

CHALLENGES OF ONLINE BANKING

Maria Postoyeva

The research presented here is the first part of my ongoing study examining the main challenges of online banking, focusing particularly on cyber security and related issues. The Technology Acceptance Model (TAM) and its main features of perceived usefulness and usage intentions are put to a test. It also uses the modified TAM model to further test the adaptation of online banking by different generations of users. The present research contributes to the existing literature on the subject and enhances knowledge and understanding of the users' behaviour from a generational perspective.

INTRODUCTION

Online Banking swiftly became an integral part of everyday life. It all started back in the 1980s, when the first internet banking was introduced in the US, which reached millions of online banking users by 2001 and 54 million households by 2009 (Online banking report, 2012). Most major banks now offer internet banking to their customers as part of their standard services free of charge, enabling them to remotely access their accounts from anywhere in the world.

In this work, online banking is seen as banking done via the internet and this involves a range of various transactions from checking an account balance to making investments.

The growth and success of online banking depends on customers accepting and adopting these practices. Despite the growth of online banking users there is some evidence (Robinson, 2000) that not everyone becomes a regular online banking user as some prefer traditional banking practices. There are different reasons for this, but unless the services provided meet individual needs and actually get used, there is going to be no real benefit of the existence of such services to real customers.

Online banking allows banks to reduce costs, increase market penetration and also to attract new customers. However, some issues, especially related to the online fraud tarnish the idealistic picture of online banking and cost banks billions of dollars (ABA, 2016). According to the American Banking Association (2016) the majority of losses come from debit card fraud and cheque fraud (66 and 32% respectively) with only about 2% of fraud coming from online banking. They also report increase in the attempted online banking fraud and the fact that the actual numbers of the affected customers remain quite low due to the sophisticated systems developed and adopted by the banks. However, the public opinion of the safety of online banking has been affected by these cases of fraud (Dunn, 2006)..

With the introduction of smartphones, enabling people to access their banks via their phones, an era of mobile banking started and continues to grow. It has been estimated that a whopping 2.87 billion people worldwide will be smartphone users by 2020 (Statista.com, 2016). Identity theft, however, continues to grow and with the usage of smartphones it becomes an increasing worry for more than 45% people in the UK (Statista.com, 2015).

The rise of the online banking has led to the closure of many bank branches, and, according to the Federation of Small Business (2017) more than 53% of bank branches were closed in the UK since 1989, with only 8,000 remaining across the country. The speed and scope of these closures raised numerous concerns, as often people and businesses (especially small and medium size ones) were

left vulnerable to such closures. This led to a new banking industry protocol being agreed in 2015 (BBA, 2015), which was further enhanced with new requirements summarised in the Access Standard in 2017. The main focus of the latest document is communication with users of bank services.

As a result of these changes, new kind of banks appeared. Firstly, there has been a rise of direct banks, that operate through internet and their customer base is expected to achieve 157 million worldwide by 2020 (Statista, 2016a), Secondly, it is so called 'challenger' specialist banks, which are on the rise in the UK and which thrive on innovations in the banking sector. Another new development that is currently in discussion is so called 'Open banking', which would require banks to share information about their customers via new technologies, which potentially will open the market to new competitors able to provide more customised, finely tailored financial services.

Much, of course, remains unclear in the world of fast moving technological advances and innovation. However, as a recent report produced by PWC (2017) on the role of these new banks in the future of banking concluded, that not only costs and digital products, but also customer experience and customer services will determine the future of the banks and the industry.

Therefore, it appears very timely and important to examine the needs and views of the customers of online banking to be able to better understand what attracts them to specific financial service providers and what concerns and issues they have over the current services received by them.

Moreover, there is a growing evidence that new generations are more inclined to use new technology than older ones. Therefore, this study focuses on different generations of online banking users to understand various factors which influence their acceptance of online banking.

LITERATURE REVIEW

Technology Acceptance Model

Technology Acceptance Model (TAM) is one of the most widely used models explaining the individual's acceptance and use of technology. This model was introduced by Davis (1989) and is based on the theory of reasoned action (Ajzen & Fishbein, 1980), which is particularly focused on behaviour and also separates intention from the action. TAM identifies ease of use and perceived usefulness as two main factors that lead to the actual use of technology. These two factors are then also influenced by external factors, i.e. cultural, social and political (Surendran, 2012). The user's evaluation of these factors leads to the attitude towards the acceptance of technology and thus is crucial for the adaptation of new systems.

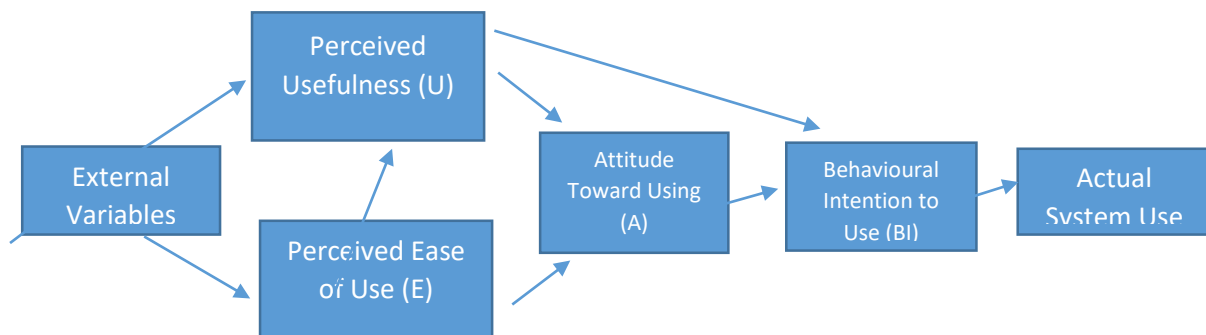


Figure 1. TAM as per Davis (1989).

Perceived Ease of Use represents effortless and easy use of a particular system, while Perceived Usefulness is to do with the enhancement of job performance by the system.

TAM has been used in various studies and proved to be quite successful in explaining the adaptation of new technology by various users. There are also many variations and modifications of this model, one of which is called TAM2 (Venkatesh & Davis, 2000) and includes new external factors affecting perceived usefulness and intention to use.

Perceived Credibility.

There are numerous academic studies conducted in the recent years on the factors influencing the adoption of online banking by the users. Privacy and security concerns have been highlighted by many studies (Cranor et.al., 1999; Giglio, 2002; Pikkarainen, 2018) as one of the major barriers for the adoption of online banking. It was also found (Howcroft et.al, 2002) that customers have much weaker confidence in technology than in the banks, which provide the services

There are, of course, many security concerns surrounding the use of Internet as with the growing digital footprint of personal presence in the virtual space it is inevitable that some information leaks out one way or another. Therefore, it is understandable how this would affect the sense of security and privacy. However, this study is only concerned with the security and privacy related issues of the online banking technology used, and attitudes towards the providers of these technologies and services.

Tan and Teo (2000) performed a survey of mainly male users and identified the following key factors affecting the adaptation of online banking: risk, compatibility, relative advantage and trialability. The survey was based on two theories: innovation diffusion (Rogers, 1985) and planned behaviour (Ajzen, 1985).

Risk is of particular interest for this study as increased risk (or perception of it being high) affects sense of security and also trust in the online banking and, as was confirmed by some studies (Chung & Paynter, 2002), negatively affects acceptance of the online banking practice.

Security concerns were also found as one of the main reservations for adopting and using online banking on a regular basis (Siu & Mou, 2005), which affects trust in the system and also in the provider of the service (Suh & Han, 2002).

Below is the summary of the mentioned above and other factors that affect consumers' adaptation of online banking.

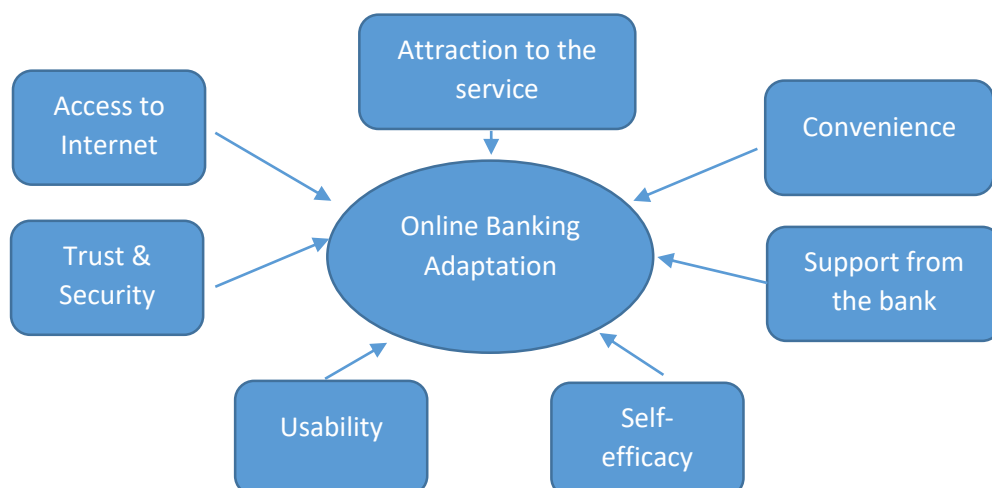


Figure 2. Factors affecting consumer adaptation of online banking.(Based on Hosein, 2009)

These factors were amongst those that did not allow direct banks to properly take off as many customers still need “the reassurance of visiting their branches” (Hosein, 2009: 54). Wang et. al. (2003) also identified security and privacy concerns when accepting online banking and thus added another dimension to the TAM model by introducing Perceived Credibility to the discussed earlier Perceived Usefulness and Perceived Ease of Use.

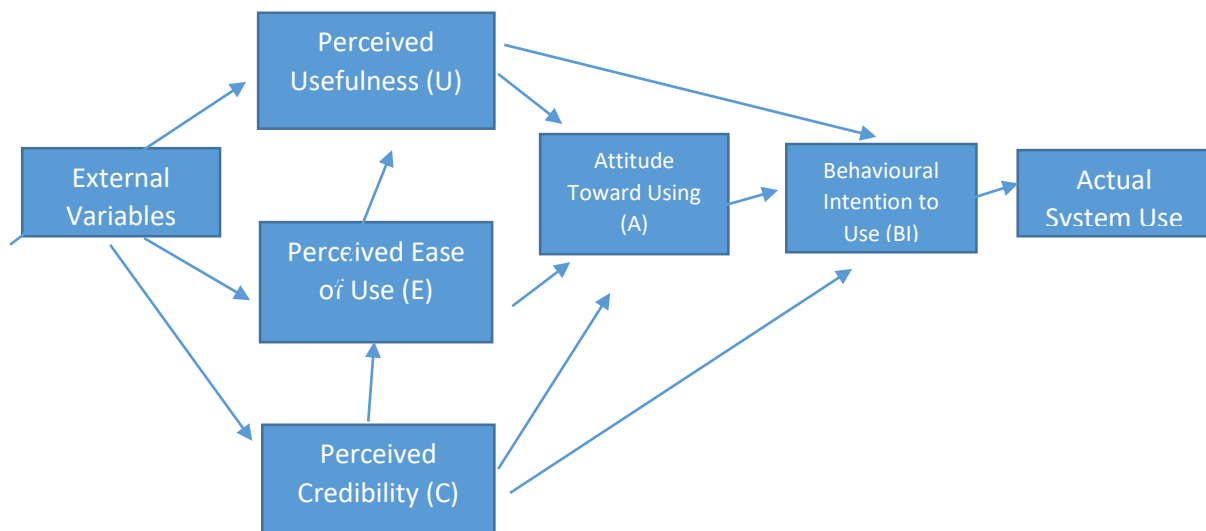


Figure 3. Modified TAM (Based on Davis (1989) and Wang et.al. (2003)).

Thus Perceived Credibility is expected to influence Perceived Ease of Use, have an effect on the Attitude Towards Using online banking and also affect Behavioural Intention to Use.

Generational Differences in use of technology.

Since the introduction of digital technologies and its growing influence on the everyday life, many claims have been made of a new generation of ‘digital natives’ and their perceived ease of use of modern technologies in all areas of their lives.

There is also an increasing evidence that these new generation people, born after 1980 (Tapscott, 2008) and especially after 1995 (Diu, 2015), have in fact grown up with digital and online technologies and hence have the skill and attitude enabling them to feel more at ease with the Internet-based solutions.

Various studies have been undertaken in recent years (Jones et.al., 2010; Thompson, 2013) that confirm that despite some heterogeneity amongst these generations, there is still some positive correlation between technology use and the new generation characteristics.

There are also studies (Perumal & Shanmugam, 2004) that find certain difficulties in attracting older generations to the online banking. This is especially true for those over 65.

Therefore it seems appropriate to assume that there will be some differences in the attitude towards using and also in the behavioural intention to use online banking services between different generations.

Summary

Based on the reviewed literature, below is the list of reasons as to why customers would not become active users of online banking services even after being introduced to it:

- no access to internet, connectivity issues;
- no access to devices;
- not feeling safe using online services;
- limited understanding of how to use online banking services;
- lack of personal contact;
- no incentive to use online banking on a regular basis;
- not able to perform specific operations and transactions;
- not comfortable using the internet;
- habit;
- cultural aspects;
- time consumption;
- need to control the process;
- lack of or/and negative experience;
- social influence.

In summary, the suggested modified TAM seems to be appropriate to be used as a basis for this study. I also hypothesize some generational differences in the perceived usefulness, perceived ease of use and perceived credibility with some degree of variation inside the groups.

METHOD

Data for this study is currently being collected using a survey. A sample of around 200 responses from UK users is hoped to be collected. The aim is to have a well distributed sample covering all generations, education and income.

The questionnaire was designed following a literature review of similar studies. The questions cover four main categories: perceived usefulness, perceived ease of use, perceived credibility and attitude towards using online banking services. There are also open ended questions to pick up any important factors, which have not been identified during the literature review stage.

Likert scales are used ranging in five steps from 'strongly agree' to 'strongly disagree', with most questions also including a 'not sure' option to allow for any uncertainties when answering questions.

To be consistent with previous studies using a similar model (Davis, 1993, Pikkarainen, 2018}, the actual use of the information system is accepted as a measure of success, while online banking usage is seen as a dependent variable.

Collected data will be tested using factor analysis. Principal axis factoring with varimax rotation will be used as an extraction method to test the model. The model will be tested for suitability using Bartlett's test.

CONCLUSIONS

There is growing number of studies and literature examining the acceptance of online banking as a regular service. Despite of the advances in technology and the fact that these services are widely available there is growing evidence that initial introduction to the system and even some experience of using online banking does not automatically lead to its regular use.

There is also growing evidence that different generations of users have certain characteristics which affects their use of technology and acceptance of internet-based services. Therefore it is vitally important to pay attention to these differences in order to understand the generational specifics affecting the acceptance of online banking to be able to increase the usage of these services.

There are many advantages of using online banking for both customers and providers, including convenience, cost and time saving etc. However, one of the most important factors affecting the decision not to use online banking on a regular basis is linked to fears over security and privacy. These concerns vary in intensity and magnitude for different groups of people, but nevertheless remain one of the most important constrains to the increase in regular online banking practice.

Therefore it is clearly important for the banks to be able to send positive consistent messages to the customers reassuring them of the security measures being taken to protect their identity and funds. However, this also needs to be customised for different groups of users and to be adopted for the different stages of adaptation of online banking by the banks themselves.

This study will add to the existing literature on the subject and also highlight any differences between generations' relation to perceived ease of use, perceived usefulness, perceived credibility and, as a result, to the attitude towards using online banking.

REFERENCES

- ABA (January 27., 2016). Banks Stop \$11 Billion in Fraud Attempts in 2014 Available at : [.https://www.aba.com/Press/Pages/012716DepositSurvey.aspx](https://www.aba.com/Press/Pages/012716DepositSurvey.aspx) [accessed on 11.03.2018 at 23:20]
- Ajzen, I. (1985} From intentions to actions: a theory of planned behaviour, in Action Control: from cognition to behaviour, J. Kuhl & J. Beckmann (eds.), NY: Springer-Verlag, pp.11-.39.
- Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behaviour. Englewood Cliffs, NJ: Prentice-Hall
- BBA (26th March, 2015). Industry Protocol on Branch Closures. Available at: <https://www.bba.org.uk/policy/retail/financial-inclusion/access-to-banking/industry-protocol-on-branch-closures/> [Accessed 12.03.2018 at 00:11].
- BBA (7th May, 2017). Access to Banking Standard. Available at: <https://www.bba.org.uk/policy/retail/financial-inclusion/access-to-banking/access-to-banking-standard/> [Accessed on 12.03.2018 at 00:15].
- Chung, W. and Paynter, J. (2002), An evaluation of internet banking in New Zealand, in Proceedings of 35th Hawaii Conference in System Sciences, IEEE Society Press.
- Cranor, L.F. , Reagle, J. and Ackerman, M.S (1999) Beyond concern: understanding net users'attitudes about online banking, technical report, TR 99.4.3. AT&T Labs – Research

Davis, F.D. (1993). User acceptance of information technology system characteristics, user perceptions and behavioural impacts. *International Journal of Man-Machine Studies*, Vol.38, pp.475-487.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology, *MIS Quarterly*: 13:3, pp.319-339.

Diu, N.L. (19th July, 2015) Look out, Generation Z is about to enter your workplace. Available at: <https://www.telegraph.co.uk/education/universityeducation/11746954/Look-out-Generation-Z-is-about-to-enter-your-workplace.html> [Accessed on 12.03.2018 at 23:10].

Dunn, J. (21st November, 2006) Data theft still in the shadows. Available at: <https://www.techworld.com/security/data-theft-still-in-the-shadows-3537654/> [Accessed on 12.03.18 at 20:15].

FSB (2017). Bank Branch Closures. Available at: <https://www.fsb.org.uk/standing-up-for-you/policy-issues/finance-and-the-economy/bank-branch-closures>. [Accessed on 11.03.2018 at 00:00].

Giglio, V. (2002) Privacy in the world of cyberbanking: emerging legal issues and how you are protected. *The sSecured Lender*, March/April. Pp.48-60.

Jones, C., Ramanau, R., Cross, S., Healing, G. (2010) Net generation or Digital Natives: is there a distinct new generation entering university? *Computers & Education*, 54, pp.772-732.

Howcroft, B., Hamilton, R. and Hewer, P. (2002). Consumer attitude and the usage and adoption of home-based banking in the United Kingdom. *The International Journal of Bank Marketing*. Vol.20, No.3. pp.111-121.

www.parliament.uk/commons-library | intranet.parliament.uk/commons-library | papers@parliament.uk | [@commonslibrary](https://twitter.com/commonslibrary). BRIEFING PAPER. Number 385, 9 February 2018

Perumal, V. and Shanmugam, B. (2004), Internet banking: boon or bane. *Journal of Internet Banking and Finance*, No.3. pp.1-6.

Pikkarainen, T. Consumer acceptance of online banking: an extension of the technology acceptance model. *Internet Research*. Vol.14, No.3 pp.1-22.

PWC (2017). Who are you calling a 'challenger'? How competition is improving customer choice and driving innovation in the UK banking market. Available at: <https://www.pwc.co.uk/challenger-banks>. [Accessed on 12.03.2018 at 8:12].

Robinson, T. (2000), Internet banking: still not a perfect marriage. *Informationweek.com*, 17th April, pp.104-106.

Rogers, E. M. (1995). *Diffusion of innovations*, 4th edition, NY: The Free Press.

Siu, N.Y-M., and Mou, J. C-W. (2005). Measuring services quality in internet banking: the case of Hong Kong, *Journal of International Consumer Marketing*, Vol.17, No.4, pp.97-114.

Statista.com (March 2015). How concerned are you about experiencing or being a victim of online identity theft? Available at: <https://www.statista.com/statistics/479335/level-of-concern-over-possible-online-identity-theft-in-the-united-kingdom/> [Accessed on 11.03.2018 at 23:46].

Statista.com (June 2016). Number of smartphone users worldwide from 2014 to 2020 (in billions). Available at: <https://www.statista.com/statistics/330695/number-of-smartphone-users-worldwide/> [accessed on 11.03.2018 at 23:39].

Statista.com (October 2016a). Number of Clients of Direct Banks Worldwide. Available at: <https://www.statista.com/statistics/713911/number-of-clients-of-direct-banks-worldwide/> [Accessed on 12.03.2018 at 00:23].

Suh, B. and Han, I. (2002), Effect of trust on customer acceptance of internet banking, *Electronic Commerce Research and Application*, Vol.1, pp.247-261.

Surendran, P. (2012). Technology Acceptance Model: A survey of Literature. *IJBSR*, Volume 2, No.4, pp.175-178.

Tapscott, D. (2008). *Grown up digital: the rise of the net generation*. NY: McGraw-Hill.

Thompson, P. (2013) The digital natives as learners: technology use patterns and approaches to learning. *Computers & Education*. 65. Pp.12-33.

Venkatesh, V. and Davis, F.D. (2000) A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*: Vol.46, No.2, February 2000 pp.186-204.

Wang, Y-S., Wang, Y-M., Lin, H-H., Tang, T.I. (2003) Determinants of user acceptance of Internet banking: an empirical study, *International Journal of Service Industry Management*, Vol. 14 Issue: 5, pp.501-519