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A Study on Adoption of M-Banking Services by Private Bank Customers in New Delhi

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Abstract: Internet is said to be the third most impactful revolution in the world after the agricultural and industrial revolution. The evolution of internet had led to the dot-com burst which eventually transformed the traditional banking systems to systems like Automatic teller Machine(ATM), tele-banking, electronic fund transfer and m-banking. Technology plays a very essential role in delivering quality banking services and like any other technological innovation e-banking has also been adopted rapidly by various banks and customers. The boom of e-banking and smart phones has caused a huge shift from traditional banking habits to mobile app banking.

This study explains how people living in New Delhi have adopted the mobile banking services provided by the private banks and it examines the factors which persuade the customers to use mobile app for banking. This study is helpful for both private as well as public banks as it gives an insight to what are the latest trends in m-banking and how people respond to it. How do people take mobile apps as a mode of banking service? Are customers more concerned about the ease-of-use or the risk attached with m-banking? Does difference in age group influence the customer's m-banking behavior?

The study is conducted with 200 private bank customers in New Delhi further categorized as customers already using mobile banking, customers using mobile apps for banking and customers currently not using mobile banking with age groups, using random sampling technique. The customers were surveyed with help of a structured questionnaire. Percentage method, averages, standard deviation, regression and correlation techniques have been used for data analysis.

Key words: m-banking, mobile apps, smart phones, private banks, technology adoption, e-banking.

I. Introduction

The propagation of, and rapid advancements in technology, especially those related to the internet, is leading to essential changes in how firms interact with customers. Mobile banking refers to availing of banking services on a mobile telecommunication gadget. Mobile phones have now become a necessity and with the smart phone and tablet trend and advanced technology in mobile communications, mobile banking (M-Banking) has gained lot of popularity and importance. M-banking is done for account transactions, checking account balance, payments, sending requests for cheque books, fund transfers and checking other account information. Mobile banking traditionally included banking through SMS but there has been a significant shift in m-banking from SMS to application based banking through smart phones.

In India, as found in the RBI report, 64 banks (out of 80 allowed banks) have commenced mobile banking operations and there are 22 million active m-banking users as of October 2013.

However, customer enrollment related issues like mobile number registration, M-PIN generation process, security-related concerns, bank-staff education and customer awareness and education, and technical issues faced by banks including access channels for transaction, cumbersome transaction process and coordinating with Mobile Network Operators (MNOs) in mobile-banking eco-system are inhibiting the adoption of mobile banking.

However, customer usage related issues like registering mobile number, M-PIN generation related problem, security-related doubts, bank-staff awareness & education and customer attentiveness and education, and technical issues faced by banks including access channels for transaction, burdensome transaction process and coordinating with Mobile Network Operators (MNOs) in mobile-banking atmosphere are disrupting the adoption of mobile banking. The report also forecasts a shining future for m-banking services as the report highlights a growing trend of mobile banking with the volume and value of transactions having risen at 108.5% and 228.9% from Financial Year 2012 to 2013 respectively. The Central Bank of India (RBI), further reported that, there were around 870 million mobile connections in India by June, 2013 and around 450 million bank accounts were held. This report surely suggests a bright scope for m-banking services and there is a lot of scope for growth as well.

The study further analyses the effect of various demographic factors of the private bank account holders on the style and attitude towards using m-banking. Thus this study shows an empirical view of the perceptions and mind-sets private bank customers have about using mobile banking services.

Safety and security issues have discouraged the customers from resorting to online and m-banking facilities. Furthermore, customers using m-banking find that the advantages are in time-effectiveness and time saving services, convenience, safety, technical or operational simplicity and ease of use. These help in enriching their mobile-banking experience and have the potential to increase adoption of mobile banking.

II. Objectives

1. To study the level of adoption of m-banking services by private bank customers in New Delhi.
2. To understand how different demographic characteristics of persons affects their behavior and adoption of m-banking services.
3. To understand how m-banking has been adopted with respect to banking mobile applications and consumer's attitudes towards m-banking.
4. Understanding the adoption of SMS based banking and mobile app based banking technology.

III. Research Methodology

The study was conducted with 200 respondents categorized as customers already using mobile banking, customers using mobile apps for banking and customers currently not using mobile banking with age groups, using random sampling technique. The customers were surveyed with help of a structured questionnaire. All the respondents were private bank customers of banks including ICICI, HDFC, Axis-Bank, Citibank, Kotak Mahindra Bank. Data was collected through personal contacts by random sampling technique. The data was collected with the help of a Questionnaire which was structured on the basis of five-point Likert scale ranging from strongly-agree to strongly-disagree options.

Demographics of the respondents: 200 persons were surveyed out of which 110 were males and 90 were females. Half of the respondents were post graduates and the other half were undergraduates and graduates. 95 people out of the 200 surveyed people were private service employees and 60 were students. (Table 2.)

The study was conducted in New Delhi area from customers of above mentioned private banks. New Delhi being a metro city is multi-religion, multi-lingual area which makes it diverse in culture and behavior of people that is why it makes it an attractive survey area for such type of research.

IV. Literature Review

Mobile Banking, popularly known as M-Banking, can perform various functions like mini statement viewing, account and balance checking, SMS banking and alert texts, access to debit and credit card statements, credit-card online payment, mobile recharge etc. via mobile phones (Vinayagamoorthy and Sankar, 2012). First m-banking transaction services in India were offered by ICICI bank in January 2008 (Mr. V. Vaidyanathan, 2008) where as SMS banking alert services started in 2005-06 (Alpesh Patel, 2013). India's mobile phone subscribers rose up to the 1 billion users mark, as per the information released by the country's telecom regulator. Mobile banking users in India account for more than 50% of the total population (KPMG, UBS study 2015). Mobile banking has seen an upward shift of 88.75% in an year, going up from 8.89 million transactions as of December 2013 to 16.78 million in December 2014. There were transactions worth Rs 22.61 billion in December 2013 that went up to Rs 113.23 billion, it was a dynamic rise of 400 times more than the previous year (BFSI report, Consumer Voice April 2015) According to RBI's bank-wise m-banking transactions data, State Bank of India was on the top of the list in volumes while HDFC bank had topped the list in terms of value. (BFSI report, Consumer Voice April 2015).

It is also found that people have less trust in the mobile banking services and personal disposition to trust played a positive and essential role in developing initial usage in mobile banking services. To some extent the success of acceptance of m-banking transactions depends on the customer as well as vendor's or bank's trust (Singh, Srivastava, & Srivastav, 2010). According to Devadenan's survey conducted on 65 respondents, it was found that 84.6% of the respondents that were surveyed had tested the m-banking facility while the remaining were not aware of it. (Devadenan V 2013).

Potential of m-banking in India

Vyas (2009) concluded that banks in India will focus and target on non online or traditional banking users who may lack regular access to desktop internet but are very likely to own a smart mobile device, thus reporting great potential of M-banking in India.

Karjaluo (2002) revealed that there is enormous market potential for m-banking due to its on-the-go functionality and the option of access to banking technically anytime and anywhere.

Increasing smart phone and other smart gadgets adoption and initiatives like media promotions and customer education and training programs for mobile banking have led to this m-banking fashion. For customers, m-banking is convenient while banks benefit a lot as it's a low-cost channel. (Kiran 2013).

According to the RBI report by technical committee of 2014, the total number of bank account holders was a good number of 589 Million out of which 182 million were account holders using ICT based banking channels. The total number of m-banking users was 22 million. It is quite evident that there is enormous scope of m-banking in a country like India.

Impact of demographics on m-banking services adoption

Demographic factors affect is essential to be studied while understanding the adoption and acceptance of m-banking services in India. It is concluded that younger customers prioritize convenience and time-saving factors more than older consumers. Mobile-savvy college students, who are using their mobile devices for services beyond voice, will drive adoption of innovative mobility services, including m-banking (Goswami D, Raghavendran S 2009).Capgemini also found that younger customers, who are more tech-savvy, are placing greater importance on m-banking than older customers.

The best model that explains this relationship between different perceived factors and technology adoption is TAM (Technology Acceptance Model) (Davis, Bagozzi and Warshaw 1989) TAM explains the 2 external variables that effect the level of acceptance of technology further explained in Fig. 1.

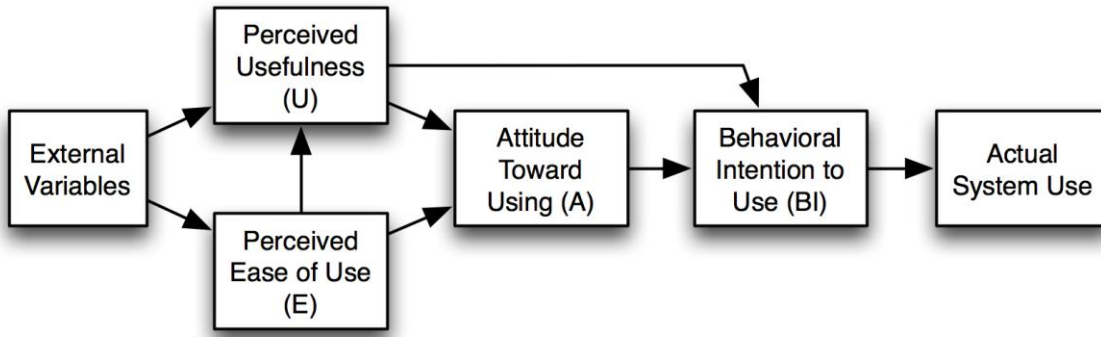


Fig 1.

TAM was further extended including acceptance behaviour towards e-commerce, popularly known as TAM3 (Venkatesh and Bala 2008)

Many further researches have been done with regard to this model to understand the acceptance behavior of users with respect to technology. 13 factors which effect m-commerce claimed by Bhatti (2007) and Noordin(2011) are Perceived Usefulness, Self-Efficacy, Perceived ease of use, Personal Innovativeness, Perceived Trust, Perceived Cost, Subjective Norm, Social Influence, Self-Control, Perceived Behavioural Control, Facilitating condition, Attitude towards use, and Intention to use M-commerce are statistically significant and by using exploratory factor analysis they concluded that the mere introduction of M-commerce is not sufficient but focus should be laid on the improvement of attributes that effect the M-Commerce adoption. These authors used two more models to study the customer’s banking behavior, TPB (Theory Planned Behaviour), IDT (Innovation Diffusion Model).

According to the study conducted by Bhatti (2007), who used all the three models concluded that the perceived ease of use, perceived usefulness, subjective norm, personal innovativeness and perceived behavioural control are strong factors which determine the intention of adopting M-commerce.

Undeniably there is affluent information and literature available on m-banking and m-commerce but with respect to India it is still at the basic stage hence purpose of this study is to help bridge this gap.

Data Analysis and Interpretation

Table 1 No. of users and non-users of m-banking

Total Respondents	Users of m-banking	Non-users
200	154	46

Table 2. Demographics of respondents

Demographic factor		No. of respondents/ Frequency	Percentage	M- banking users	Percentage	Non- users	Percentage
Age	21-25	40	20.0%	20	13.0%	20	43.5%
	26-30	80	40.0%	72	46.8%	8	17.4%
	31-36	60	30.0%	55	35.7%	5	10.9%
	36-40	10	5.0%	4	2.6%	6	13.0%
	Above 40	10	5.0%	3	1.9%	7	15.2%
Gender	Male	110	55.0%	86	55.8%	24	52.2%
	Female	90	45.0%	68	44.2%	22	47.8%
Education	Under-graduate	30	15.0%	10	6.5%	20	43.5%
	Graduate	70	35.0%	55	35.7%	15	32.6%
	Post-graduate	100	50.0%	89	57.8%	11	23.9%
Occupation	Govt. employee	10	5.0%	7	4.5%	3	6.5%
	Private service	95	47.5%	87	56.5%	8	17.4%
	Business	20	10.0%	17	11.0%	3	6.5%
	Student	60	30.0%	30	19.5%	30	65.2%
	House-wife	15	7.5%	13	8.4%	2	4.3%
Monthly income	Below 10,000	50	25.0%	20	13.0%	30	65.2%
	10000-40000	70	35.0%	59	38.3%	11	23.9%
	40000-60000	70	35.0%	67	43.5%	3	6.5%
	Above 60,000	10	5.0%	8	5.2%	2	4.3%
Marital Status	Married	80	40.0%	70	45.5%	10	21.7%
	Unmarried	120	60.0%	84	54.5%	36	78.3%

Findings and Observations

The respondents were asked to prioritize the factors which are most important in adopting m-banking services. There were four factors Convenience, Ease of use of m-banking, security and risk factor and time-saving or time-efficiency.

- It was found that 32% of respondents using m-banking strongly agreed that convenience is most important where as only 11% of non-users also strongly agreed that convenience is most important.
- 32% of the total users of m-banking strongly agreed that security and risk is most important where as the non-users were a huge amount of 54% who were reluctant to use m-banking as they prioritized security and risk as the most important factor.
- It is revealed in this study that users prioritize both convenience and security equally but it does not abstain them from adopting m-banking.

Table 3. Prioritization of factors affecting adoption of m-banking.

Factors	No of respondents		Percentage	
	M-banking users	Non-Users	Users	Non-Users
Convenience	50	5	32%	11%
Ease of use	40	10	26%	22%
Security and Risk	50	25	32%	54%
Time-saving	14	6	9%	13%
Total	154	46		

- It was observed that all the respondents were aware of m-banking facilities and services provided by the banks.
- 77% respondents (154/200) were already using m-banking services.
- Out of all the respondents (154) using m-banking 100% were aware of banking mobile applications.
- 100 people out of 154 persons which use m-banking services have done and NEFT (National Electronic Fund Transfer) transaction with their smart-phone m-banking application which constitutes to a good amount of 64.93% of all the persons using m-banking.
- 90% of respondents of age 26-30 years (72 out of 80) were using m-banking apps where as only 30% of respondents of age above 40 Years (3 out of 10) were using m-banking apps. According this data it can be revealed that age is one of the most impactful demographic factor in case of m-banking adoption.
- It was seen that 55.8% male respondents were using m-banking and 44.2% female respondents were using m-banking. This concludes that gender does not have a big impact on the use and adoption of m-banking services.
- Highest number of persons using m-banking were in private service as it was also observed that they had their salary accounts in one of the private banks it was 56.5% of the total respondents.
- Respondents using HDFC bank mobile app found it to be the most convenient and easy to use app.
- 57% respondents also strongly believed that private bank mobile apps are better than public bank apps.
- This study also revealed that very less percentage of respondents using mobile apps and other m-banking services were comfortable in taking loans online. This accounted for only 2% of the entire m-banking users surveyed.

Conclusion

- It was observed that the respondents who used m-banking mostly used it for checking account balance and statements, credit card payments, request for cheque books and NEFT transactions.
- All the respondents in the age group 21-35 were well versed with usage of m-banking apps .
- According to this study it can be concluded that the younger respondents are more aware of the usage of mobile apps and SMS banking and prefer m-banking as it is faster and convenient than traditional banking techniques.
- The older respondents were more concerned about the risk and security of money as compared to the time-saving advantage of customers. They also strongly agreed that mobile apps for banking are complicated and they were reluctant to use smart gadgets for money related issues.
- With the increase in popularity and adoption of smart gadgets, m-banking is the most growing area in the environment currently.
- Education and age are the most impactful demographic factor affecting the use and adoption of m-banking by private bank customers in New Delhi area.
- M- banking is surely the best and most convenient method which makes all the basic banking techniques automated and just at a click on smart phone or tablet everything related to the bank account can be accessed.
- This study also shows that with the rapidly advancing technology and increased use of internet SMS banking will also be soon replaced by app based banking.

- India having the youngest population in the world has a bright future in the country as it has been revealed by many researchers that the youth has faster adoption of technology than the older generations.

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