulness and perceived ease of use, and extend TAM by incorporating trust, government support and social influence which I believe will play a major role in influencing Vietnamese users' decision to adopt online banking.

### 2.3 Perceived usefulness

In my research Perceived usefulness is the content of which an individual believes that IB is more advantageous when compared to traditional way of conducting banking transactions. The most advanced benefit of IB is that consumer can do transaction anytime and anywhere.

Previous researches on technology acceptance have consistently pointed out that perceived usefulness has a significant influence on users' intentions to adopt



the technology. Azim (Azim, Ali, & Sattar, 2011), C.Lim (C.Lim, 2013) and Salari and .Salajegheh (Salari & Salajegheh, 2011) found that perceived usefulness is one of the most significant influence on the intention to use online banking among the consumers.

One of the most common factors which is applied in existing online banking literatures is perceived usefulness. Chong (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010) in their study of Online banking adoption in Vietnam found that perceived usefulness is one of the most significant influence on the intention to use online banking among Vietnamese consumers. Salari and Salajegheh [34] also pointed out that perceived usefulness is one of the main factors affecting the acceptance of Internet banking at Mellat bank branches in Isfahan city, Iran. Chong (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010) carried out a survey consisting of 200 online banking users and non-users in Manila to find out the factors that affect the adoption of online banking in Manila, Philipin and his finding was consistent with prior studies i.e. perceived usefulness plays a significant role in determining Philippines users' intentions do adopt online banking.

Jaruwachirathanakul and Fink (Jaruwachirathanakul & Fink, 2005) conducted a study on Thailand, a country in Southeast Asia as well as being a fast growing developing nation like Vietnam, also showed that perceived usefulness is able to inspire Thai consumers to use online banking.

#### 2.4 Perceived ease of use

Along with perceived usefulness, perceived ease of use is derived from TAM. Even though the customers may believe the given application is useful, but at the same time they might think that the system is difficult to use (F. Davis, 1989). Besides perceived usefulness, perceived ease of use has also been indicated as an important determinant in the acceptance of a lot information technologies, such as IB (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010), intranet (Chang, 2004), wireless internet (Lu, Yu, Liu, & Yao, 2003) (Shih & Fang, 2004). At the side of Roger (Rogers, 1995),



complexity of one particular system or technology will become the preventer that constrain the adoption of an innovation.

Users do not have face-to-face interaction in an internet environment, user friendliness and the ease of use of the web sites will lessen the threat to use internet banking by the customers ((A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010). An application perceived to be easier to learn and easier to use than another is more likely to be accepted by users (Pikkarainen et al., 2004). Gounaris and Koritos (Gounaris & Koritos, 2008) applied the Perceived Characteristics of the Innovation (PCI) model in their research of online banking and included perceived ease of use their model. The result of their research showed that perceived ease of use was able to better the prediction of customers' acceptance of online banking. C.Lim (C.Lim, 2013) applied the TAM model to examine the factor that affect the adoption of online banking in Manila, Philippines also concluded that perceived ease of use has a significant influence on the intention to use IB among customer in Manila. Nevertheless, not all studies concluded that perceived ease of use is an important determinant of the adoption of online banking. According to Pikkarainen (Pikkarainen et al., 2004), Eriksson (Eriksson, Kerem, & Nilsson, 2005), and Chong (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010) perceived ease of use do not impact on the intention to use IB.

## 2.5 Trust

IB transactions contain very sensitive information about customers (Gefen, 2000), (Morgan & Hunt, 1994). Individuals fear providing sensitive information such as financial details on the net, as a result of security defects and distrust of service providers (Suh & Han, 2002). Customers generally stay away from an e-service provider whom they do not trust (Jarvenpaa & Tractinsky, 1999). Trust is at the heart of all kinds of relationships (Morgan & Hunt, 1994). Trust is an important element affecting consumer behavior and plays an important role in the success of technologies adoption such as e-commerce (A. Y. Chong, Ooi, K.B., Lin. B., Tan, B.I., 2010). In the current study, trust within online banking is defined as the extent to which a person believes that using IB is secured and has no privacy threats. Therefore



my work stands on the side of consumer's perception and concentrates on the element of security and privacy to find out that whether they believe transactions on IB is secured and private. Such definition is alike to (Eriksson et al., 2005) in which they define trust from the customers' awareness about security and reliability of the online banking system.

According to Sathye (Sathye, 1999) security and privacy concerns are seen as the "biggest obstacles" to the acceptance of online banking in Australia. Trust is also more crucial and complex in internet banking than traditional banking due to its virtual environment (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010). Therefore, to encourage customer conducting online transaction, banks have to achieve customer's trust in the online business and online transaction of the bank. Lacking trust customer will keep away from making any transaction online. This is outstandingly important in a Vietnamese culture whereby almost transactions are conducted face to face and most people have little experience on internet transactions.

Zhang (Zhang et al., 2008) conducted a comprehensive research on factors affecting customer's interaction with online bank in China indicated that Trusting beliefs had strongest relationship for user's intention to process transaction online.

Azim (Azim et al., 2011) in their study Factors Influencing Adoption of Information Technology Based Banking Services: A Case Study of Pakistan, which like Vietnam is at an early stage of online banking implementation, found that the intention to use the service is mainly due to trust in the service provided by banks.

Consistent with other studies, Juwaheer (Juwaheer et al., 2012) in their research on Factors influencing the adoption of internet banking: a case study of commercial banks in Mauritius pointed out that both trust and security aspects are deemed crucial factors to explaining internet banking adoption in Mauritius.

Chong (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010) investigated the factors that affect the adoption of online banking in Vietnam, found that trust positively associated with the intention to use online banking in Vietnam.

Salari and Salajegheh (Salari & Salajegheh, 2011) in their Analysis of Factors Affecting the Adoption of Internet Banking. Case Study: Customers of Mellat Bank in Isfahan City, Iran Indicated that trust is the "heart of the system" for online banking.



Thus, I can say that IB is vulnerable to greater sense of unsafe than older banking services and thereby the role of trust is also relatively higher in acceptance of IB.

## 2.6 Government support

Goh,H.P (Goh, 1995) recommends that, as supporting technological infrastructures become easily and readily available, e-commerce applications such as banking services will also become more feasible. As a result, Internet users would be expected to be more willing to adopt Internet banking. Goh also suggests that the government can be a leadership and play an intervention role in the diffusion of innovation.

Government's support is one of the primary driving forces in IB adoption (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010), (Jaruwachirathanakul & Fink, 2005). Government can strengthen IB acceptance by investing in infrastructure for example, expand bandwidth, use fiber optic cabling. Singapore, Japan and Malaysia can be seen as typical examples for Government's heavy investment in IT infrastructure (A. Y. Chong & Ooi, 2008).

The study of online banking adoption in Singapore (Tan, 2000) indicated that government's support significantly influence the users' adoption online banking. During the 1990s, the Singaporean government successfully promote the adoption of electronic data interchange (EDI) through educational program as well as providing success stories of EDI implementation from other countries (Burn, 1995).

Malaysian government has been seen as the promotion of using various online services for example, having more e-government web sites that are easily accessible (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010). Chong [16] also indicated that Malaysian government has invested in commercials aired on television as well as radio to promote e-government web sites such as MyEG service, which allows users to renew their road tax online. Along with promotion and supporting with infrastructures, government has a vital role in defining a clear cyberlaw will also improve users' confidence in online banking (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010).





In Vietnam, Government support is the major element in the development of e-commerce. Policy and regulatory environment for the ICT application and development has been significantly improved. According to ((NSCICT), 2011) which is published by the National Steering Committee on ICT, about 180 legal documents on ICT were issued in the period 2001-2010, including Electronic Transactions Law 2005, IT Law 2006, Telecommunications Law 2009, Radio Frequency Law 2009, Postal Law 2010, or the Decision No. 1755/QD-TTg of the Prime Minister on September 22, 2010 to approve the National Strategy on “Transforming Viet Nam into an Advanced ICT country, etc. These documents have created a legal system and made important contributions to promote ICT application and development in recent years. Beside that telecommunications infrastructure has reached international standards and regarding human resources development, in the period 2000-2010, the number of IT training institutions has been increased considerably [50]. Although Vietnamese government has been got many successes in supporting and encouraging of using e-commerce, Vietnamese still primarily carry out their transactions in cash ([http://www.paradissa.com/vietnam/vietnam-travel-guides/money-and-banks\\_en.html](http://www.paradissa.com/vietnam/vietnam-travel-guides/money-and-banks_en.html)). Therefore the government would still need to support and encourage their citizens to conduct transactions online and thus make use of online banking.

As Chong (A. Y. Chong, Ooi, K.B., Lin, B., Tan, B.I., 2010) revealed, Vietnamese government still needs to work on particular areas to improve the e-commerce acceptance in Vietnam as well as the government can aid to enhance the confidence of users through establishing a clear cyber law. For example Vietnamese government should encourage users to adopt online banking. This is because online banking will allow the banks to operate more efficiently, thus improving the competitiveness of the Vietnamese banking industry. Moreover, foreign investors would also be more willing to invest in a country if the country is making use of e-commerce technologies in their businesses.



## 2.7 Social influence

Social influence refers to “the person’s perception that most people who are important to him think he should or should not perform the behavior in question” (Fishbein & Ajzen, 1975). People’s analysis of their social environment is likely to influence their adoption of new technology; for example, a person may show more willingness to adopt a technology if his/her friends and/or family members use it. Several technologies such as internet, social networking, SMS etc gained popularity mainly because of the influence of SI on (Somali & Ghinea, 2012).

Attitude toward behavior is a function of the product of one’s salient beliefs that performing the behavior will lead to certain outcomes, and an evaluation of the outcomes, i.e., rating of the desirability of the outcome. It is assumed that social influence is determined by the total set of accessible normative beliefs about the expectations of important referents, including for example, relatives, friends and other social contacts (Wenchao & Jordan, 2009). Social influence relates to intention since people often act based on their perception of what others think they should do (Tan, 2000).

Social influence has been recognized to be more important in the early stages of innovation implementation when users have limited direct experience from which to develop attitudes (Taylor & Todd, 1995). In terms of a consumer-oriented service, the consumer-relevant groups around the individual may impact on the individual’s adoption [10]. Chua (Chua, 1980) indicated that user’s friends, family, and colleagues/peers are groups that will potentially influence the adoption.

About the previous studies of factors influencing the adoption of IB, there are various results from different studies for example, in the research of factors influencing the adoption of IB in Singapore, a country in Southeast Asia like Vietnam, Tan and Teo (Tan, 2000) indicated that the effect of social influence on consumer’s adoption of using internet banking is not significant. Similarly, Wenchao and Jordan (Wenchao & Jordan, 2009) pointed out social influence negatively affect people attitude toward using IB in China. In contrast, Somali and Ghinea (Somali & Ghinea, 2012), shown that social influence positively affect people’s attitude towards using e-



banking. Moreover, according to Khanfar (Khanfar, 2007) social influence has a significant impact on intention to use IB in his of study the growing population of IB among UAE consumers.

In many researches, social influence is a significant determinant of customer's intentions (Hsu & Chiu, 2004). In Vietnam, most of Vietnamese customers live in relationship networks and try to make their acts consistent with others or at least not reverse the current social tendency. A person will become more confident in accepting a new technology if they see someone in their social circle using it. Thus, some rules, habits and other people behavior may influence customer's acceptance. In addition, prestige is an outstanding feature of Vietnamese culture, typically, everyone often keep and strengthen their prestige by their act such as they usually try to imitate the behavior of others. These are significant signs for banks in Vietnam to keep and attract more users in IB because of increasing the acceptance of IB to particular extent may direct a chain reaction as individuals can accept IB by looking at other people in their relationship network using it.

Although there is no basis on which to predict how the environment, people around an individual will affect his/her intentions to adopt IB, it is nonetheless expected that the influence of these groups as a whole will be positively related to the individual's intention to accept IB.

