



ADOPTION OF ONLINE BANKING IN MANILA: WHAT THE COMMERCIAL BANKS SHOULD LEARN TO BE COMPETITIVE

Edralin C. Lim
De La Salle University

ABSTRACT

The researcher conducted a survey consisting of 200 online banking users and non-users in Manila. The sample represented the profile of the respondents based on gender, age, civil status and education. This research examined which factors affected the acceptance of online banking in the Philippines and used factor analysis and multiple regression analysis to study the relationship. The results of the study showed that determinants such as perceived usefulness and perceived easy to use positively affected the intent to use online banking. This research recommended that learning the determinants affecting the intention to use online banking is important to the commercial banks to make them competitive in the banking industry.

Keywords: E-Banking; Online Banking; Online Adoption

INTRODUCTION

The different services of E-Banking have developed significantly from ATM to phone banking to online banking. This technological evolution has yield popularity in different parts of the world. Online banking is a present-day phenomenon which is widely used by large number of clients. Online banking is convenient to use. It saves time and cost. Clients can manage their finances better through online banking (CRM Today as cited in Sarlak and Hastiani, 2011). More than 65 million U.S. customers have liquid deposit accounts (LDAs) in the first quarter of 2011 (Clancy, 2012).

Online Banking is offered by commercial banks for many years. However, the safety of online transactions has brought some issues. But with the advancement of electronic checks and digital cash payment systems, the financial system will be more protected with the use of online banking (Talukder, n.d). To have total security, banks in first-world countries use the most advanced data encryption algorithm and the certificate VeriSign for website

identity and authenticity verification (Miranda-Petronella, 2009)

Banks consider online banking as a mighty weapon to bring in new clients and keep them. However, some basic issues need to be considered as these may influence the acceptance of online banking. These issues are as follows: availability of access to the internet, the creation of awareness and the ease of use of the innovations, speed of downloading information from website, human interface, online privacy and security (Talukder, n.d.). For a commercial bank to be competitive in the banking industry, it needs to assess and address the said issues.

The recognition given to online banking all over the world is flourishing intensively. However, the study held concerning the acceptance of online banking has been inadequate. Therefore, the study aims to examine the factors that affect the adoption of online banking in Manila. The outcome of the research will be beneficial to the commercial banks to concentrate on the determinants that will induce the acceptance of online banking in Manila.



LITERATURE REVIEW

E-Banking

E-Banking is defined in many ways. These definitions are primarily focused on the various distribution channels of financial institutions like the use of internet, phone, automated teller machine (ATM) and kiosk (IT Director, 2002; Bankers Online, 2003; FFIEC, n.d.)

IT Director (2002) defined e-banking as “the use of electronic channels to communicate and transact business with both domestic and international customers, primarily through use of the Internet and the World Wide Web.”

Bankers Online (2003) defined e-banking as “an umbrella term for the process by which a customer may perform banking transactions electronically without visiting a brick-and-mortar institution.”

Federal Financial Institutions Examination Council (n.d) defined e-banking as “the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels. “

The development of banking technology has been motivated by innovations in the media of delivery as proven by automated teller machine (ATM), phone banking and the latest of which is the internet banking. (Chang as cited in Auta, 2010) E-banking is also identified as online banking which utilizes the internet as the distribution channel in order to operate diverse activities such as transfer of funds, payment of bills, savings and checking account balances, payment of mortgages, purchase of financial instruments and certificates of deposits (Mohammed, Mahapatra and Kumar as cited in Auta, 2010).

Technological Adoption Model

Saga and Zmud as cited in Yaghoubi (2010) explains user adoption of information technology as “the act of receiving information technology use

willingly”. Researchers apply Technology Acceptance Model (TAM) which belongs to one of the most familiar models used in the study of the acceptance of information technology (Davis as cited in Chong, Ooi, Lin and Tan, 2010; Nasri, 2011).

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 (Davis as cited in Chong et al, 2010; Nasri, 2011). 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” (Davis as cited in Chong et al, 2010; O’Cass and Fenech as cited in Khrais, 2012).

The TAM has been assessed not only to be strong and economical model for illustrating the determinants of system usage but also important tool for system planning, since the system designers have some level of power over easiness and usefulness (Taylor and Todd as cited in Chong et al, 2010). Behavioral intention is described as a “measure of the strength of one’s willingness to exert effort while performing certain behaviors.” Attitude identifies the positive or negative evaluation relative to behavior in question (Chong et al., 2010).

Pikkarainen, Pikkarainen, Karjaluoto and Pahnla (2004), Yaghoubi (2010), Khrais (2012), Jaruwachirathanakul and Fink (2005), Celik (2008) and Chong et al (2010) found that perceived usefulness is one of the most significant influence on the intention to use online banking among the consumers. Adoption of online banking was studied in different countries such as Finland (Pikkarainen et al, 2004), Iran (Yaghoubi, 2010), Jordan (Khrais, 2012), Thailand (Jaruwachirathanakul and Fink, 2005), Turkey (Celik, 2008) and Vietnam (Chong et al, 2010).

Yaghoubi (2010), Khrais (2012), Gounaris and Koritos (2008), Wang, Wang, Lin and Tang



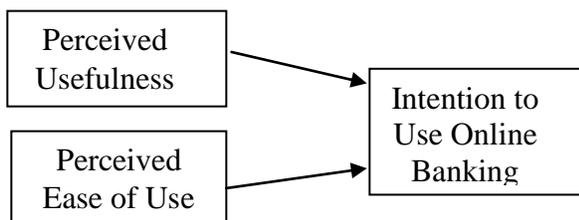
(2003) validated that perceived ease of use is an important determinant in adoption of online banking. However, Pikkarainen et al (2004), Eriksson, Kerem and Nilsson (2005) and Chong et al (2010) found that perceived ease of use do not influence the acceptance of online banking.

FRAMEWORK

The study adapted the framework by Chong et al (2010) to test the factors that have impact on the adoption of online banking in Manila. Figure 1 illustrates the two independent variables, perceived usefulness and perceived ease of use. The dependent variable is intention to adopt online banking.

Perceived usefulness includes 5 items such as easier to conduct banking transactions, manage own finances efficiently, increase productivity, easier communication with banks and belief that online banking is more useful than traditional ways of banking. Perceived ease of use includes 5 items such as easy to use, learning to use online banking is easy, interaction with online banking is clear and understandable, easy to remember how to perform task with online banking and easy to get online banking to do what I want it to do. Intention to use online banking includes 4 items namely: (1) Assuming that I have access to online banking, I intend to use it, (2) I intend to use online banking if the cost and times is reasonable for me, (3) I believe I will use online banking in the future, (4) I intend to increase my use of the online banking in the future.

FIGURE 1
Research Framework



HYPOTHESIS

- H1: *Perceived usefulness has a positive effect on adoption of online banking.*
- H2: *Perceived ease of use has a positive effect on adoption of online banking.*

Source: Chong et al (2010)

METHODOLOGY

A survey was conducted among 250 online banking users and non-users from Manila and 200 responses (80%) were received.

A total of 10 items were adapted to capture the two adoption factors such as perceived usefulness and perceived ease of use. The intention to use online banking adapted 4 items. Each question was measured by five-point Likert scale namely: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree.

A survey instrument was developed for testing the hypotheses in this study. In order to ensure the content validity of the scale used, the items for each construct from prior researches were adapted (Luarn and Lin as cited in Chong et al, 2010). Therefore 14 survey items for the three constructs in the questionnaire were adapted from Chong et al (2010). Cronbach's alpha is used to measure internal consistency (reliability) that accepts a reliability coefficient of at least 0.70.

The study used the factor analysis to test the items of adoption factors for online banking and intention to use. It used the multiple regression analysis to test the relationship between determinants of online banking adoption and intention to use online banking.

RESULTS AND DISCUSSION

Profile of the Respondents

The sample represented the profile of the online banking users and non-users in Manila based on gender, age, civil status and education. The male



to female distribution was 55% and 45%. Majority of the respondents were between 20 and 39 years old (58%). In terms of civil status, more than half of the respondents were married (62%). 38% of them were single. In terms of education, majority of the respondents were college graduate (62%). 14% of them had master’s degree. Few of them were college level (1%).

Factor Analysis and Scale Reliability

Perceived usefulness. The Kaiser-Meyer-Olkin (KMO) test was used to measure sampling adequacy of the factor analysis. The value was 0.793 which indicated a high degree of sampling adequacy. Note that a KMO value of 0.6 or higher is considered “acceptable”. The Bartlett’s Test of Sphericity was used to determine that the original correlation matrix is an identity matrix. If the correlation coefficient value is less than 0.001, then the R-matrix is an identity matrix and the factor analysis is appropriate. Barlett’s sphericity test was significant

Perceived ease of use. The KMO value was 0.805 which indicated a high degree of sampling adequacy. The Bartlett’s Test of Sphericity was significant at 1% (sig = 0.000) which supported the factor analysis. Based on the criteria that factor loadings for items should be greater than 0.5, retain the 5 items (PEU1, PEU2, PEU3, PEU4 and PEU5). The Cronbach’s alpha coefficient was 0.849 that indicated an acceptable level of reliability, higher than the recommended value of 0.7.

TABLE 2
 Statistical Results for Perceived Ease of Use

Item	Communalities (>0.5)	Cronbach’s alpha (>0.7)
PEU1	0.681	0.849
PEU2	0.676	
PEU3	0.571	
PEU4	0.610	
PEU5	0.587	

at 1% (sig = 0.000) and thus supported the factor analysis. Based on the criteria that factor loadings for items should be greater than 0.5, retain the 4 items (PU1, PU2, PU3 and PU4). The Cronbach’s alpha was used to test the internal consistency. The value was 0.803 that indicated an acceptable level of reliability. Note that a reliability coefficient of 0.70 or higher is considered “acceptable”.

TABLE 1
 Statistical Results for Perceived Usefulness

Item	Communalities (>0.5)	Cronbach’s alpha (>0.7)
PU1	0.610	0.803
PU2	0.621	
PU3	0.614	
PU4	0.591	

PEU5	0.587	
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Intention to use. The KMO value was 0.654 which indicated a degree of sampling adequacy. The Bartlett’s Test of Sphericity was significant at 1% (sig = 0.000) which supported the factor analysis. Based on the criteria that factor loadings for items should be greater than 0.5, retain the 2 items (IU1 and IU3). The Cronbach’s alpha coefficient was 0.951 that indicated an acceptable level of reliability, higher than the recommended value of 0.7.

TABLE 3
 Statistical Results for Intention to Use

Item	Communalities (>0.5)	Cronbach’s alpha (>0.7)
IU1	0.716	0.951
IU3	0.731	



Multiple Regression Analysis

Using the outcome from the factor analysis, the items for independent variables (perceived usefulness and perceived ease of use) and dependent variable (intention to use online banking) were aggregated in which factor loadings exceeded 0.50 were selected. Aggregation of the data allows combining all items under one heading. After the data were aggregated, the multiple regression was done to reveal which factors affect intention to use online banking.

The results of multiple regression equation showed that the model was adequate (F-statistic = 490.365) and significant at 1% level (sig = 0.000). This indicated that the overall model was reasonable fit. Perceived usefulness and perceived ease of use had positive significant effect on intention to use online banking ($R^2 = 0.833$). Both independent variables were significant at 1% level (sig = 0.000). Therefore, hypotheses H1 (Perceived usefulness has a positive effect on adoption of online banking) and H2 (Perceived ease of use has a positive effect on adoption of online banking) were supported.

Discussion:

This study provided support for the proposed research model. The hypotheses were developed and tested by using the reliability test, factor analysis and multiple regression. The results fully validated the developed hypothesized relationships, the significant effect of perceived usefulness and perceived ease of use on intention to use online banking.

Perceived usefulness is found to be a significant factor to predict the intention to use the online banking. The result is consistent with the results of Pikkarainen, Pikkarainen, Karjaluoto and Pahnla (2004), Yaghoubi (2010), Khrais (2012), Jaruwachirathanakul and Fink (2005), Celik (2008) and Chong et al (2010). Commercial banks need to educate their clients about the benefits and features of online banking in order to persuade the customers to accept online banking.

Perceived ease of use is found to be a significant factor to predict the intention to use the online banking. The result is consistent with the number of researchers that evaluated perceived ease of use as the major factor that influenced the adoption of online banking (Yaghoubi (2010), Khrais (2012), Gounaris and Koritos (2008), Wang, Wang, Lin and Tang (2003). Therefore, familiarity with the internet environment and presence of more user-friendly online systems motivate consumers' adoption of online banking who have used the internet for a long time.

CONCLUSIONS

This study examined the factors of consumer acceptance of online banking in Manila, Philippines. The results showed that the perceived usefulness and perceived ease of use are good indicators to predict consumer intention to accept online banking. The research framework applied the Technology Acceptance Model (TAM). The results supported the hypotheses developed from the model and prior studies.

An understanding of the factors found in the study permits the commercial banks to concentrate their resources and improve necessary strategies to motivate bank clients to switch to online banking and to increase their market share in the future. These commercial banks need to adapt to fast-paced changes in technology to attract new online banking customers. Like introducing latest technology in online banking such as digital checks, most advanced data encryption algorithm and the certificate VeriSign for website identity and authenticity verification to ensure the security and privacy of online banking clients.

Future research is still considered necessary. A research can be made on other factors that influence the acceptance of online banking such as security, prior internet knowledge, perceived risk, government support and trust. Other technological adoption models can be applied such as Theory of



Reasoned Action (TRA), Theory of Planned Behavior (TPB).

http://www.ffiec.gov/ffiecinfobase/booklets/e_banking/ebanking_00_intro_def.html#4a1

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