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A Study of the Factors Influencing the Adoption of Mobile Banking Services by Bank Customers, a Quantitative Research

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***Abstract*: India has a prosperous telecom industry and with mobile phones becoming the most popular devices, mobile banking or M-Banking has emerged as a new age banking service. Despite this opportunity, mobile banking has still not generated the momentum it had expected to create. The results indicate that the adoption of mobile banking by customers depends more on factors like trust and transparency of a banks service, and the quality of non mobile banking services-as consumers associate quality of non-mobile banking service with the quality of mobile banking service. Hence, banks should strive to deliver better service, trust and satisfaction to customers to ensure adoption of mobile banking service. A sample of 200 respondents in Central Kolkata was selected and a self-administered questionnaire was used to collect primary data which included open-ended questions, close-ended questions and a Likert Scale. Basic statistical analysis, Reliability Analysis and Factor Analysis was conducted with the help of SPSS version 20.0 to analyse and interpret the data. The findings reveal that telecom and Bank service related factor, external factor, perception factor and satisfaction factor are most important factors influencing the adoption of mobile banking services in Kolkata.**

***Keywords*: Mobile Banking, M-Banking, non-mobile banking service, trust and transparency.**

I. INTRODUCTION

Since liberalisation, India has the fastest growing and most competitive telecom industry in the world. This is because of its ever growing population; rising per capita income; better connections and cheaper cost of connectivity. Hence, mobile technology has become the fastest growing technology making India the second highest country of mobile phone users after China.

M-PESA has had a remarkable success in Kenya and in other countries like Tanzania, South Africa, Afghanistan, Egypt and India it became instrumental for banks to use this opportunity to adopt Mobile Banking. Mobile Banking is a system that allows customers and financial service providers (banks) to conduct financial transactions through a mobile phone. A major advantage of mobile banking is that it enables reaching mobile devices in far flung areas, especially rural locations. This allows Bank service providers to provide anytime-anywhere banking to all categories of customers in both urban and rural areas.

This growth in the telecom industry can be attributed to the large reach of mobile devices that are not only widely available but also extremely affordable. The penetration of mobiles or cell phones in India has brought immense change in the wireless communication system. Apart from this, mobile technology has revolutionised with the development of generations of mobile technology like 2G, 3G and now 4G which in turn has created potential markets consisting of people who are eager to adopt newer technology. Another important contributor is the operating system used in mobile devices. The easier the user interface (UI), the more likely consumers will be willing to try out newer applications for easy access to various services.

II. LITERATURE REVIEW

The origin of m-banking or mobile banking originates with mobiles and wireless connectivity. The first mobile phone was introduced by Motorola in 1973. It was extremely expensive and heavy as compared to modern mobile phones. Over time mobile connections also evolved through four generations. The 1st Generation or 1G was the first analog system. It was first introduced in India in 1995. The 2nd Generation or 2G came with a digital signal that replaced the analogue system. At this stage CDMA and GSM technologies were introduced. In Japan, NTT DoCoMo introduced internet service on mobile phones in the year 1999. After 2G came the 3rd Generation or 3G, which made the communication system essential for millions of users worldwide. Finally, we have the 4th Generation or 4G Technology, also known as LTE or Long Term Evolution technology. In India, 4G is scarcely available.

As per the Telecom Regulatory Authority of India (TRAI), the total wireless telecom subscribers in India are 930.20 million as on 30th September 2014, with urban wireless telephone subscribers comprising of 547.70 million and rural wireless telephone subscribers comprising of 382.50 million. Today India has the largest telecom industry in the world. The following table shows the year on year highlights of telecom subscription data for September 2012, 2013 and 2014.

Number of subscribers (wireless + wireline) (in millions)	As on 30th September, 2012	As on 30th September, 2013	As on 30th September, 2014
Urban subscribers	595.69	543.18	569.56
Rural subscribers	342.01	356.68	388.05
TOTAL	**937.70**	**899.86**	**957.61**

Source: TRAI highlights for September 2012-2014.

Mobile Banking services in India were introduced as a result of the development of Information and Communication Technology (ICT) and rising competition among existing banks. Mobile Banking is broadly of two types: (i) Bank-led Model and (ii) Mobile Service Provider-led model. Only a Bank's customers' can avail of mobile banking services in the Bank-led Model. In this manner, a Bank's customers' can carry out several banking transactions as per their convenience. The Mobile Service Provider-led model is entirely different from the Bank-led model. In Mobile Service Led Model customers who don't have one or more bank accounts can conduct mobile banking transactions through their mobile service providers.

Mobile Banking Services if of four types: (i) SMS Banking, (ii) Application (software) oriented banking services, (iii) Browser (Internet) based model and Mobile Apps.

The utilisation of banking services through a registered mobile number of a customer is referred to as SMS Banking. Application or Software oriented involves downloading the application (or App) developed by a Bank for using the mobile banking service through traditional handsets. Browser based mobile banking is Internet based that enables communication through Internet Applications optimised for cell phones. Finally, Mobile Apps refers to applications created for smart phones that use Android, Windows, Java, etc.

M-Pesa was the first Mobile Service-led Model of mobile banking solutions introduced by telecom operators Safaricom and Vodafone in the year 2007. M-Pesa grew in adoption and use among customers and captured a major market share in Kenya. Similarly, in the Philippines, SMART Money and G-Cash, which is an electronic wallet, is used on a national scale to transfer money.

In India banks are constantly adapting to newer technologies to expand their business and to reach and retain customers. The burgeoning growth of India's telecommunications sector and its ability to penetrate rural areas along with the technological feasibility are some of the major reasons for the growth of Mobile Banking Services by Indian banks. Anand (2014) suggests that transactions through mobile banking have increased to almost four times due to a rise in the use of smart-phones. ICICI Bank, HDFC, Axis Bank and State Bank of India (SBI) have shown the greatest number and size of mobile transactions in decreasing order.

Some mobile banking services provided by some Indian banks are as follows:

Name of Bank	Mobile Banking Services provided
State Bank of India (SBI)	State Bank FreedoM; SMS Banking; USSD (Unstructured Supplementary Service Data)
Union Bank Of India (UBI)	SMS Banking; UMobile
Punjab National Bank (PNB)	SMS Banking
Allahabad Bank	SMS Banking
ICICI Bank	iMobile; SMS Banking; IMPS(Immediate Payment Service); NUUP (National Unified USSD Platform); Call To Pay; m.icicibank.com
HDFC(Housing Development Finance Corporation)	App based mobile banking for phones and tablets; Browser based mobile banking; SMS Banking; Toll Free Mobile Banking
Axis Bank	Axis Mobile; Axis Dial; SMS Banking; Phone Banking; Internet Banking on mobile.

According to Barnes and Corbitt (2003), innovations in telecommunications have enabled banks to develop mobile banking to reach Bank customers through newer access methods. Through Mobile Banking, customers are able to reach and interact with banks through 'mobile devices' like mobile phones and personal digital assistants or PDA's. This growth in telecommunications enables banks to offer anytime-anywhere banking, which in the long run has the ability to build a large mobile banking market (Karjaluoto, et al. 2002).

Unnithan and Swatman (2001) focussed on the drivers of change responsible for the evolution of the banking sector in Australia and India and suggested strong growth potential for newer banking channels in India. Clark (2008) suggested that mobile phones can build a large number of channels to customers' and thus provide better low-cost, self-service and access to funds, banking information and payment processing. However, banks need to go beyond the traditional boundaries of online banking and consider mobility to be a powerful driving force that will help deliver greater value to the end user through immediate access and greater control over personal finances (Rao, et al. 2003). The author also suggests that banks should also target non-online banking service users who lack access to desktop Internet but are very likely to own a mobile phone.

Many scholars have analysed the consumer profile of those availing of mobile banking services. According to Suoranta (2003), users of mobile banking are generally of 25 to 34 years of age, married, and have an average income level of a clerical worker. The author also suggested that age and education influences the use of mobile phones for banking services the most. However, the study also revealed that customers generally neglect Internet banking when they have adopted Mobile Banking services. These findings were further confirmed by Polatoglu, et al., (2001); Burney and Al-Ashban (2001); Black, et al. (2002); and Karjaluoto, et al. (2002) in their respective studies. However, Mas (2008) and Lyman, et al. (2008) revealed that there are a large number of different mobile devices and it is difficult for a particular Bank to provide mobile banking solutions for all such varied devices.

A customer's attitudes and behaviours towards different banking technologies can be predetermined by their motives (Barczak, et al. 1997). Laukkanen, and Lauronen (2005) analysed the attributes of mobile services and the customers' perceived disadvantages of mobile phones in the context of electronic banking to understand customers' perceived value and value creation. The study also revealed that perceived usefulness, risk, cost and compatibility were found to affect customers' acceptance of M-Banking. Riquelme and Rios (2010) stated in their study that the intention to adopt mobile banking is influenced most by its usefulness, social norms and social risk, in this order. The study revealed that ease of use influences female Bank customers more than male Bank customers. Also, social norms influence the adoption more strongly for female customers than male.

However, Laukkanen and Kiviniemi (2010) stated that banking information and guidance offered by a Bank has maximum impact on reducing the usage barrier, the image, values and risk barriers, in decreasing order. Further, according to Koenig-Lewis, et al. (2010), compatibility, perceived usefulness and risk are prime indicators of the adoption of mobile banking services. Compatibility has been found to be the most important determinant of the perceived ease of use, usefulness and credibility. Again, trust and credibility are the most important factors for reducing the overall perceived risk of mobile banking services.

On a different note, Hayat (2009) suggested that it important for the bank to provide protection to customers, ensure economic stability, provide inter-operability of economic systems and guarantee transaction security. The author also

suggested to provide anti-money-laundering and Know-Your-Customer (KYC) principles. Further, Comninos, et al. (2008) also suggested that Bank customers are willing to transact electronically, through online or mobile banking, only if they find it convenient and secure. This is very true for Indian Bank customers who are extremely concerned about security issues like financial frauds, misuse of accounts and user friendliness of mobile banking service (Sharma and Singh, 2009).

Indian customers are also found to be more concerned about the difficulty in remembering different codes or passwords for different types of transactions, installing application software, and lack of standardisation. Banzal (2010) added the issue of revenue sharing agreements among mobile service providers, banks, content providers, aggregators and other service providers.

IV. OBJECTIVE OF THE STUDY

Although M-Banking or Mobile banking services are being provided by several private and public sector banks in India, the effective usage of M-Banking services is still seen to have a slower rate of growth as compared to the growth of other banking services like ATM credit/ debit card services, online banking and so on. Given the advantages of M-Banking, there are certain factors that make bank customers feel more comfortable to visit a Bank rather than avail of the same service through a mobile device. In other words, it is observed that mobile banking is not yet popular as a means of availing banking and financial services. Hence the objective of the study is three-fold:

A. To determine the consumer profile of Indian Bank customers of Kolkata who are availing of M-Banking services.
B. To identify the determinants that lead customers to adopt mobile-banking services in Kolkata
C. To identify the reasons for non adoption of mobile-banking services in Kolkata

V. HYPOTHESIS FORMULATION

The study focuses on finding out the factors that influence customers to use mobile banking services. Thus, our objective is to determine whether Factor Analysis can be conducted or not, i.e., whether these factors are specific and correlated or whether they are non-specific and uncorrelated. Hence our Hypothesis can be stated as follows:

The Null Hypothesis (H_0) can is:

$H_{0:}$ The data set used is non-specific and uncorrelated.

Against the Alternative Hypothesis (H_1)

$H_{1:}$ The data set used is specific and correlated.

VI. RESEARCH METHODOLOGY

For this research study, and exploratory research design and a quantitative research approach has been used. Firstly, past work of various scholars was studied through which a well structured questionnaire was prepared. The questionnaire covered three broad areas including, the general characteristics of the respondents; the reasons for non adoption of mobile banking services; and the factors inducing adoption of mobile banking services. Several close and open ended questions were incorporated in the questionnaire including a five-point Likert Scale. Responses were obtained from respondents residing in Central Kolkata and aged 20 and above. Such a sample was chosen mainly due to the convenience of gathering information and the centralised location of banks and its customers. A sample size of 200 respondents was taken using convenience sampling method of non-probability sampling. Primary data was collected with the help of self-administered questionnaire and the contact method used was personal interview. Field survey was effectively carried out from 24/09/2014 to 27/11/2014.

VII. DATA INTERPRETATION

From Table I we see that majority of the respondents fall under the age group of 20-39 years and 40-49 years who were either service employees or students who were either working or not working. Further all 200 respondents the sample chosen have at least one Bank account. This may be because the sample comprises of the urban population of the Kolkata. Some respondents have shown to have at most 4 accounts, each in different banks. However, SBI, ICICI Bank, HDFC

and Axis Bank are the most preferred of all banks in decreasing order in terms of Bank customers. Hence, these four banks have the strongest share in the market unlike others like Allahabad Bank, Punjab National Bank, Citibank, Union Bank of India and others.

TABLE I: BASIC DEMOGRAPHIC INFORMATION OF RESPONDENTS

		Total Responses	Percentage of Total Responses	Cumulative Percentage
Age	20-39 years	106	53	53
	40-59 years	81	40.5	93.5
	60 years and above	13	6.5	100
Gender	Male	108	54	54
	Female	92	46	100
Occupation	Student	33	16.5	16.5
	Student and Working	46	23	39.5
	Service Employee	72	36	75.5
	Self employed	20	10	85.5
	Retired	18	9	94.5
	Others	11	5.5	100
Do you have at least one Bank account?	Yes	200	100	100
	No	0	0	100
With which of the following banks do you hold one/more accounts?	SBI (State Bank of India)	72	22.5	22.5
	Allahabad Bank	34	10.63	33.13
	Axis Bank	56	17.5	50.63
	HDFC	51	15.94	66.57
	ICICI Bank	61	19.06	85.63
	Standard Chartered	33	10.31	95.94
	Others	13	4.06	100

From Table II we see that out of 200 respondents, only 107 avail of mobile banking services. The remaining 93 respondents do not use mobile banking services mainly because they find it inconvenient as they need to change their transaction password and PIN's too often. Some respondents also don't feel mobile banking is safe or they fear that there are security or privacy issues of using mobile phones for security purpose. Other respondents prefer face-to-face

interactions with bankers, i.e. they prefer a more tangible service than an intangible one. Some respondents also claimed not being aware of mobile banking service offered by the Bank.

TABLE II: BASIC INFORMATION ABOUT CONSUMERS' USAGE AND REASONS FOR NON-ADOPTION OF MOBILE BANKING SERVICES

		Total Responses	Percentage of Total Responses	Cumulative Percentage
Do you avail of mobile banking services	Yes	107	53.5	53.5
	No	93	46.5	100
You do not avail of mobile banking services because	Not comfortable with using mobile banking	7	7.53	7.53
	Not aware of mobile banking service offered by my bank	4	4.30	11.83
	I don't trust the Bank	8	8.60	20.43
	I fear security or privacy problems	19	20.43	40.86
	Password/ PIN needs to be changed too often	23	24.73	65.59
	I prefer visiting the Bank	21	22.58	88.17
	Others	11	11.83	100

From Fig 1, we see that majority of the respondents have been using mobile banking services for about 2 to 3 years. It is surprising that although India has the fastest growing telecom industry in the world; Indian consumers have been slow in adopting mobile banking services. Further, even though mobile banking has been offered as a service by many banks operating in India, many consumers have shown to prefer Internet banking over Mobile banking. However, as per the data obtained mobile banking does have an optimistic future in the country. The challenge lies in marketing and creating awareness about this specialised service and building greater trust with the Bank.

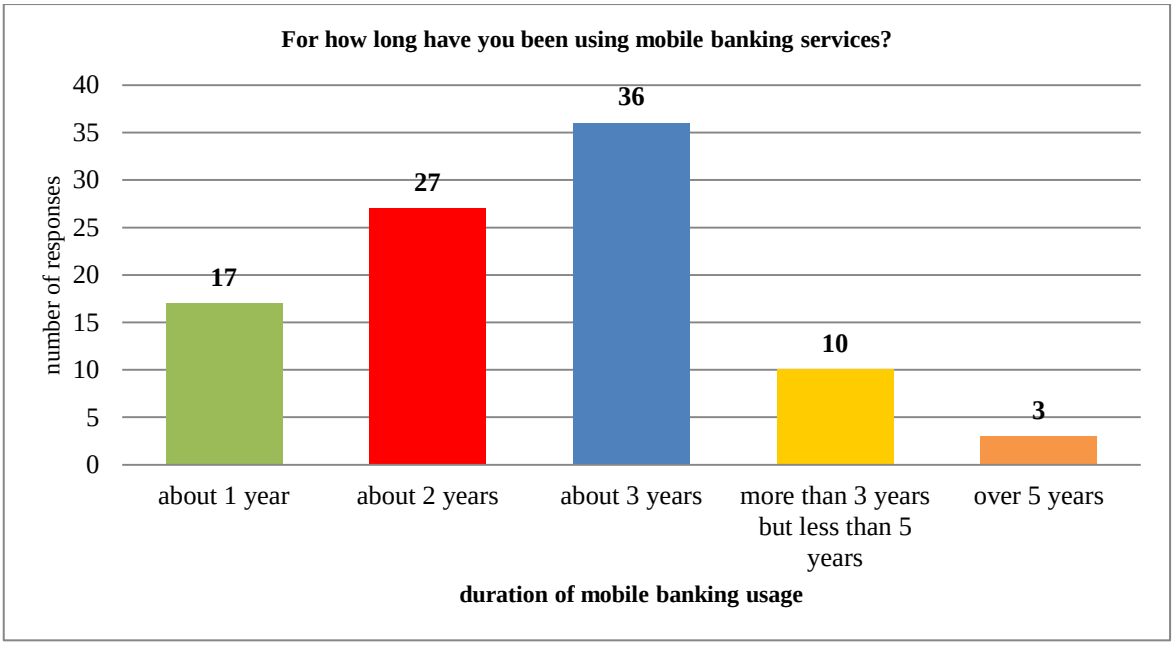

Fig. 1: Duration of mobile banking usage

From Fig.2 we see that mobile banking in Kolkata is mainly used for paying bills, to obtain mini statements and for recharging cellular data, DTH (Direct to Home) connections, etc at 24.85%, 20.30% and 20.71% respectively. A substantial proportion of the respondents use mobile banking services for other purposes like online purchasing, booking seats, movie tickets, taxi, etc.

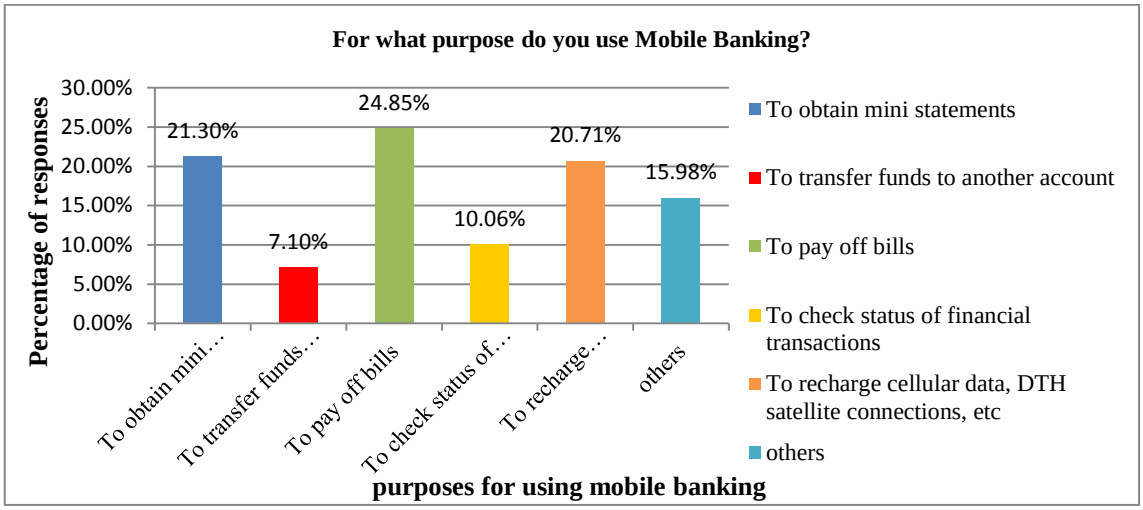

Fig. 2: Purposes for using Mobile Banking

The next part of the study deals with identifying the factors that induce bank customers' to adopt mobile banking services. From the literatures reviewed, fifteen variables were identified that induce the adoption of mobile banking services, namely, ease of mobile handset operability; security or privacy issues; telecom service quality; ease of transactions; reputation of the Bank; quality of services offered by the Bank; image of the Bank; trust with the Bank; transparency of bank relationship; range of services provided; time saving capability; availability of banking services across geographic barriers; efficiency of banking operations; recommendations given by others; overall satisfaction level with the Bank. A five-point Likert Scale, ranging from 1 to 5 was used to gather responses from 107 respondents who use mobile banking services; where 1 implied not important and 5 implied extremely important. However, before conducting Factor Analysis, a Reliability Test was conducted to assess the reliability of the data set. Table III and Table IV shows the results obtained from Reliability Analysis.

TABLE III

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.781	.803	15

TABLE IV

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Ease of mobile handset operability	48.95	34.271	.414	.335	.766
Security or privacy issues	47.88	36.636	.443	.569	.769
Telecom service quality	48.60	34.035	.573	.599	.755
Ease of transactions	48.73	35.350	.438	.452	.765
Reputation of the bank	49.86	35.348	.232	.300	.787
Quality of services offered by the bank	48.48	34.082	.580	.525	.754
Image of the bank	49.91	34.086	.387	.411	.769
Trust with the bank	48.35	34.700	.519	.400	.759
Transparency of bank relationship	47.93	36.043	.499	.516	.765
Range of services provided	49.38	33.257	.440	.437	.764
Time saving capability	48.62	35.107	.405	.337	.767

Availability of banking Services across geographic barriers	49.58	33.491	.417	.349	.767
Efficiency of banking operations	48.52	34.950	.483	.432	.762
Recommendations by others	50.55	38.250	.064	.214	.795
Overall satisfaction level with the bank	48.68	37.011	.198	.219	.784

From Table III (Reliability Statistics) we see that Cronbach's Alpha Based on Standardized Items is 0.803 which indicates that the scale used for data collection is reliable with a highly recommended alpha score (O'Leary-Kelly and Vorkuka, 1998). From Table IV we see that values of Cronbach's Alpha if Item deleted for each of the items lies below the standardised alpha value of 0.803. This confirms that the data set taken is highly reliable and there is no need to delete any item from the data set.

TABLE V: KMO AND BARLETT'S TEST

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.707
Bartlett's Test of Sphericity	Approx. Chi-Square	465.816
	df	105
	Sig.	.000

According to Table V, the Kaiser-Meyer-Olkin measure of sampling adequacy is 0.707, which is greater than 0.5 (and less than 1), indicating that the sample chosen was adequate for the study as the results are normally distributed. This KMO value is also statistically significant at 5% level of significance (p =0.000< 0.05). The Bartlett's Test of Sphericity was tested through Chi Square and has obtained a value of 465.18 at 105 degrees of freedom and is significant at 5% level of significance (p= 0.000<.05).

Thus, we can say that if our data set was non-specific and uncorrelated, the above results would not have been obtained. Hence, we reject our Null Hypothesis (H_0) and accept out Alternative Hypothesis (H_1). Therefore, our data set is specific and correlated and factor analysis can be conducted.

TABLE VI: TOTAL VARIANCE EXPLAINED

Total Variance Explained						
Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.347	28.983	28.983	2.919	19.463	19.463
2	1.670	11.134	40.117	2.216	14.771	34.234
3	1.340	8.936	49.052	1.975	13.165	47.399
4	1.249	8.325	57.377	1.497	9.979	57.377
5	.981	6.541	63.919			
6	.926	6.174	70.093			
7	.877	5.844	75.937			
8	.697	4.643	80.580			
9	.588	3.921	84.501			
10	.553	3.684	88.185			
11	.474	3.163	91.348			
12	.443	2.954	94.303			
13	.382	2.550	96.853			
14	.275	1.831	98.684			
15	.197	1.316	100.000			
Extraction Method: Principal Component Analysis.						

According to Table VI (Total Variance Explained), Component 1 explains 19.463% of the total variance, Component 2 explains 14.771% of the total variance, Component 3 explains 13.165% and Component 4 explains 9.979% of the total variance in the data set. Thus, 4 factors or components are reported based on Eigen Values, i.e. Eigen Value > 1. This is graphically represented by the Scree Plot given below:-

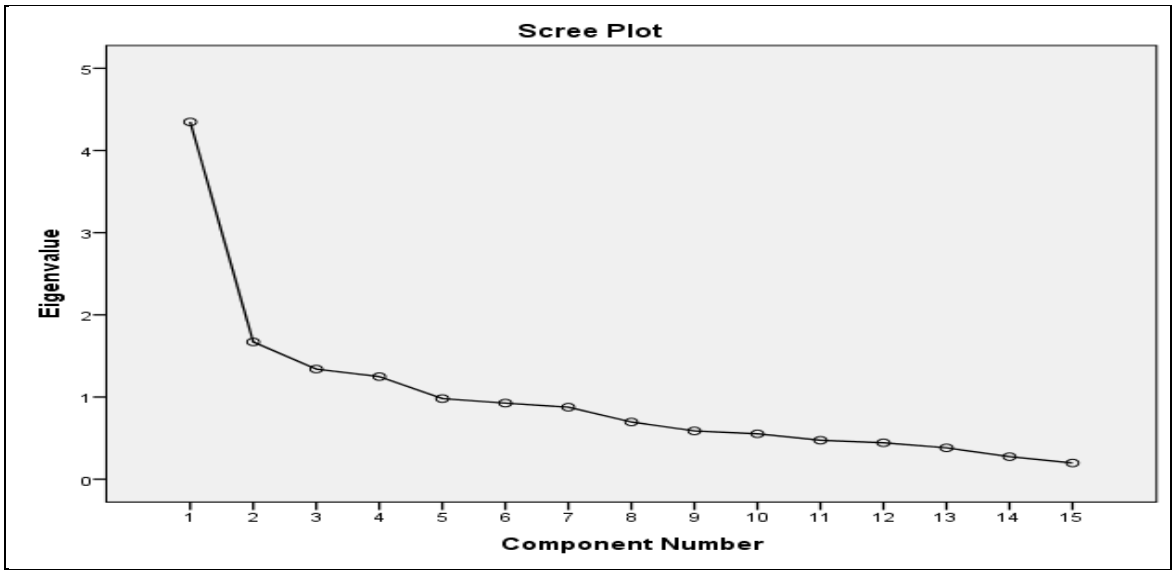

Fig. 3: Screen Plot

The Scree Plot is a graphical representation of Eigen values versus Component Number. Here we see that the distance between the node 1 and node 2 is the greatest implying that Component 1 or Factor 1 explains maximum variance among all the variables in the data set. Next, we see that the distance between node 2 and node 3 is lesser than that of nodes 1 and 2 implying that Component or Factor 2 accounts for lesser variation among all variables in the data set. Similarly, as we move through the subsequent nodes, the distance between consecutive nodes gradually reduces implying lesser variances among all the variables.

TABLE VII: ROTATED COMPONENT MATRIX

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
Ease of mobile handset operability	.054	**.585**	.339	.204
Security or privacy issues	.321	**.718**	-.055	-.022
Telecom service quality	**.451**	.399	.251	.409
Ease of transactions	**.485**	.316	.097	.411
Reputation of the bank	.165	-.133	**.670**	-.283
Quality of services offered by the bank	**.755**	-.042	.334	.117
Image of the bank	-.079	.395	**.730**	-.054
Trust with the bank	**.513**	.415	.123	-.054
Transparency of bank relationship	**.677**	.356	-.089	.010
Range of services provided	**.803**	.037	.161	.226
Time saving capability	.228	**.697**	.003	-.011
Availability of banking services across geographic barriers	**.592**	.161	.074	-.073
Efficiency of banking operations	**.648**	.256	.009	.094
Recommendations given by others	-.050	**.286**	.127	-.750
Overall satisfaction level with the bank	.427	-.208	.034	**.569**
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 10 iterations.				

The Rotated Component Matrix (Table VII) enables us to classify the 14 variables into 4 Factors or Components based on their factor loadings or item weights. Here Factor/ Component 1 includes: telecom service quality, ease of transactions, quality of services offered by the Bank, trust with the Bank, transparency of Bank relationship, range of services provided by the Bank, and availability of banking services across geographic barriers; Factor/ Component 2 includes: ease of mobile handset operability, security or privacy issues, time saving capability, and recommendation given by others; Factor/ Component 3 includes reputation and image of the Bank; and Factor/ Component 4 includes overall satisfaction levels with the Bank. The 4 factors identified can be named as follows:

1. **Telecom and Bank Service related Factor (Factor 1):**
   - Telecom service quality
   - Efficiency of banking operations
   - Quality of services offered by the bank
   - Trust with the bank
   - Transparency of bank relationship
   - Range of services provided
   - Availability of banking services across geographic barriers
   - Ease of transactions
2. **External Factor (Factor 2):**
   - Ease of mobile handset operability
   - Security or privacy issues
   - Time saving capability
   - Recommendations given by others
3. **Perception Factor (Factor 3)**
   - Reputation of the bank
   - Image of the bank
4. **Satisfaction Factor (Factor 4)**
   - Overall satisfaction level with the Bank

VIII. FINDINGS

Although India has the fastest growing telecom industry in the world, it lags far behind when it comes to the adoption of mobile banking services. This study analyses the factors that are important to customers in their adoption of mobile banking services. The results can also be extended to what banks can do to generate greater acceptance of mobile banking services. The telecom and Bank service related factor is the first and one of the most important factors to influence the adoption of mobile banking services. Primarily, mobile connectivity has to be excellent to execute mobile banking. The next aspect is the service quality of the Bank, the range and accessibility to those services anytime and anywhere; and finally comes the relationship customers have with the Bank. Of course this should be a relationship of trust and transparency. The next important factor is called the external factor as it is not directly linked with the Bank that is providing m-banking services. It includes the ease with which mobile phones can be operated and the ability to maintain confidentiality regarding all information being provided by the customer. Further, mobile banking should be time saving and should generate positive word of mouth to ensure faster rates of adoption. The third important factor is the perception people hold about a Bank from past experiences and the image the Bank has built in customers' mind over time through the quality of services and customer relationships. Finally, the fourth factor relates to the overall satisfaction level of the customers with the Bank and its services. Higher the satisfaction, higher will be the adoption of mobile banking and other similar technological advances in delivering services to customers.

IX. SUGGESTIONS

India's rising population coupled with rising per capita income and better and cheaper connectivity has made India the second highest country of mobile phone users after China. M-banking is a new age banking service to deliver anytime anywhere banking to customers which in turn will lead to greater convenience, service quality, and higher satisfaction to Bank customers'. The challenge however lies in generating awareness and trust with banks. Hence banks must first ensure

that efficiency and availability of high quality banking operations and services. Bank staff should also be patient listeners and empathic to customers' problems and needs. Banks must harbour transparency which in turn will build trust in the Bank. Also, customers must be well acquainted with their handsets. Not only should telecom service providers provide continuous, high quality service but also ensure privacy of confidential information provided by customers. High quality services provided by banks will then generate positive word of mouth among customers and non customers. Deliverance of a wide range of high quality services along with continuous follow-up, feedback and grievance redressal will build a strong positive reputation of the Bank in the long run and a favourable image in the minds of customers. Hence, customers will favourably perceive the Bank and its services and this in turn will generate high satisfaction levels and/or delight to its customers'. Hence, banks need to strive to achieve the following so that its customers are willing to adopt and use mobile banking services.

X. CONCLUSION AND LIMITATIONS

The study clearly indicates that banks need to first build customer trust and deliver high quality and satisfactory non-mobile services before it establishes mobile banking services. On establishing mobile banking, banks must ensure privacy, security and transparency and ease of transactions that will induce customers to choose mobile banking over non-banking services. The study also indicates that mobile banking can be effectively used to build longer lasting relationships with customers.

However, the study also suffers from some limitations. Firstly, convenience sampling technique was used which is not statistically sound. Secondly, responses were collected from only 200 respondents in Central Kolkata which may not be a true representation of the entire population. Thirdly, time and budget constraints were another hindrance. Hence, to overcome these problems, a more comprehensive research needs to be undertaken to better understand the reasons for adoption or non-adoption of mobile banking services in India which will help bankers' market their services more effectively and deliver greater customer satisfaction.

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