



Mobile Banking Usage: An empirical research in Delhi/NCR

KEYWORDS

Mobile Banking, ATM, Mobile Phones, t-test, ANOVA and Factor Analysis

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ABSTRACT *Just like the ATMs and then online banking services through e-banking, people are now shifting towards mobile banking. With the wide usage of smart phones, it is much more convenient to access account information and perform various banking services. The purpose of the study was to assess the consumer's attitude towards mobile banking and thereby analysing the factors and influence of those factors on mobile banking usage. The primary data were collected from the 117 respondent with the help of questionnaire. Data was analysed using t-test, ANOVA and Factor Analysis.*

This study provides a direction to the bankers to device strategies related to Mobile banking. Hence this bottom up approach can help the system to delivers the products and services at the lowest cost and in efficient manner.

Introduction

From the last decades, the two most important technological advancements are internet and mobile phones. With the overall process of invention, innovation and diffusion of technology in telecommunications, banking services have enabled the launch of new access methods; one of which is mobile banking, which has become acceptable as a part of daily life. In India, 929.37 million people are subscribed to mobile phones, amongst which there are 44 million smart phone subscribers. Banks in India are exploiting this and have started focusing on mobile banking in order to reduce the operational cost and increasing the customer base

Currently Mobile devices are enabled to perform various commercial transactions. (Stuart & Brian, 2004), found that the future of Mobile banking is very bright. Mobile banking or m-banking is a system that allows a customer of a financial institution, to conduct a financial transaction through mobile phones. It's used to check balances, account transactions, credit applications and conducting other banking transactions with the help of mobile phone or PDA anywhere at any time which saves a lot of time. In addition through Mobile banking, banks are able to sell their products or services to specific set of customers easily.

Mobile banking consists of 3 inter related concepts which are categorized as under:

(1) Mobile Accounting: It refers to utilization of banking services, specific to particular account which is non-informational in nature through the mobile device. The services may include access administration and card management.

(2) Mobile financial information services: It refers to those financial services that are non- transaction based and informational in nature for example, facilities to make balance enquiries, order statement of accounts etc.

(3) Mobile brokerage: It refers to transaction based mobile financial services of non informational nature which revolves around a security account, for example, selling and

purchasing of stocks, bonds or derivatives etc.

Mobile banking has enabled various banking function like money transfer, payment etc. According to Citi bank, the branch banking is 10 times more expensive than Mobile banking. As per HDFC Bank, two years back before 2013, 40-45% of the banking transactions were happening in the bank branch which has dropped to 18%. So, 82% of the banking needs of a HDFC bank customer who has registered for mobile banking are done outside the bank branch. HDFC has 1.2 million mobile banking users. State Bank of India has 5.2 million registered mobile banking users and this is increasing by 2 lakh new mobile banking users per month. Almost 63% of Citibank account holders use the digital medium for banking. And around 10 million customers of ICICI bank have registered currently for m-banking.

Mobile banking is indeed the future in banking because of its cost effectiveness and ability to reach out to customers in remote areas. However it will take another 2-3 years for the model to mature.

LITERATURE REVIEW

Sylvie & Xiaoyan (2005), examined behavioral, attitudinal and demographic characteristics of mobile banking. The main aim of the research was to find out the market status of mobile banking in China. The results showed that most of the users of Mobile banking were males and the most important factor that influenced people to adopt Mobile banking in China was security issues, perception of risk and technical skills. Lack of awareness and understanding the benefits of Mobile banking were some of the barriers. Pin & Hsin-Hui(2005), found that, perceived credibility, perceived self-efficacy and perceived financial cost are the important factors affecting usage of Mobile banking. (Mirella, Ko, & Martin, 2007) incorporated three concepts which are service compatibility, time convenience and user control and two costs that are perceived risk and cognitive effort form-banking. (Tom, Niina, Jan, & Agnieszka, 2008) said that, the two important factors of Mobile banking are consumer power and changes in technological environment. In the journal of Social science research network, (Cheney,

2008) examined factors that are affecting adoption patterns, including financial inclusion opportunities, data security problems, and coordination issues. (Gimun, Bong-Sik, & Ho, 2009) found that the emerging Mobile banking can generate additional revenues for banks as well as for the telecom companies. According to his findings, relative benefits, propensity to trust and structural assurance are some of the significant effect on initial trust on Mobile banking. (Xin, Han, Jie, & Shimd, 2010) explained various factors affecting acceptance or rejection of Mobile banking which are innovative technological acceptance, perceived risk, trust and self- efficacy. Out of these, risk factor was found to be the most important factor affecting acceptance or rejection of Mobile banking. (Pedro, Cruz; Lineu, Barretto; Filgueiras, Neto, 2010) revealed that majority of the respondents who do not use mobile banking, is due to four major factors, which are; Perception of cost, risk, low perceived relative advantage and complexity. Therefore service enhancement should be the main focus of the banks in order to reduce these factors. (Hernan & Rosa, 2010) explained the factors responsible for adoption of mobile banking and also the effect of gender on adoption of mobile banking. Perception of risk, social norms, usefulness and ease of use were some of the dominant factors affecting mobile banking. Ease of use has a stronger influence on female rather than male. (Khong, Siong, Pik, & Binshan, 2010) investigated the factors affecting mobile banking. The findings from 184 customers of mobile banking indicate that perceived usefulness, perceived ease of use, convenience, computer efficacy, device features and security influence the adoption of e-banking. Most of the respondents prefer e-banking rather than m-banking. The results provide banks with prioritization of determinants for developing appropriate strategies to encourage the adoption of e-banking and m-banking. In the case study of (Wessels, 2010), the author identified and tested the key motivators and inhibitors for consumer acceptance of mobile phone banking (M-banking), particularly those that affect the consumer's attitude towards, and intention to use, this self-service banking technology. (Tao, 2011) conducted a research on mobile banking and tried to examine the effect of initial trust on mobile banking user adoption. The results indicate that structural assurance and information

quality are the main factors affecting initial trust, whereas information quality and system quality significantly affect perceived usefulness. Initial trust affects perceived usefulness, and both factors predict the usage intention of mobile banking. (Cope, 2012) conducted a study which uses a unique dataset to examine how consumers' perceptions of the risks of using mobile banking, as well as their own personal level of risk tolerance, impact adoption of mobile banking. They found that consumers who believe that mobile banking is unsafe or who don't know how safe it is adopt mobile banking at much lower rates than those who believe it is safe. They further found that consumers with higher levels of risk tolerance are more likely to adopt mobile banking, even after controlling for their perceptions of the riskiness of mobile banking.

Indeed there is rich literature available on m-banking however in India studies on m-banking are still in initial stage hence the purpose of this study is to fill this gap. The study focuses on the consumer's attitude towards mobile banking in Delhi/NCR. In addition study will also analyse various factors that influence the adoption of mobile banking.

RESEARCH METHODOLOGY

The objective of this research is to study the usage of m-banking in Delhi/NCR, however the primary objective is to explore the various factors that affect the usage of m-banking. In addition, this research also intend to find out the difference based on gender, income and age groups. In order to achieve the research objectives the study used both exploratory and descriptive research design. The primary data was collected by 117 respondents through a questionnaire Convenience and snow ball sampling was used. The online questionnaire was sent through e-mail and each respondent was requested to send it to some of their friends and colleagues. t -test, ANOVA and Factor Analysis were used as data analysis techniques.

DATA ANALYSIS

Demographic Profile

The demographic profiles of the respondents showing users and non-users of mobile banking are shown in Table 1

Table 1. Profile of the respondents

Gender		Male			Female			Total		
		Users	Non-users	Total	Users	Non-users	Total	Users	Non-users	Total
Total respondents:		35	29	64(54.7%)	27	26	53(45.3%)	62	55	117
Age	<20	1	1	2 (3.1%)	3	4	7 (13.2%)	4	5	9
	21-30	19	17	36(56.2%)	14	11	25 (47.2%)	33	28	61
	31-40	7	3	10 (15.6%)	7	5	12 (22.6%)	14	8	22
	41-50	6	5	11 17.2%)	3	4	7 (13.2%)	9	9	18
	>51	2	3	5 (7.8%)	0	2	2 (3.8%)	2	55	7
Annual Income	< 3 lakhs	6	6	12 (18.8%)	5	13	18 (34%)	11	19	30
	3-5 lakhs	15	12	27 (42.2%)	4	7	11 (20.8%)	19	19	38
	5-7 lakhs	10	5	15 (23.4)	11	4	15(28.3%)	21	9	30
	> 7 lakhs	4	6	10 (15.6%)	7	2	9 (17%)	11	8	19

As we can see, 54.7% of the respondents were male; 56.2% of the population was in the age group of 21-30 years and 27% of them had an annual income of 3lakhs-5lakhs p.a. 45.3% of the respondents were females; 47.2%

of the females were in the age group of 21-30 and 34% of them had an annual income of less than 3lakhs. According to the survey, 3.1% of the respondents are male who fall in the category of age group below 20 and 13.2% of

the respondents are female who fall in the category of age group below 20. The highest percentage of male and female falls in the category of age group 21-30 which are 56.2% and 47.2% respectively and most of the users of mobile banking lies in this age group. Also, as per survey, most of the users of m-banking irrespective of the gender fall in the category of 3-5 lakhs and 5-7 lakhs respectively.

On drilling down it was found that, Around 67% of the population use mobile banking for recharge purpose, 19% of them uses it for availing the banking facilities, 13% uses mobile banking to transfer money and only 9% of them uses for bill payment.

Factors affecting the usage of m-banking

In order to find out the factors affecting the usage of m-banking exploratory factor analysis was conducted. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett test for sphericity were conducted and the results are present in Table.2. The KMO measure of sampling adequacy is 0.608, which is greater than 0.5, which is rec-

ommended value for acceptance of result of factor analysis by Kaiser.

Table 2. KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.608
Bartlett's Test of Sphericity	Approx. Chi-Square	169.839
	Df	78
	Sig.	.000

Table 3. Displays the result of factor analysis conducted on 13 factors affecting Mobile banking usage. The result suggests that the eigenvalue, for the extracted 5 factors, was greater than recommended level of 1. This reveals that from all the 13 factors included in the factor analysis, only 5 factors were extracted and emerged with a cumulative variance of 59.418 percent.

Table 3. Total variance explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.218	17.065	17.065	2.218	17.065	17.065
2	1.725	13.273	30.338	1.725	13.273	30.338
3	1.432	11.017	41.355	1.432	11.017	41.355
4	1.221	9.390	50.745	1.221	9.390	50.745
5	1.127	8.673	59.418	1.127	8.673	59.418
6	.950	7.305	66.722			
7	.784	6.034	72.757			
8	.771	5.933	78.690			
9	.640	4.920	83.610			
10	.619	4.762	88.372			
11	.552	4.249	92.621			
12	.527	4.053	96.674			
13	.432	3.326	100.000			

Extraction Method: Principal Component Analysis.

The extraction method used was the principal component analysis (PCA). The communalities in the column labelled 'extraction' reflected the common variance in the data structure. To decide about the number of factors to be interpreted, we can also refer to the screen plot (fig.1) The figure shows the point of inflexion of the curve after 3rd and 4th factor. Hence based on table 3 and fig 1, we consider to retain only 5 factors.

Figure 4-Component Matrix

Component Matrix ^a	Component				
	1	2	3	4	5
Mobile banking is convenient		.629			
Mobile banking increases one's status					.662
Mobile banking services may not complete transaction because of network problems.				.651	
The transaction fee (bank charges) of using Mobile banking is expensive to use.	.602				
Mobile banking is complicated		.530			
Using Mobile banking would be useful		.661			
Trust on the service providers of Mobile banking is important					.541

Mobile banking will help to do the work faster and accurate			.727		
Screen limitation is a major concern in Mobile banking				.406	
It is safe to transfer money through Mobile banking					.584
technology plays a very important role in Mobile banking				.651	
Mobile banking leads to financial frauds?	.784				
there is lack of standardization in Mobile banking	.773				

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

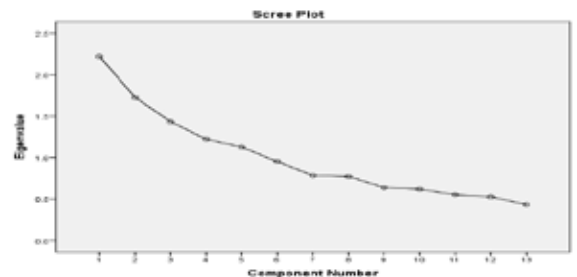


Figure 1: Scree Plot

Table 4.7 shows the rotated component matrix and is further used to interpret the factors. The factor loadings above 0.500 have been highlighted in order to interpret the factors. It can be interpreted that factor 1 comprises of financial frauds and standardization. In the same way factor 2 are convenience and usefulness, factor 3 includes importance and speed and accuracy, factor 4 comprises of network problems and factor 5 comprises of status.

Thus the main factors influencing Mobile banking are as follows:

Financial fraud, standardization, convenience, usefulness, importance, speed and accuracy, status

Table 4.8. Interpreting the factors of Mobile banking

Factors	Items included	Label
Factor 1	financial frauds and standardization	Cyber Laws
Factor2	convenience and usefulness	Usage
Factor3	importance ,speed and accuracy	Functionality
Factor4	network problems, technology	Technology
Factor 5	Trust	Risk

According to the research, the five main factors that affect mobile banking are: Laws, Usage, Functionality, Technology and Risk. The result suggests that, every bank must take care of the above five factors in order to improve its mobile banking services.

Conclusion

Banks have started adopting mobile banking with the rapid change in technology and innovation. The reason behind this is to fulfil customers demand, increase in competition between the banks and new entrants, and also to increase efficiency and decrease the operational cost. Mobile Banking presents an opportunity for banks to retain their existing, technology-savvy customer base by offering value-added, innovative services. It might even help attracting new customers.

This study identified the main factors that affect mobile banking namely, Laws, Usage, Functionality, Technology and Risk. This study also show the customers attitude as an important construct that can be us in making of policies.

But the demographic predictor was not consistent, since the study was carried out with the reference of mobile banking the finding and recommendation are very much useful for the banks in order to revive their decision related to mobile banking and deal with the challenges related to it.

In the long run irrespective of whether it is a public or private sector bank the moment one opens a bank account one has to register a valid mobile number link to that account. At last we may expect to see Mobile Banking go into the footsteps of Online Banking, i.e. to become a standard service offered by every bank worth its name.

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