

What are the key determinants of mobile banking Adoption in Pakistan?

Sayyed Khawar Abbas, Hafiz Ali Hassan, Jawad Asif, Hafiz Muhammad Junaid, Faiqa Zainab

Abstract— This study was focused to factors of social influence, ubiquitous financial service, perceived trust, relative advantage, Perceived Risk, personal Innovativeness, and Perceived Cost with respect to mobile banking adoption in Pakistan. Technology adoption model (TAM) model is used along with some other determinants. Data collected from 446 respondents from a structured questionnaire from Lahore, Islamabad and Karachi. Snowball sampling technique is use because population was unknown. Only ubiquitous financial service was not significant variable other variables found significant. Paper having implication for mobile banking service providers and consumer too.

Index Terms— Mobile Banking, Technology Adoption, Social Influence, Perceived Risk, Perceived Cost to Banking

1. Introduction

Automation and growing future simplification are the outcomes of technological development.

Nowadays overall customer experience is also based on delivery channel of self-service technology during improvement. Customers are not looking for the assistance and this is saving their time.

Electronic technology along with other businesses becoming the part of the banking sector as well.

Firstly, E-Banking comes with advancement and

later we are watching M-banking taking place of E-banking its working as the counterpart of E-Banking in Future Economies. This collaboration of Mobiles companies and banking sector has provided the new opportunity to banks for their sparking tomorrow. Now, this advanced instrument has become the part of Pakistan banking sector too. This new services also getting popular in low-income households too. Time liberty, cost saving, swiftness, and expediency are the key factor in mobile banking. Banking base also has been enhanced through enlargement of the market while using mobile banking (Lee, Lee, & Kim, 1970). Mobile banking is performing like everyday use tool. Now, the unbanked population could be approached through mobile banking services. This works as an effective opportunity for banks (Ivatury & Pickens, 2006). Till September 2012 due to mobile penetration in Pakistan, cell

- Sayyed Khawar Abbas has done his MS from Hailey College of Commerce, University of the Punjab, Pakistan. E-mail: sayyedkhawarabbas@gmail.com
- Hafiz Ali Hassan Has done his MS from Hailey College of Commerce, University of the Punjab
- Jawad Asif is currently servicing as a lecturer at University of Gujrat
- Hafiz Muhammad Junaid currently doing his BS in Management Sciences from Institute of Administrative Sciences, University of the Punjab
- Faiqa Zainab is doing her MBA from University of Gujrat

phone subscribers has reached around 120.5 million, but only 12% Pakistani are operating formal banking. Largest mobile banking services since October 2009 are Telenor Easy Paisa and United Bank Limited's (UBL) Omni (Kazi & Mannan, 2013).

So, this study primary objective is to investigate the factors which construct the behavioral intention to adopt the mobile banking services. Moreover, these questions could be considered.

- What are the factors which influence adoption of mobile banking services in Pakistan?
 - Is the customers of banking could be influenced by the peers of them for the adoption of mobile banking?
 - Is customers of banking services are aware of mobile banking services?
 - What are the perception of mobile banking services users with respect to trust upon service?
- Center base of this study is the three cities of Pakistan Lahore, Karachi and Islamabad.

2. Literature Review

The proposed research study is to investigate the factors that affect the mobile banking adoption among people of Pakistan. The scope of the research consists on the constructs based upon the "Technology Acceptance Model (TAM)" theory presented by Davis, et al, (1989) which explains that; when a new technology is presented across

users, there are different factors which influence their decision towards the adoption of that technology. These constructs include perceived ease-of-use, perceived usefulness, perceived risk and intention to adopt. After critically reviewing the literature, the findings show that these factors significantly influence the adoption behavior of people towards mobile banking in different regions. Furthermore, we will explain the variables in the light of previous studies and relate them to our proposed research framework to base our study.

Perceived Ease of Use

According to Davis et al. (1989) a degree to which a user feels, the usage of a particular system is free from the effort is perceived ease of use. Many research findings consolidate the argument that it has a widely significant impact on usage intention. The more the system provides ease the more it would be acceptable. Chitungo (2013) a recent study conducted in the rural areas of Zimbabwe an African country explained that perceived ease of use has a significant effect on usage intention of mobile banking services. Additionally, the study conducted by Lule, et al, (2012) in Kenya demonstrated the same results which are also in line with the findings of the previous study completed by Cheah et al. (2011) about finding the intention of mobile banking services in Malaysia. Kazi & Mannan, (2013) Furthermore, a study in Pakistan conducted on 372 individuals explained the same phenomenon.

Perceived Usefulness

Davis et al. (1989) Perceived usefulness is a degree to which a person believes, by adopting a particular system his job performance will improve. According to Venkatesh & Davis (2000), the perceived usefulness is a precursor for the intention towards usage of a computer system. The previous studies Ha & Stoel (2009) and Sudha (2010) have shown that perceived usefulness directly influences computer usage. According to Akturan & Tezcan (2012) perceived usefulness directly influences attitude towards mobile banking, a survey conducted on 435 Turkish students. Consequently, Safeena & Kamani (2011) explained in their research that it is an important determinant in mobile banking adoption which is in line with the findings extracted from the survey conducted on Malaysian mobile banking consumers by Amin & Muhammad (2007).

Perceived Risk

It is defined as the subjective expectation of any loss occurrence in pursuit of an outcome. Ba & Pavlou, (2002) explained the quality of online banking services is based upon the minimum possibility of occurrence of an illegal activity or fraud during the transaction. It has always been a concern for both consumer and service provider. The risk may comprise of financial risk, community risk, physical risk or service performance risk. Dineshwar & Steven (2013) found in their research study, the reliability and perceived risk are main obstacles in mobile

banking usage in Mauritius. Yousafzai, (2003) depicted in his research findings, the perceived risk is higher in mobile banking rather than conventional banking due to wireless infrastructure as it is more prone to hacking or other malicious attacks.

Social Influence

Venkatesh (2003) explained, the level to which a user takes into consideration others believes upon deciding on using a technology. The literature review described that social influence, social norms, and peer pressure is always being a crucial factor in usage intention. Riquelme & Rios (2010) conducted a survey of 681 Singaporean consumers and found that social norms, perceived usefulness, and perceived risk are the crucial factors in deciding of mobile banking usage. Later on, Yu (2012) noted by using 441 respondents, the most significant predictor is a social influence on the individual intention towards the adoption of mobile banking. Furthermore, Amin & Muhammad (2007) empirically established the decision of a person aims to use mobile banking services is expressively affected by a community nearby him.

Relative Advantage

Rogers, (2003) stated, innovation in product or idea by which one product is preferred over another is a relative advantage. It is widely acknowledged by researchers as an important determinant in the selection of innovation. According to Lin. H, (2011) the relative advantage such as convenience,

affordability, and immediacy are the important determinants in the adoption of mobile banking services. Further, it is proposed that when consumers perceive more features in mobile banking them more likely to adopt.

Perceived Trust

As per Jones (1995), perceived trust is the customers' willingness to perform online banking transactions expecting that bank will perform all the obligations irrespective of their ability to monitor or control of any mishap. Many researchers have demonstrated that trust is an important factor in the adoption of technology. Afshan & Sharif (2016) conducted a research in Pakistan describing trust has a prominent impact on adoption behavior. Additionally, Masrek & Razali (2013) confirmed in their research over Malaysian consumers, i.e. the trust has significant influence overutilization of technology.

Ubiquitous Finance Control (UFC)

According to Mokhtar (2017) banking consumers want to control and access their finance 24 hours a day from anywhere. This is ubiquitous finance control. Today, it has become one of the most important factors among perceived benefits of mobile banking. As per, Lin (2011) and Yu (2012), researchers have studied perceived features like convenience, immediacy, compatibility and perceived usefulness but finance control factor is merely studied. To fill this gap, the UFC factor has been proposed to further investigate as a key indicator in the adoption of mobile banking.

Mobile Banking Adoption

Perloff (2016) a psychological construct, an emotional or mental entity an individual inheres towards the adoption of a particular behavior is an attitude. As per Rogers (2003), adoption is a decision for full use of an innovation. Previous researchers explained the mobile banking adoption consists of different factors. In this study, we are investigating some of the factors which influence mobile banking adoption.

3. Methodology

This Study is Cross Sectional Study and using the sample size of 446 respondents. Minimum 385 respondents were required. But data taken from 540 respondents by reducing incomplete responses only 446 responses were reasonable to run the test. A well-organized questionnaire is use for data collection which was infer from Chitungo & Munongo (2013), Davis, et al, (1989) and Ba & Pavlou, (2002). Population was Pakistan. Sampling frame was Lahore, Islamabad and Karachi. Snowball sampling technique is use because population was unknown. Moreover, Reliability thumb rule is also fulfilled here all variables reliability is above .70. Moreover, sample size is also quite fine to run the test.

Table 1: Variable in the equation

	N	Mean	Skewness	Kurtosis	Min	Max
SI	446	3.7595	.110	-1.121	2.75	4.75
UBFC	446	4.0376	-.485	-.533	2.75	5.00
PC	446	2.2795	.635	-.176	1.33	4.00
Adop	446	3.9380	-.673	.368	2.00	5.00
RA	446	3.8233	-.871	-.363	2.50	4.60
PR	446	2.7003	.281	-1.433	1.67	4.00
PI	446	4.0650	-1.761	3.716	1.00	5.00
PC	446	3.2735	-.949	-.279	1.00	5.00

Rule of thumb is Skewness must be between +1 to -1 and Kurtosis must be between +3 to -3. So, it can be seen that rule of thumb is fulfilled and data is normal here. So data is good to run the test.

4. Results

Following Table Represent the OLS regression results.

Variables in the equation			
	B	S.E.	Sig.
Social Influence	.124***	.035	.000
Ubiquitous_FC	.018	.045	.686
Perceived Trust	.339***	.030	.000
relative advantage	.309***	.048	.000
Perceived Risk	-.058***	.022	.007
Personal Innovativeness	.243***	.023	.000
	-.228***	.019	.000
Constant	1.412	.246	.000

Note: ***, **, * Indicate significant at 1%, 5% and 10% level of significance.

It can be seen that social influences having significance positive relationship with adoption and with one unit change in adoption .124 change occurs in adoption. It can be also infer that perceived trust, relative advantage, Personal innovativeness having positive significant relationship with adoption whereas perceived risk and perceived cost having negative relationship along with adoption for mobile banking. It can be also seen that ubiquitous need of financial services not having significant relationship. Moreover, standard errors of betas are less than them so it can be easily infer that without any candidacy data is normal. And Adjusted R Square is .831 which shows that collectively independent variables effects the mobile banking adoption 83% with respect to existing respondents.

5. Conclusion

In Pakistan, Social influence is one of the key factors effecting mobile banking because social system is strengthening this factor with respect to mobile adoption so effect is significant. Ubiquitous Financial service may not be the reason behind mobile banking usage. There could be other factors which supposed to be reason behind this, may people using it like fashion, may people using it for convenience, and may people using it to adopt modern techniques only. Perceived Trust is having positive significant relationship which means that if perception with respect to trust will be good adoption for mobile banking will keep surviving otherwise it could lapse. Perceived Risk shows that perception about risk that mobile banking is too risky could decrease the adoption. People may infer that Mobile banking is risky and this perception may let them to not to use mobile banking. Personal innovativeness shows people which are personally innovative are adopting mobile banking so that's why it having significant positive relationship. Whereas cost perception is having negative relationship with adoption to mobile banking which means people considering it costly also leaving the mobile banking and that's why it having negative effect at mobile banking adoption.

6. Implication

This study having implication for the mobile banking providers, regulatory bodies and moreover for the customers. This study provide the comprehensive view to decide how to operate it. For providers it shows them strong points and weak points as well. By considering strong points like social influence, creating trust and relative advantage, and reducing cost and risk perception along through awareness they could achieve their task. Regulatory authorizes also could see that there is negative perception with respect to risk and cost so they took it in effective way to enhance the mobile banking usage. Customer could watch mobile banking benefits too. So they could adopt it by knowing the inside view of mobile banking.

7. Future dimensions

Future researchers could enhance this study to other regions as well as they could change the factors effecting mobile banking adoptions, even they could study these factors along with factors effecting the adoption for mobile banking providers.

References

- [1] Afshan, S., & Sharif, A. (2016). Acceptance of mobile banking framework in Pakistan. . *Telematics and Informatics*, 33(2), 370-387.
- [2] Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: Perceptions and intentions. *Marketing Intelligence & Planning*, 30(4), 444 – 459.

- [3] Amin, H. B., & Muhammad, M. Z. (2007). An analysis of mobile banking acceptance by Malaysian Customers. *Sunway University College Academic Journal*, 4,, 1-12.
- [4] Ba, S., & Pavlou, P. (2002). Evidence of The Effect of Trust Building Technology In Electronic Markets:. *Price Premiums And Buyer Behavior, MIS Quarterly*, 26 (3), 243–268.
- [5] Cheah, C. M., Teo, A. C., Sim, J. J., Oon, K. H., & and Tan, B. I. (2011). Factors Affecting Malaysian Mobile Banking Adoption: An Empirical Analysis. *International Journal of Network and Mobile Technologies* 2(3), 149-160.
- [6] Chitungo, S. K. (2013). Extending the Technology Acceptance Model to Mobile Banking Adoption . *Journal of Business Administration and Education*, 3(1), 51-79.
- [7] Chitungo, S., & Munongo, S. (2013). Extending the technology acceptance model to mobile banking adoption in rural Zimbabwe. *Journal of Business Administration and Education*, 3(1), 51-79.
- [8] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). "User acceptance of computer technology: A comparison of two theoretical models". *Management Science*, 982-1003.
- [9] Dineshwar, R., & Steven, M. (2013). An Investigation on Mobile Banking Adoption and Usage: A Case Study of Mauritius. *Proceedings of 3rd Asia-Pacific Business Research Conference 25 - 26 February 2013,,* (pp. ISBN: 978-1-922069-19-1). Kuala Lumpur, Malaysia.
- [10] Ha, S., & and Stoel, L. (2009). Consumer e-shopping acceptance: Antecedents in a technology acceptance model. *Journal of Business Research*, 62(5), 565–571.
- [11] Ivatury, G., & Pickens, M. (2006). Mobile phone banking and low-income customers : Evidence from South Africa. *Consultative Group to Assist the Poor*.
- [12] Jones, T. O. (1995). Why satisfied customers defect. *Journal of Management in Engineering* 12(6), 1-14.
- [13] Kazi, A. K., & Mannan, M. A. (2013). Factors affecting adoption of mobile banking in Pakistan: Empirical Evidence . *International Journal of Research in Business and Social Science Vol.2 No.3, , 2147-4478 .*
- [14] Kazi, A., & Mannan, M. (2013). Factors affecting adoption of mobile banking in Pakistan: Empirical Evidence. *International Journal of Research in Business and Social Science*, 2(3), 54-61.
- [15] Lee, K., Lee, H., & Kim, S. (1970). Factors influencing the adoption behavior of mobile banking: a South Korean perspective. *Journal of Internet Banking and Commerce*, 12(2), 1-9.

- [16] Lin., H. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, Vol. 31, No. 3, 252-260.
- [17] Lule, I., Omwansa, T. K., & Waema, T. M. (2012). Application of Technology Acceptance Model (TAM) in M-. *International Journal of Computing and ICT Research*, 6(1), 31-43. .
- [18] Masrek, M. N., & Razali, M. H. (2013). Antecedents and Impacts of Mobile Banking Transactions. *A Case of Malaysian Consumers*, 401-405.
- [19] Mokhtar, S. A., Katan, H., & Hidayat-ur-Rehman, I. (2017). MOBILE BANKING ADOPTION: THE IMPACTS OF SOCIAL INFLUENCE, . *Sci.Int.(Lahore)*,29(4), 829-836.
- [20] Perloff, R. M. (2016). *The Dynamics of Persuasion: Communication and Attitudes in the 21st Century (5th ed.)*. Routledge Communication Series.
- [21] Riquelme, H., & Rios, R. E. (2010). The moderating effect of gender in the adoption of mobile banking. *International Journal of Bank Marketing*, 28(5), 328-341.
- [22] Rogers, E. M. (2003). *Diffusion of Innovations (5 ed)*. New York: The Free Press.
- [23] Safeena, R. H., & Kamani, A. (2011). Customer's adoption of Mobile-Commerce: A Study on emerging economy. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 1(3), 228-233.
- [24] Sudha, S. S. (2010). The forecasting of 3G market in India based on revised. *International Journal of Next-Generation Networks*, 2(2), 61-68.
- [25] Venkatesh, V. M. (2003). User acceptance of information technology: toward a unified view. *MIS Quarterly*, 27(3), , 425-478. .
- [26] Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal. *Management Science*, 45(2), 186-204.
- [27] Yousafzai, S. Y. (2003). A proposed model of e-trust for electronic banking. . *Tec novation*, 23(11), , 847-860.
- [28] Yu, C.-S. (2012). Factors affecting individuals to adopt mobile banking: empirical evidence from the UTAUT Model. *Journal of Electronic Commerce Research*, 13(2), 104-121.