

Influence of Demographic Factors on the Mobile Banking Technology Adoption by Customers: A Case of Few Nationalized Banks of Odisha

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Abstract

The rise of e-banking channels has changed the manner in which banking is seen by the clients. Banking part has ventured into the remote age and mobile banking which is the most recent expansion to the rundown and is good to go to make banking increasingly agreeable to the clients. It has picked up prominence among specialist organizations, clients and investors as it is cost and time compelling. Regardless of the gigantic ventures made by the banks in offering the types of assistance through these electronic channels and the previously mentioned benefits it offers, it has been discovered that with the exception of ATMs, selection for example the acknowledgment and proceeded with utilization of mobile banking are yet to get in a major acceptance among the bank clients. So there is a need to study the adoption behavior by the customers towards this technology. So this study attempts to explain the behavioral intention of the customers to adopt mobile banking technology by studying the influence of a customer's demography. This study is done by using primary data and the analysis has been done using T-test and ANOVA, subsequently it has yielded some interesting results.

Keywords: *E-Banking, Mobile Banking, Adoption, T-test, ANOVA*

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Introduction

The Federal Reserve Survey characterizes mobile banking as utilizing a cell phone to get to the bank customer's ledger, MasterCard account, or other money related record. Mobile banking should be possible either by getting to the bank's website page through the internet browser on the customer's cell phone, by means of text informing, or by utilizing an application downloaded on customer's cell phone. According to Tiwari and Buse (2007), mobile banking refers to an arrangement and profit of banking and money related administrations with the assistance of mobile telecommunication gadgets. The extent of offered administrations may incorporate offices to conduct bank and securities exchange exchanges, to direct records and to get to redid data. Cell phone facility is a simple and quicker method for correspondence and one speaks with loved ones, and executes the business at any place, whenever at a sensible expense.

It implies the cell phone is no uncertainty a specialized instrument however it has gigantic possibilities to help other worth included services particularly financial services. In Japan and Korea, mobile banking has brought the bank into cell phone, however in India, mobile banking is in a sprouting stage and act like win – win circumstance for both the banks and the bank's clients because of the way that portable financial services are imaginative, elusive and utilizing high innovation. In the current day data innovation based time, purchasers (cell phone users) and business are coming to understanding the estimation of cell phone/gadget and its utilization in their day by day business and non – business exercises. They have move from their impression of the mobile handset (telephone) from that of voice phone gadget to that of an individual e – business, e-banking, e-retailing gadget, it is a direct result of the technology advancement in cell phone gadgets and its applications (use) in different regions, viz., individual exercises and development, anywhere any time banking, mobile ticketing, bill payments, electronic fund transfer etc.

The development of e-banking channels has changed the manner in which banking is seen by the clients. Banking division has ventured into the remote age mobile banking is the most recent expansion to the rundown and is good to go to make banking increasingly agreeable to the clients. It has been successfully utilized in different nations as a channel for delivering banking services. It has picked up prominence among specialist co-ops, clients and bank employees as it is cost and time effective. On the opposite end, it permits clients (here cell phone clients as clients) to do banking tasks independent expanded and wide geographical reach (Nagesh, 2007). The high insight of cell phones in India is the greatest driver to mobile banking in India through sms, intuitive voice reaction and remote web convention modes by utilizing push and pull based services. Mobile banking in India has developed from its beginning time of being only a data supplier for administrations, for example, a checking bank account balance and setting installment remainders towards payment – based capacities like bill installment, settlements and banking tickets for motion pictures, and for travel, etc. Along these lines mobile banking services have gotten really creative, immaterial and high innovation situated. In this setting is intriguing to know the selection conduct and the impression of cell phone clients on mobile banking services. Subsequently this examination endeavors to comprehend the appropriation conduct of cell phone clients towards portable

financial administrations. This study aims to investigate the influence of demographic factors of the customers like gender, age, occupation and income on the customer adoption and adaptability on mobile banking technology.

Literature Review

Adoption refers to getting familiar towards a particular product or service and adapting to it (Safeena, *et al.*, 2011). Sathye (1999) is in consent with Rogers and Shoemaker (1971) in recognizing that purchasers experience a procedure of information, influence, choice and affirmation before they are prepared to embrace an item or service. Along these lines, adoption or dismissal of a development starts when the buyer gets mindful of the item or service. Right off the bat, one lot of difficulties of mobile banking adoption is brought by contacts in between authoritative connections between banks, mobile operators, Visa organizations, media transmission administrators (network providers) and retailers. Every one of these players has particular center skills (Kim *et al.* 2009). For instance, banks are anxious to enhance customary managing an account with extra channels, for example, seaward and mobile banking. Be that as it may, they don't have sufficient broadcast communications framework. Alternately, media communications specialist organizations are hoping to use their framework with new business openings, yet they typically have insufficient budgetary ability. In this way, such players meet up to shape a worth system. Notwithstanding, they may have fairly narrow minded thought processes that may restrain their shared execution in delivering mobile banking services (Mallat *et al.* 2007).

Several researchers have used the Technology Acceptance Model (TAM) which was developed by Davies in 1986 to predict the adoption behaviour of customers towards any new technological advancement. It was developed with two constructs- Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) and later on it got extended by addition of several others constructs like Perceived Risk (PR), Relative Advantages (RA), Perceived Trust and Security (PTS), Social Norms (SN) etc by several researchers.

Aldás-Manzano *et al* (2012) contend that new items inalienably contain dangers which increment protection from reception. Yousafzai *et al* (2003) certify that risk in on the web and mobile banking is seen to be higher than conventional banking channels as they work on open innovative foundation which makes verifiable apprehensions that hacking and different pernicious assaults that cause money related misfortune and control of individual information may happen.

Akturan and Tezcan (2012) contend that security chance identifies with the likely loss of command over exchanges and money related data. Koenig-Lewis *et al.* (2010) attest that in the m-banking setting, clients dread that their assets will be moved to outsiders without their insight. As per Aldás-Manzano *et al* (2012), privacy risk in banking alludes to how much purchasers dread that their protection will be damaged and nervousness that banks will reveal individual data to different organizations or to strategically pitch other financial items. Performance risk is worried about whether the product or service proceeds according to desires or as envisioned (Aldás-Manzano *et al.*, 2009a). Akturan and Tezcan (2012) assert that performance risk identifies with the likelihood that the item or administration not

working appropriately. Akturan and Tecan (2012) avow that time risk thinks about losing time to figure out how to utilize an item or administrations. In the versatile financial setting, time chance alludes to the measure of time it will take to learn and utilize mobile banking (Aldás-Manzano et al., 2009). Aldás-Manzano et al. (2009a) insist that the absence of human collaboration is a deterrent to the utilization of self-administration innovation based administrations. M-banking works in an "unoriginal situation" (Koenig-Lewis et al., 2010). Suganthi et al. (2001) contend that individual connection among clients and brokers assists with defeating hindrances and builds trust.

Ayodele An et al. (2013) examined the elements influencing level of adoption of mobile banking services in Nigeria saw 'relative advantage' as the most grounded critical determinant of goal towards the use of mobile banking and this upheld the investigations of Pikkarainen et al., (2004) Venkatesh and Davis (2000) and Cheah et al. (2011). Because of the simplicity of portability of a Mobile telephone and the requirement for a helpful method to perform money related exercises, the 'relative advantage' was viewed as the hugest factor. For instance in the regions where individuals need to make a trip some separation to approach an ATM machine or a bank office and furthermore remain in long lines so as to make installment or a withdrawal, Mobile installment would assist with sparing time and cost.

'Perceived ease of use' was additionally seen as the hugest develop influencing 'perceived usefulness'. 'Compatibility' rose as the second indicator of 'perceived usefulness' and 'perceived ease of use'. From the examination, it was presumed that the individuals who have utilized and were OK with web banking and cell phone banking and other comparable innovations (the innovation astute people), will probably be the first to attempt the administration and empower their companions, family companions. Trust and security significantly affected apparent value, issues, for example, secrecy, uprightness, verification, approval and non revocation influences how the purchasers see the handiness of the arrangement.

Jain (2013) inspected the variables affecting the adoption of mobile banking technology in Southern Rajasthan, India and found that mobile banking is impacted by its 'trialability' and 'compatibility'. With respect to least apparent things that influence mobile banking adoption; they appear to be identified with 'complexity', 'relative advantage' and 'perceived risk' of Mobile Banking were seen as components least influencing its selection. Notwithstanding these the analyst likewise examined the variables making obstructions towards the adoption of mobile banking. 'Access issues' risen as the most significant factor, Accessing Problem explanations, for example, 'Possibility of error' is higher than Internet Banking. Utilizing key code list with cell phone is convoluted and cell phone is an eccentric gadget for banking rises with great positive relationships. This has affected significantly on the adopters not to have not to have mobile banking services. 'Dissatisfaction' is the second critical factor, which records of the varieties. The announcements 'Data transmission is very slow', 'Mobile banking services are hazardous and not secure'; Mobile financial administrations are insufficient adaptable and its utilization has been a failure by others mean that the non adopters have seen the disappointment among the clients of Mobile banking services. Failure to give information was seen as another urgent factor. The announcements of deficient

direction are there for usage of mobile banking is muddled which mirrors that shopper conduct will in general are founded on how a given issue is to be unraveled. In this examination, the non-adopters of mobile banking fear being the use of new innovation because of the confusions in the frameworks and, besides, no legitimate direction is given to them.

Nayak et. al (2014) through his broad writing audit in Indian setting and concocted the end that the adoption of mobile banking services in India is simply 2%. So it gets significant for the specialist organizations to expand the pace of selection of mobile banking users. Banks ought to make mindfulness about the mobile banking services through Advertisements, Pamphlets, Demo Fares, Campaigning and so forth with the goal that the client feel educated and it might make enthusiasm among them. S.Samudra and Phadtare (2012) guaranteed that the footfalls at ATM focuses is probably going to be high, the crusades might be completed at these areas to pull in more clients towards these administrations. As indicated by the creator, trust is likewise a significant purpose of concern. Trust between the clients and the specialist organization is significant, without security and protection clients won't use cellular phone for financial transactions. Seen usability and saw handiness were additionally seen as significant components to impact the customer goal to adopt mobile banking. Seen cost is likewise a significant factor; subsequently, this investigation proposes that the imaginative limited time and evaluating techniques, including cost decrease ought to be executed to pull in more cost cognizant clients. It is additionally discovered that clients will embrace mobile banking in the event that they think that it is simple to utilize and comprehend. The clients who are utilizing banking administrations on their mobiles are exceptionally fulfilled ones, on account of a few reasons. The main explanation is the accessibility of offices of equalization checking, access to record and card articulation, checking ongoing exchanges, requesting of check books, obstructing of lost cards, and so forth. In the previous occasions clients used to remain in the long line in banks for cash move, cash store and so on yet now mobile banking is giving offices of whenever and anyplace banking. Security in the mobile banking services is likewise improved by the presentation of OTP (One Time Password) through sms in their cell phones. Before the fruition of any exchange the client need to enter the OTP that is produced by the bank while the client is attempting to start any mobile banking transaction and it is created for one time utilize just as it terminates after single use.

In the above literature review several past researches were observed which includes both International and Indian authors. Several past research work has been done in this area but in this study there shall be an attempt to find out the impact of demographic variables on the mobile banking adoption factors from the extended TAM model. Very few articles have stressed this gap due to which this is identified as the 'research gap'. For this study the samples which were considered are the mobile banking users of Nationalized (public sector) banks about which it is discussed in the methodology section.

Objectives

The study aims to fulfill the following objectives:-

- To study the impact of demographic variables on the adoption of customers towards mobile banking.
- To find out the dimensions of TAM that are significant as well as insignificant towards mobile banking adoption corresponding to different demographic variables.

Research Methodology

4.1. Data Collection

In light of the literature review, a questionnaire was set up to gather the information from the clients from nationalized banks. For this investigation we have utilized purposive inspecting methods. The examples were gathered from five urban communities of Odisha to be specific Bhubaneswar, Cuttack, Berhampur, Sambalpur and Rourkela since greater part of the Mobile banking clients were required to be packed in these urban communities and furthermore the vast majority of the parts of nationalized banks in Odisha are concentrated in these urban areas. This sampling technique was chosen in light of the fact that here we needed to painstakingly choose just those bank clients as respondents who are clients of the Mobile banking services. So stroll in clients at banks were reached and the individuals who were clients of Mobile banking services were chosen as respondents. Respondents were reached online just as through email ids which were enlisted with their branch.

The questionnaire designed is divided into two parts. First part collects the demographic information of the customers with respect to gender, age, occupation and income. Second part of the questionnaire captures the data regarding the TAM constructs those are Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Perceived Risk (PR), Relative Advantages (RA) and Perceived Trust and Security (PTS). These constructs were chosen with respect to the literature review done already.

4.2. Sampling

Purposive sampling techniques were used to choose the respondents as our study was confined to customers of nationalized banks who used mobile banking services. 500 questionnaires are sent out through both physical and online mode. Out of the responses received, 386 were found to be completed and usable for analysis purpose yielding a response rate of 77.2%.

Data Analysis and findings

5.1 Demographic information of the respondents

The demographic features of the 386 respondents who were the mobile banking users from Nationalized banks are given in Table 1. below:-

Table 1. Demographic Profile of the Sample.

Total Sample Size, S=386			
Gender	Male	N	147
		%	38.1%
	Female	N	239
		%	61.9%
Age	18-28 years	N	106
		%	27.5%
	29-39 years	N	91
		%	23.6%
	40-50 years	N	114
		%	29.5%
	51-61 years	N	49
		%	12.7%
	62-72 years	N	26
		%	6.7%
Occupation	Self-employed	N	104
		%	26.9%
	Business	N	113
		%	29.3%
	Professional	N	134
		%	34.7%
	Housewife	N	14
		%	3.6%
	Retired	N	21
		%	5.5%
Income	1,00,000-2,00,000 INR	N	93
		%	24.1%
	2,00,001-5,00,000 INR	N	84
		%	21.8%
	5,00,001-10,00,000 INR	N	115
		%	29.8%
	10,00,001-15,00,000 INR	N	94
		%	24.4%

Source: Primary Data

The table 1 given above depicts that 61.9% of the respondents are females' while the rest 38.1% are males. On the 'age' category 29.5% of the respondents belong to the age group between 40 to 50 years. Again in this category, 27.5% of the respondents who are the customers are in the age group between 18 to 28 years whereas 23.6% of the respondents are in the age group between 29 to 39 years. Under the category of occupation, 34.7% respondents are professionals, 29.3% of the respondents are in the category of business whereas 26.9% of the respondents are in the self-employed group. Under the category of

income, 29.8% of the respondents had an income between 5, 00,001 to 10, 00,000 INR. Again in this category, 24.4% of the respondents are having the annual income between 10, 00,001 to 15, 00,000 INR whereas 24.1% of the respondents are in the income group between 1, 00,000 to 2, 00,000 INR and rest 21.8% of the respondents are in the income group between 2, 00,001 to 5, 00,000 INR.

5.2 Demographic variable wise analysis of customers' of nationalized banks with the factors affecting the adoption of mobile banking technology.

The tables numbered from 2 to 5 analyses the behavior of customers of nationalized banks towards mobile banking (demographic wise) with the factors of TAM to be influencing the customer adoption of mobile banking technology. The analysis has been done using t-test and one way ANOVA.

Table 2. T-test on factors influencing customer adoption of mobile banking technology with respect to gender groups.

	GENDER	N	Mean	Std. Deviation	T-Value
Perceived Usefulness (PU)	Male	147	6.09	0.64	0.649 NS
	Female	239	6.06	0.41	
Perceived Ease of Use (PEOU)	Male	147	5.64	1.12	0.208 NS
	Female	239	5.66	0.78	
Relative Advantage (RA)	Male	147	4.95	0.81	0.098 NS
	Female	239	4.96	0.78	
Perceived Risk (PR)	Male	147	4.88	0.82	0.029 NS
	Female	239	4.89	0.81	
Perceived Trust and Security (PTS)	Male	147	5.75	0.54	4.739*
	Female	239	5.44	0.67	

N.B:- * - Significant at 5% level ($P < 0.05$), NS – Not Significant at 5% level ($P > 0.05$), $DF = 384$

The table 2 shows the result of t-test with regard to various factors found to be influencing the customer adoption of mobile banking in this study through factor analysis earlier (namely Perceived Usefulness, Perceived Ease of Use, Relative Advantage, Perceived Risk and Perceived Trust and Security) as evidenced by male and female respondents. It is observed that with respect to Perceived Usefulness, there is no significant difference between male and female respondents as shown by t-value of 0.649. Similarly with respect to Perceived Ease of Use, Relative Advantage and Perceived Risk are also not found to be significant with regard to male and female respondents with t-values of 0.208, 0.098 and 0.029 respectively whereas with respect to the construct Perceived Trust and Security there is significant difference between the male and female respondents with t-value of 4.739 at 5% level.

Table 3. ANOVA analysis of the factors affecting mobile banking adoption and different age groups.

		Sum of Squares	df	Mean Square	F
Perceived Usefulness (PU)	Between Age Groups	7.972	4	1.993	8.266*
	Within Age Groups	91.866	381	0.241	
	Total	99.838	385		
Perceived Ease of Use (PEOU)	Between Age Groups	16.499	4	4.125	5.026*
	Within Age Groups	312.661	381	0.821	
	Total	329.160	385		
Relative Advantage (RA)	Between Age Groups	17.440	4	4.360	7.503*
	Within Age Groups	221.397	381	0.581	
	Total	238.837	385		
Perceived Risk (PR)	Between Age Groups	15.115	4	3.779	6.082*
	Within Age Groups	236.719	381	0.621	
	Total	251.834	385		
Perceived Trust and Security (PTS)	Between Age Groups	9.357	4	2.339	5.907*
	Within Age Groups	150.884	381	0.396	
	Total	160.242	385		

N.B:- * - Significant at 5% level ($P < 0.05$), NS – Not Significant at 5% level ($P > 0.05$)

The results obtained on application of one-way ANOVA on the different factors affecting adoption of mobile banking have been presented in the table no 3 by treating age-group as independent factor. It is observed that with regard to all the five factors namely Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Relative Advantage (RA), Perceived Risk (PR) and Perceived Trust and Security (PTS), there exists significant variance between different age groups towards mobile banking behavior as evidenced from F-values of 8.266, 5.026, 7.503, 6.082 and 5.907 respectively all found significant at 5% level.

Table 4. ANOVA analysis of the factors affecting mobile banking adoption and different occupation groups.

		Sum of Squares	df	Mean Square	F
Perceived Usefulness (PU)	Between Occupation Groups	0.173	4	0.043	0.165 NS
	Within Occupation Groups	99.665	381	0.262	
	Total	99.838	385		
Perceived Ease of Use (PEOU)	Between Occupation Groups	24.531	4	6.133	7.670*
	Within Occupation Groups	304.629	381	0.800	
	Total	329.160	385		
Relative Advantage (RA)	Between Occupation Groups	6.165	4	1.541	2.524*
	Within Occupation Groups	232.672	381	0.611	
	Total	238.837	385		
Perceived Risk	Between Occupation Groups	42.615	4	10.654	19.401*

(PR)	Within Occupation Groups	209.219	381	0.549	
	Total	251.834	385		
Perceived Trust and Security (PTS)	Between Occupation Groups	18.022	4	4.506	12.070*
	Within Occupation Groups	142.219	381	0.373	
	Total	160.242	385		

N.B:- * - Significant at 5% level ($P < 0.05$), NS – Not Significant at 5% level ($P > 0.05$)

The results obtained on application of one-way ANOVA on the five factors affecting mobile banking, have been presented in the table no 4 by treating occupation-group as independent factor. It is observed that with regard to four factors namely PEOU, RA, PR and PTS there exists significant variance between different occupation groups towards mobile banking behavior as evidenced from F-values of 7.670, 2.524, 19.401 and 12.070 respectively all found significant at 5% level whereas F-value of 0.165 against PU is not found to be significant at 5% level.

Table 5. ANOVA analysis of the factors affecting mobile banking adoption and different income groups.

		Sum of Squares	df	Mean Square	F
Perceived Usefulness	Between Income Groups	18.124	3	6.041	28.243*
	Within Income Groups	81.714	382	0.214	
	Total	99.838	385		
Perceived Ease of Use	Between Income Groups	37.230	3	12.410	16.239*
	Within Income Groups	291.930	382	0.764	
	Total	329.160	385		
Relative Advantage	Between Income Groups	70.864	3	23.621	53.719*
	Within Income Groups	167.973	382	0.440	
	Total	238.837	385		
Perceived Risk	Between Income Groups	25.310	3	8.437	14.227*
	Within Income Groups	226.524	382	0.593	
	Total	251.834	385		
Perceived Trust and Security	Between Income Groups	8.379	3	2.793	7.025*
	Within Income Groups	151.863	382	0.398	
	Total	160.242	385		
All	Between Income Groups	23.232	3	7.744	33.378*
	Within Income Groups	88.626	382	0.232	
	Total	111.858	385		

N.B:- * - Significant at 5% level ($P < 0.05$), NS – Not Significant at 5% level ($P > 0.05$); All* signifies all the five factors taken together.

The results obtained on application of one-way ANOVA on the five factors affecting mobile banking adoption in table no 5, have been presented in the above table by treating income group as independent factor. It is observed that with regard to all the five factors found in this study which are PU, PEOU, RA, PR and PTS, there exists significant variance between different income groups towards mobile banking behavior as evidenced from F-values of

28.243, 16.239, 53.719, 14.227 and 7.025 respectively all found significant at 5% level. For all the five factors taken together, the F-value of 33.378 is also found to be significant at 5% level treating income group as independent factor.

Conclusion

In this study it is observed that 'Perceived Trust and Security' is the only construct which showed there is significant difference between the male and female respondents with regard to adoption of mobile banking services which conclude that both male and female respondents differ in their opinion and subsequent adoption behavior with respect to trust and security of the mobile banking application which may be the reason that initially they were installing the application in their cell phones upon the advice of their banks but after sometime they are uninstalling the application. In case of age and income all the TAM constructs were found significant which indicates that all the five constructs used in this study-PU, PEOU, PR, RA and PTS are responsible for their adoption behavior towards mobile banking. But in the case of occupation, only 'Perceived Usefulness' was found to be insignificant factor as respondents from all occupation groups accepted that mobile banking application is a useful tool to carry out financial transactions in a prompt manner. But overall when it was tested, all the TAM constructs were found significant towards the adoption behavior of the customers. So in this light, it can be concluded that banks need to consider a right mix of all the factors to try their best to increase the adoption rate with respect to mobile banking. They also must correlate with the demographic groups of the customer while developing further strategies to improve the adoption rate.

Limitations and Scope for further research

Though this research work contributes to the knowledge towards this area of adoption behavior of customers towards mobile banking services, but it is not free of its limitations. Firstly, this study only included a sample size of 386, a bigger sample size in further research may give more clarity in the results obtained. Secondly, only the customers of nationalized banks have been considered, but going further a comparative study can be done by comparing the results from the customers of private as well as foreign banks. Thirdly in this research the samples are considered only from some cities of Odisha but if we consider PAN India, then there are cities where the adoption rate is faster and there are small towns and rural areas where the adoption rate is very slow, so going PAN India shall definitely is a time consuming task but it shall yield more clarity and regarding the adoption behavior of individuals towards mobile banking services. Fourthly, in this research we used five constructs of TAM we can also add more constructs of extended TAM to get more detailed results.

References

8.1 Journal Articles

- Nagesh, T.R. (2007). Internet banking- A regulatory challenge. *The professional banker*, 7 (2), 37-48.
- Safeena, R., Hundewale, N., & 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.
- Sathye, M. (1999). Adoption of Internet banking by Australian consumers: An Empirical Investigation. *International Journal of Bank Marketing*, 17 (7), 324 – 334.
- Kim, G., Shin, B., & Lee, H.G. (2009). Understanding dynamics between initial trust and usage intentions of mobile banking. *Information Systems Journal*, 19 (3), 283–311.
- Mallat, N. (2007). Exploring customer adoption of mobile payments-A qualitative study. *The Journal of strategic information systems*, 16 (4), 413-432.
- Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., & Sanz-Blas, S. (2012). The role of consumer innovativeness and perceived risk in online banking usage. *International journal of bank marketing*, 27 (1), 53-75.
- Aldas-Manzano, J., Lassala-Navarre, C., Ruiz-Mafe, C., & Sanz-Blas, S. (2012). Key drivers of internet banking services use. *Online information review*, 33 (4), 672-695.
- Yousafzai, S. Y., Pallister, J. G., & Foxall, G. R. (2003). A Proposed Model of E-Trust for Electronic Banking. *Technovation*, 23 (11), 847-860.
- Akturan, U., & Tezcan, N. (2012). Mobile banking adoption of the youth market: Perceptions and intentions. *Marketing Intelligence & Planning*, 30 (4), 444-459.
- Koenig-Lewis, N., Palmer, A., & Moll, A. (2010). Predicting young consumers take up of mobile banking services. *International journal of bank marketing*, 28 (5), 410-432.
- Suganthi, R., Balachander, K. G., & Balachandran. (2001). Internet banking patronage: an empirical investigation in Malaysia. *Journal of Banking and Commerce*, 6 (1), 20-32.
- Ayodele, A.A., Esther, A., Charles, A.K., & Marion, A.O. (2013). An Empirical Investigation of the Level of Adoption of Mobile Payment in Nigeria. *African Journal of Computing & ICT*, 6 (1), 197-207.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet research*, 14 (3), 224-235.
- Venkatesh, V., & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management science*, 46 (2), 186-204.
- Cheah, C.M., Teo, A.C., Sim, J.J., Oon, K.H. & Tan, B.I. (2011). Factors Affecting Malaysian Mobile Banking Adoption: An Empirical Analysis. *International Journal of Network and Mobile Technologies*, 2 (3), 149-160.
- Jain, Y. (2013). Mobile banking: A study on adoption and challenges in southern Rajasthan, India. *International journal of innovative research and development*, 2 (4), 902-914.
- Nayak, N., Nath, V., & Goel, N. (2014). A study of adoption behaviour of mobile banking services by Indian consumers. *International journal of research in engineering and technology*, 2 (3), 209-222.
- S.Samudra, M., & Phadtare, M. (2012). Factors influencing the adoption of mobile banking with special reference to Pune city. *ASCI journal of management*, 42 (1), 51-65.

8.2 Books

- Tiwari, R. & Buse, S. (2007). *The mobile commerce prospects: A strategic analysis of opportunities in the banking sector*. Hamburg, Germany: Hamburg University Press.
- Rogers, E.M., & Shoemaker, F.F. (1971). *Communication of Innovations: A Cross Cultural approach*. New York: Free Press, 476 p.