

A Quantitative Study on the Factors Affecting the Adoption of the Online-Banking in China

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Abstract: From the review, this section has managed to show that previous literature supports the TAM model of technological acceptance which indicates that the adoption of new technologies is largely dependent on the customers' perceived ease of use, perceived usefulness, prior computer experience and past consumption as well as the increased convenience. More so, consumers' previous experience with other related technologies has been found to relate positively with the adoption of online banking.

Keywords: Online-Banking; Quantitative Study; Factors Affect

1. Introduction

1.1 Literature review

The second chapter of this thesis seeks to critically review all relevant literature concerning the adoption of online banking. This chapter is structured along several relevant themes. For example, first, this section explains the basic terminology of online banking. Secondly, this chapter introduce various adoption intention based models. Thirdly, this chapter outlines various factors that drive consumers into adopting online banking as well as those that inhibit consumers from adopting online banking. Finally, this chapter provides a detailed summary and conceptual frame work, all based on the findings of this chapter.

1.2 Online banking

1.2.1 History of online banking

In 1995, Presidential Banks became the first bank in the world to offer customers full access of their banks account through the internet (Karjaluoto et al., 2013). The perks and conveniences of online banking became so obvious to bank customers and a result, the evolution of online banking has continued to be very successful over the years.

1.2.2 Definition of online banking

Since its advent in the early 1980s, online banking has gained special attention from academics. As such, there have been a wide variety of definitions for online banking, which share the same opinion. Firstly, according to Hua (2014), online banking can be understood as the utilisation of internet as a remote delivery medium for conducting banking services. This definition is shared by Kesharwani and Radhakrishna (2013) who defined online banking as performing financial transactions using an electronic medium. Today, online banking has evolved rapidly and it is covering a wide spectrum including internet banking, internet payment and phone/mobile banking to name a few (Hua, 2014).

Pikkarainen et al. (2014) conceptualise online banking as a banking service that allows customers to conduct/perform their banking transactions using a PC with an internet connection. Pikkarainen et al. (2014) further explain that these transactions include loan application, funds transfer and bank balances inquiries in ones bank's accounts and so forth. Wei (2013) also defined online

banking as an 'online portal that bank's clients use for a wide range of banking services including bill payments to making investments. Wei (2013) further stated that online banking is the latest initiative within the broader spectrum of internet banking services, debits cards, ATM cards and Tele banking. In the same vein, Laforet and Li (2015) argued that online banking has emerged as an effective and convenient delivery channel for the traditional banking products.

1.3 Driver of online banking adoption: Underpinning the adoption of online banking

To explain, predict and explain why people adopt and reject technologies, a number of academics developed various models including the technology acceptance model (TAM). As one of the key models to explain the underlying factors that motivates individuals, in this case users, to embrace and accept or reject new information systems (Pikkarainen et al., 2014). Pikkarainen et al. (2014) argue that the primary goal of the technology acceptance model (TAM) is to offer an explanation of various factors that influence use acceptance of the computer applications in general. Other researchers such as Wu and Wang (2015) further added that the TAM model aids researchers and other practitioners in identifying the reasons why a number of computer systems are unacceptable.

In this sense, Lai and Li (2015) argued that the adoption of an information systems is primarily determined by the users' behavioural intention to use them, which is in turn affected by the user' inherent attitudes toward the system as well as the perceived usefulness and the perceived ease of use of said information systems. According to the TAM model of information system adoption, user's attitude, perceived usefulness and the perceived ease of use are the main factors affecting the adoption of information systems (Wu and Wang, 2015; Lai and Li, 2015; Pikkarainen et al., 2014).

1.3.1 Perceived usefulness

Perceived usefulness can be regarded as the extent to which a user considers that through using a certain product or system, his performance would be enhanced. Laukkanen (2016) also defined perceived usefulness as the degree to which a user of a given system believes that a particular system has the ability to boost his or her performance.

The importance of perceived usefulness has been widely recognised in the field of online banking. Empirical studies on Technology Acceptance Model have indicated that perceive usefulness has a positive correlation with consumer adoption of online banking and other related information technologies. This opinion was confirmed by Kesharwani and Radhakrishna (2013) who argued that with the advent of online banking, customers are conveniently conducting their banking transactions and they do not necessarily visit the brick and mortar financial institution for the purpose of saving time.

In the same light, Montazemi and Qahri-Saremi (2015) argued that perceived usefulness has a strong influence on bank customers Attitude-Towards (AT) through the belief that using the online banking technology, their performance would be enhanced. The model was successfully validated with the Canadian University students who indicated that the perceived benefits of using online banking including the ability to send and receive money online influenced their adoption of online banking. Similarly, Karjaluoto et al. (2012) built another theory using the TAM which they later empirically tested using the Finnish retail bank customers. Their research found that perceived usefulness strongly affected their attitude and behaviour toward adopting online banking.

1.3.2 Perceived ease of use

Perceive ease of use has been widely cited in a wide range of literatures as a unique perquisite of the adoption of new products or a technology by the users (Laukkanen 2016; Vatanasombut et al., 2008; Wu and Wang, 2015).It is further defined by Davis (2010a) as the degree to which a user believes that using a specific products or a technology would be free of effort and difficulties. Davis (2010b) further stressed that perceived ease of use can be understood as the extent to which a user perceives that by using a certain technology, it would be easy to carry out his activities. This means that consumers tend to consider the easiness of using and understanding a particular product before adopting it. Howard (2013) provided an illustration using the adoption of DVD recorders indicating that the product was hugely accepted indicating that customers always choose products that are easy to understand and use. Howard (2013) further asserted that when consumers perceive a certain product as being easy to use, learn as well as comfortable to use, they tend to become more attached to it and increase the adoption rate.

From a different perspective, Eriksson et al. (2015) asserted that perceived ease of use is one of the main contributors in determining and predicting users' behavioural intentions. In their survey, Eriksson et al. (2015) showed that 93% of participants favoured the notion that products handling should be easier and the usage of a new product should be easy to learn. Harris et al. (2016) supported the above findings by arguing that when consumers perceive a technological product as being easy to use, they develop attitudes toward that product and may in turn develop an intention to adopt it.

For example, Kesharwani and Radhakrishna (2013) identified that perceived ease of use had no positive correlation with consumer's usage of online banking. They supported their arguments by saying that the positive relationship was dependent on the level of computer/internet usage self-efficacy and not necessarily the perceived ease of use. Consumers with computer and internet self-efficacy were more predisposed to adopt online banking. Other researchers such as Harris et al. (2016) confirmed the above findings by arguing that perceived ease of use is a critical factor in the adoption of online banking as most consumers perceive using computer systems as being effortless.

Other empirical studies indicated that perceived ease of use has an indirect effect on the user level of technology acceptance (Chaouali et al., 2016; Jahangir and Begum, 2008; Laforet and Li, 2015). Laforet and Li (2015) for example states that the longer a user uses online banking, the more likely he or she will find it easier to use. Chaouali et al., (2016) supported this by arguing that an individual can only find a product, particularly a technological product as being easy to use after he or she have interacted with the product. The above empirical prepositions have been contrasted by Montazemi and Qahri-Saremi (2015) who found that perceived ease of use had a significant positive impact on the consumers' behavioural intention. To support their argument, they indicated that most bank customers have higher computer self-efficacy and are more likely to perceive online banking as being ease to use hence more positive intent to adopt it.

1.3.3 Computer skills and past consumption

According to Stoneman and Kwok (2013), an individual may expect that there are no interconnections between technologies. That is, the diffusion of a specific technology is not dependent on the diffusion of the other. Online banking is among the wide range of technologies that are overly dependent on other technologies. Stoneman and Kwon (2013) argued that online banking is overly dependent on computer and mobile networks. They also stated that online banking is an advanced technology over other banking technologies. As such Kim et al., (2015) indicated that a user's willingness to adopt online banking is influenced largely by his or her prior usage, familiarities and pattern of usage of related technologies.

They further argued that the use of banking services was the most proxy variables showing customers' needs for banking services. This view was supported by Karjaluoto et al. (2013) who built a model using the TAM and empirically tested using a number of Finnish retail bank consumers.

These researchers indicated that prior computer experience, personal banking experience, prior technology experience, individual computer attitude and reference group strongly influence consumers' attitude and behaviours toward adopting online banking.

1.3.4 Effects of demographic factors on online banking adoption (Age, Income, occupation, education)

Researchers have widely used customers' demographic characteristics to distinguish between customers segments (Venkatesh, 2016; Teo, 2014; Yousafzai and Yani-de-Soriano, 2012). Teo (2014) postulates consumers demographics are income age, sex, education and so forth. The popularity of applying demographic characteristics to predict the adoption of technological systems is attributable to the known relationship between the intent to consume some products and specific demographic factors. To support their argument, Wang et al., (2014) indicated that female consumers are more likely to adopt online banking compared to male consumers. This is because female consumers are more intrigued by products that are easy to understand and use as well products that can improve their performance. Al-Jabri and Sohail (2012) also indicated that young and affluent consumers are more likely to adopt internet banking services compared to their older counterparts. They illustrated that less-educated consumers lack self-efficacy to use technologies and hence are not comfortable using online banking services.

They indicated that some consumers in Egypt are non-risk takers hence the disparity is online banking adoption in some regions.

Similarly, Cardon and Marshall (2014) indicated that the rate of mobile banking adoption in USA is higher compared to China due to the higher risk avoidance culture among the Chinese.

1.3.5 Convenience as a driver of online banking adoption

Several studies have identified convenience as a key adoption factors of online banking (Gerrard et al., 2013; Eriksson et al., 2015; Harris et al., 2016). Gerrard et al., (2013) defined convenience as the ability to do something with less effort and difficulties. In terms of a product, Lee et al. In the same line of thought, Lai et al., (2015) suggested that convenience is the most influential factor in the adoption and use of online banking due to its ability to meet customers’ (users’) needs using the wide range of feature availability of banking services.

Similarly, in their study, Karjaluoto et al. (2013) revealed that perceived convenience was among the strongest prerequisite of online baking adoption as it offers them with worldwide access. Mintel (2016) statistics indicate that by the end of 2015, there were approximately 1.8 billion Smartphone users across. This figure is also estimated to reach 2.6 billion by 2019.

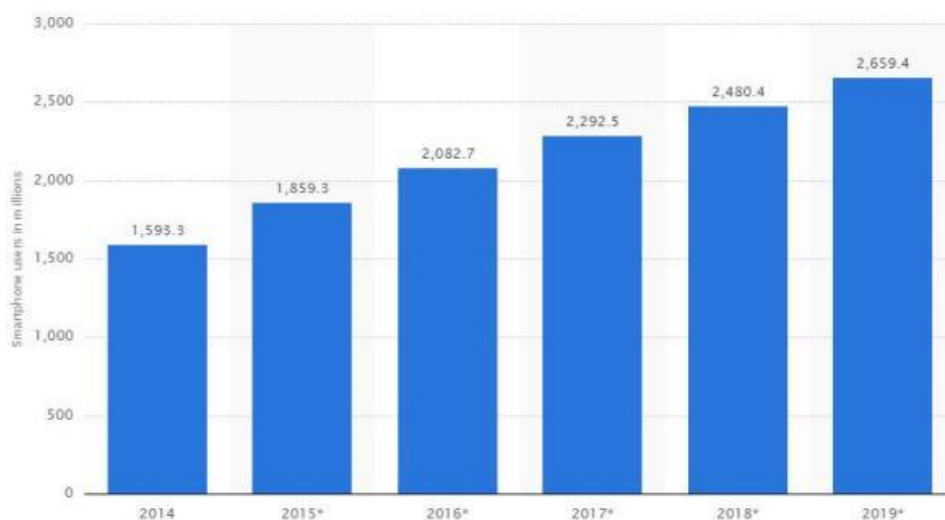


Figure 1: Global Smartphone usage

Source: Mintel (2016)

2. Inhibitors of online banking adoption

2.1 Trust

Trust is known as the expectation one party has that the other part will not behave opportunistically. In the online banking context, trust level plays a vital role for the acceptance and usage of the online banking services. They indicated that most customers in China banking sector fear the loss of money, increased access of personal information by a third party and so forth.

That is, customers cannot observe a banker’s behaviour and hence cannot depend on aspects such as handshakes, physical proximity and body signal. Due to this, trust building becomes a problem. However, Upadhyay et al. (2016) argued that with the new European and global legislation of mobile banking systems has put pressure on financial institutions to ensure any fraud activities are detected, consumers are given high operational support as well as to protect consumers’ information. As a result, the trustworthiness of mobile banking has increased due to reduced potential vulnerabilities.

2.2 Security and Risks

Within the context of online banking, Chaouali et al., (2016) argued that the level of security and the risk involves are other key factors inhibiting the adoption of online banking services. They further noted that even in developed countries with an already established electronic banking system, security of online financial transactions has been a leading factor which is increasingly lowering the progress of online banking. Afshan and Sharif (2016) also indicated that the increased access of personal information by a

third party has reduced the rate of adoption of mobile banking. Other risks such as performance risk and time loss risk were found to have a negative correlation with the consumers' decision to not use to online banking.

2.3 Research Framework

Based on the above review, this research proposes the below research framework:

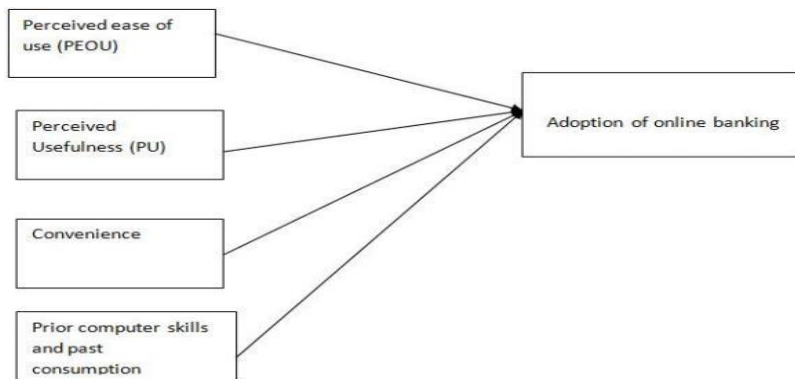


Figure 2: Drivers of online banking adoption

Source: Author

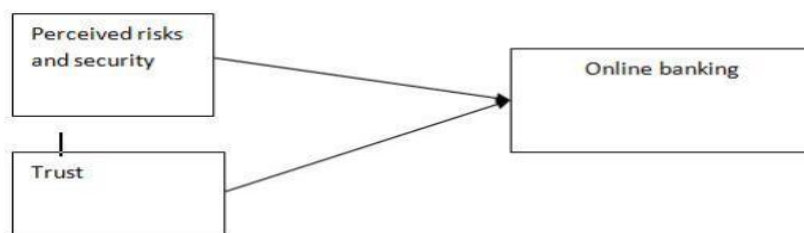


Figure 3: Inhibitors of Online banking adoption

Source: Author

2.4 Chapter summary

This chapter sought to review previous literature related to factors that acts as drivers and inhibitors to the adoption of online banking. From the review, this section has managed to show that previous literature supports the TAM model of technological acceptance which indicates that the adoption of new technologies is largely dependent on the customers' perceived ease of use, perceived usefulness, prior computer experience and past consumption as well as the increased convenience. This section has also indicated that the adoption of online banking can be inhibited by perceive trust and security. That is, consumers lack trust due to the lack of physical interactions with the tellers and hence tend to be reluctant in adopting online banking. In the same sense, consumers tend to feel ' unsafe' due to perceived risk of losing their money.

References

[1] Aldas-Manzano J., Lassala-Navarre C., Ruiz-Mafe C. and Sanz-Blas S, (2009). The role of consumer innovativeness and perceived risk in online banking usage. *International Journal of Bank Marketing*, 27(1), pp.53-75.

[2] Afshan S., & Sharif, A. (2016). Acceptance of mobile banking framework in Pakistan. *Telematics and Informatics*, 33(2), 370-387.

[3] Al-Jabri IM. and Sohail, MS., (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, 13(4), pp.379-391.

[4] Arndt S, Clavenger J. & Meiskey L. (2012). Students ' attitudes towards computers. *Computers and the Social Sciences*,1, 181-190.

[5] Cardon PW, & Marshall BA. (2008). National culture and technology acceptance: The impact of uncertainty avoidance. *Issues in Information Systems*, 9(2), 103-110.

- [6] Chaouali W, Yahia IB. and Souiden N, (2016). The interplay of counter-conformity motivation, social influence, and trust in customers' intention to adopt Internet banking services: The case of an emerging country. *Journal of Retailing and Consumer Services*, 28, pp.209-218.
- [7] Eriksson K, Kerem K. and Nilsson D, (2015). Customer acceptance of internet banking in Estonia. *International Journal of Bank Marketing*, 23(2), pp.200-216.
- [8] Gerrard P, Barton Cunningham, J, & Devlin JF. (2014). Why consumers are not using internet banking: a qualitative study., *Journal of Services Marketing*,20(3),160-168.
- [9] Hanafizadeh P, Keating BW, & Khedmatgozar HR. (2014). A systematic review of Internet banking adoption., *Telematics and informatics*, 31(3), pp. 492-510.
- [10] Hua G. (2014). An experimental investigation of online banking adoption in China. *AMCIS (2008) Proceedings*, 36(2), 34-45.
- [11] Harris M, Cox KC, Musgrove CF and Ernstberger KW, (2016). Consumer preferences for banking technologies by age groups. *International Journal of Bank Marketing*, 34(4).
- [12] Howard C. (2013). *Strategic Adoption of Technological Innovations*. New York: IGI Global.
- [13] Jahangir N. and Begum N, (2008). The role of perceived usefulness, perceived ease of use, security and privacy, and customer attitude to engender customer adaptation in the context of electronic banking. *African Journal of Business Management*, 2(2), p.32.
- [14] Karjaluoto H, Mattila M. and Pento T, (2013). Factors underlying attitude formation towards online banking in Finland. *International Journal of Bank Marketing*, 20(6), pp.261-272.
- [15] Kesharwani, A., & Radhakrishna, G. (2013). Drivers and Inhibitors of Internet Banking Adoption in India, *Journal of Internet Banking and Commerce*, 18(3), 1-18.
- [16] Lee EJ, Kwon KN, & Schumann DW. (2014). Segmenting the non-adopter category in the diffusion of internet banking, ' *International Journal of Bank Marketing*,23(5), pp. 414-437.
- [17] Lai LS, & To WM. (2015). The emergence of China in the Internet market, ' *IT professional*, 2(3), 6-9.
- [18] Laforet S. and Li, X., (2015). Consumers' attitudes towards online and mobile banking in China. *International journal of bank marketing*, 23(5), pp.362-380.
- [19] Montazemi AR, & Qahri-Saremi H. (2015). Factors affecting adoption of online banking: A meta-analytic structural equation modeling study. *Information & Management*, 52(2), 210-226.
- [20] Mintel. (2016). Number of smartphone users worldwide from 2014 to 2019 (in millions). Available at: [http:// www.mintel.com/statistics/330695/number-of-smartphone-users-worldwide/](http://www.mintel.com/statistics/330695/number-of-smartphone-users-worldwide/) (Accessed 14th June 2016).
- [21] Pikkarainen T, Pikkarainen K, Karjaluoto, H. and Pahlila S, (2014). Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet research*, 14(3), pp.224-235.
- [22] Saleem, M. A., Zahra, S., Ahmad, R., & Ismail, H. (2016). Predictors of customer loyalty in the Pakistani banking industry: a moderated-mediation study. *International Journal of Bank Marketing*, 34(3), 411-430.
- [23] Saunders, M. L., & Lewis, P. and Thornhill, A. (2009). *Research Methods for Business Students*, London, Financial Times Prentice Hall Inc
- [24] Teo,T.S., (2014). Demographic and motivation variables associated with Internet usage activities. *Internet Research*, 11(2), pp. 125-137.
- [25] Upadhyay, P., & Jahanyan, S. (2016). Analyzing user perspective on the factors affecting use intention of mobile based transfer payment. *Internet Research*, 26(1).
- [26] Vatanasombut, B., Igbaria, M., Stylianou AC. and Rodgers W, (2008). Information systems continuance intention of web-based applications customers: The case of online banking. *Information & Management*, 45(7), pp.419-428.
- [27] Venkatesh, A., (2016). Computers and other interactive technologies for the home. *Communications of the ACM*, 39(12), pp.47-54.
- [28] Wang, L., Luo, J., Gao, W . and Kong, J., (2012). The effect of Internet use on adolescents' lifestyles: A national survey. *Computers in Human Behavior*,28(6), pp.(2007)-(2013).

[29] Wei W, Li J, Cao L, Ou Y, & Chen J. (2013). Effective detection of sophisticated online banking fraud on extremely imbalanced data. *World Wide Web*, 16(4), 449-475.

[30] Wang, X. (2013). Banking Reforms and Monetary Policy in the People's Republic of China: Is the Chinese Central Banking System Ready for Joining the WTO?, *China Review International* , 10(2), 399-403.

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