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CUSTOMER PERCEPTION OF MOBILE BANKING ADOPTION IN BENGALURU CITY

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Abstract: *Mobile Commerce is gaining increasing acceptance amongst various sections of the society. This growth can be partly traced back to technological and demographical developments that have been influencing important aspects of the socio-cultural behaviour in today's world. The need/wish for mobility seems to be the driving force behind mobile commerce in general. Mobile Banking problems of bank-related financial services via mobile devices, builds a cornerstone of Mobile Commerce. An empirical survey of customer perception conducted within the frame of our research clearly reveals a major, growing interest in Mobile Banking. However, since the degree of interest and the willingness to pay vary for individual services, it seems to be necessary to design specific services taking the needs and wishes of relevant target groups into consideration. Banks ought to therefore employ mobile channels with a clear business-focus. This paper examines the offering value-added, innovative mobile financial services while retaining and even extending their base of technology-savvy customers.*

Keywords: *Mobile Commerce, Mobile Banking, Mobile Financial Services*

INTRODUCTION ABOUT MOBILE BANKING

The Indian demographic distribution shows that 24 to 54 year aged constitute the major population at 40.6% and the purchasing power influences the type of E-banking preference. Electronic mode of banking is an opportunity as well as a threat, but still is important to adopt it because of convenience it brings. Better fraud management and security aspect in place, can boost any type of electronic transactions via internet or mobile based banking services.

Certain key challenges exist in M- banking services such as interoperability, security, scalability, reliability and personalization of the usage of mobile phone. This necessitates for regulation and support for the growth of mobile payments and banking in India which is the

key factor of success of financial Inclusion (Ravishankar 2007). The money transfer through network has reduced the cost and increased the reliability. The float earned in electronic money can also be used for countries development. This socio-technical reform is a worldwide phenomenon today. The theory of diffusion of Innovation developed by Rogers in 1983 and theory of planned behavior by S. Taylor and Todd in the year 1995 predicts that high risk perception in any innovation is hurdle for further adoption. However for person to person transfers across borders and between rural and urban area there is an increase in volume, speed and frequency where research study becomes essential.

If the mobile instrument only delivered voice data, then their use as a vehicle to deliver banking services would be limited. Most phones provide text-messaging capabilities and a growing number have a Web-enabled feature. That makes the mobile phone an ideal medium through which banks can deliver a wide variety of services. World-wide, mobile banking has shown a rapid growth from just to begin with a transactional feature i.e pull based SMS services to a much richer experience driven featured with customized services. The future of mobile banking is beyond imagination in terms of the rapid growth in smartphone market in India reaching 130 million by 2018 which is 10 times greater than 2013(KPMG,2015).

STATEMENT OF THE PROBLEM

The demographic factors also have an impact on the customer's behavior towards M-banking. Consumer with higher education, find M-banking as easy to use feature than undergraduate. Age also influences the reliability factor, for completing a particular transaction and making money transfer (Shamsher, 2014). More awareness exist in metro with feeling that mobile banking is flexible rather than ease of use feature with regard to the enquiry statement followed by the fund transfer, cheque book request and bill payment. There is no effective use of m-banking as people lack knowledge about the usage while banks lack initiative to promote m-banking where both aspects are important for financial inclusion (Ganesha, 2013). Lot of features like convenience, time -saving, transaction alert, savings in cost will influence mobile banking significantly while network issues hinders the effective usage of mobile banking(Adewoye,2013). Thus demographic and mobile banking factors have to be analysed to know the customers behavior.

REVIEW OF LITERATURE

Nagaraju, (2015),'Mobile banking-perception of customers and bankers', The objective of the paper to know the awareness of mobile banking among consumers, factors affecting the satisfaction in mobile banking, analyse the level of satisfaction between public and private banks and study of the impact of mobile banking on consumers. Exploratory research was done by collecting data from consumers and bankers. chi-square test and factor analysis was made. It was found that the most important factor affecting mobile banking operations is cost, security, time and customer satisfaction. It was concluded that awareness about the mobile banking usage and familiarize the benefits of using m-banking is essential. However a cheap, reliable and secure technology development is must for mobile banking adoption to address the security problem.

Shamsher Singh, (2014), 'Customer perception of mobile banking: An empirical study in National Capital Region Delhi'-This paper examines the adoption and impact of mobile banking on customers of different banks. The urban population consisting of 200 customers of banks in Delhi was surveyed using convenience sampling method. Anova and factor analysis was done. Four factors safety/security, reliability, efficiency and responsiveness were found significant. The study shows that demographic factors have impact on customer perception. Safety and security are prime concern of respondents. Consumers with high education find easy when compared to undergraduate. It was found that reliability, money transfer and completing a particular transaction were significant based on age factor. Occupation does not influence as a factor. It was recommended to provide high quality of services with available resources; this will help in customer retention and also reduce cost in acquiring new customers. Young customers, who are techy-savy can be promoted for m-banking services.

Amit P.Wadhe, ShamraoGhodke(2013), 'To study consumer awareness & perception towards usage of mobile banking' -The paper attempts to know the consumer awareness and perception on mobile banking for people located in Pune city. The researcher explores the factors which help in penetrating the use of mobile banking among major consumers. SPSS software was used to make cross tabulation, factor analysis and chi-square test. As a result of factor analysis, 7 factors were extracted out of 21 original factors such as

usefulness of mobile banking, ease of use, and trust on banks, interest in using m-banking, consumer awareness of mobile banking. Rotation Factor Matrix was used to associate factors with original variables. Analysis of chi-square value showed that there is a significant impact of consumer awareness on interest to use m-banking. Similarly usefulness and ease of use also as an impact on the interest to use m-banking. It was concluded in the study that though there is awareness via informal channels among consumers which was highest between the age group of 18-25 years many are not familiar with usage pattern. Tested factors were suggested to be used by stake holders to deepen the reach of mobile banking service. It was recommended to make a detailed study of the factors which will help the vast population to adopt the mobile technology for all type of banking transactions.

MbaliTshitenge(2011)'Mobile banking and financial needs of the poor: An adoption framework'-The paper focuses on virtual banking model where the behavior of poor is analysed with respect to the need of financial though mobile phone(study of transactional effect). A descriptive study was made to test the consumers attitude and perceived behavior control form 126 valid respondents, 25 from each area via random sampling technique. Descriptive statistics, pivot table, pie chart, bar graph, Kruskal Wallis test was done for analysis. It was found that consistency, relative advantage, opportunity to experience, previous experience of mobile technology, meet the needs of user, self-efficacy and support from mobile operator will influence mobile banking adoption while difficulty to use and risk involved will not influence the mobile banking adoption. It was analysed that the most important variables are relative advantage and self-confidence and lease important variables are risk and complexity for adoption of m-banking. It was implicated that bankers should increase the relative advantage features, work for the cause of poor to contribute for economic development and create awareness via advertisement.

Prerna Sharma Bamoriya, Preeti Singh(2011), 'Issues & challenges in mobile banking in India: A customers Perspective'-The study was to explore the issues in mobile banking which was perceived as critical for adoption by mobile banking users as well as non-users. Hence the objective of the study were framed to identify issues affecting from the urban users perspective and to analyses the utility of mobile banking in comparison with retail and online banking. A structured questionnaire was done to sample size of 50 users and 50 non-

users in Indore city. Data analysis was done using correlation, Independent sample T-test, ANOVA, percentile analysis. The author empirically explored some of the issues as critical from consumers view. Those are mobile handset operability, security/privacy and standardization of services which was recommended to all stake holders as challenges in providing effective mobile banking services. It was also identified that the majority of consumers were indifferent towards the use of mobile banking compared to retail/online banking.

Tai KueiYu, Kwoting Fang (2009),'Measuring the post adoption customer perception of mobile banking services'-This research was done in Taiwan by testing on 23 attributes of customers post adoption behavior for mobile banking services among 458 sample population. Exploratory factor analysis for 6 factor deemed appropriate and confirmatory factor analysis for all 21 items found significant. Convergent and discriminate validity was found valid for model of research. It was concluded that 6 constructs are important for post adoption behavior analysis i.e security, interactivity, relative advantage, ease of use, interface creativity and customer satisfaction.

RESEARCH GAP

From the investigation of literature, it was seen that adoption of mobile banking and its importance has only been studied mostly developing economies has also been carried out in India to know the adoption behavior of mobile banking at only few places like Delhi, Pune, Punjab, Maharashtra, Indore, Tamilnadu and Karnataka. But, there is no exclusive study focusing on m-banking usage in urban Karnataka. Since Bangalore region is the representative of the urban Karnataka, it was chosen as the study area.

OBJECTIVES OF THE STUDY

1. To review the services of mobile banking provided by commercial banks.
2. To study the impact of various demographic features on the usage of mobile banking channel.
3. To measure the mobile banking factors which influence the perception of customers about mobile banking usage.

HYPOTHESES OF THE STUDY

H01- Demographic factors has no significant impact on the mobile banking usage

H02-Factors of mobile banking will not have positive impact on the mobile banking usage

SCOPE OF THE STUDY

The present study was conducted to know whether the Mobile Banking Technology is accepted by the vast spread consumers. Its aim towards the growth and development of financial services would lead towards the cashless economy. The study would ensure how realistic is the RBI vision of mobile banking as a tool for financial inclusion.

SOURCES OF DATA

The present study utilizes both primary and secondary data sources. The secondary data sources primarily consisting published studies in various international and national journals, magazines and conference proceedings, those studies which deal with topics such as the adoption studies on electronic banking /mobile banking services, studies on factors affecting perception of these channels, theoretical frameworks pertaining to adoption of innovation and articles published in periodicals relating to the above subjects. Information contained in websites such as RBI website, websites of various banks in India.

The primary data was collected by distributing 160samples using structured pre-tested questionnaire through a sample survey method. Out of which 125 bank customers were found to be valid responses residing in the Bengaluru city of Karnataka.

STATISTICAL TECHNIQUES FOR THE STUDY

The primary data collected from the respondents were tabulated and analyzed using the Statistical Package for Social Sciences (SPSS. 20). Descriptive statistics were used to know about the characteristics of the respondents. The statistical tools such as the weighted means and independent sample test were used to test the adoption levels of the mobile banking channel among various demographic categories belonging to different bank groups. The same tools were used to find the differences in the perception levels and mobile usage pertaining to the mobile banking channels among these groups. Correlation tests were used to find out the pairwise relationships between adoption and variables that influence mobile banking usage. Reliability test was also conducted.

Measuring the perception with regard to the usage of mobile banking services in commercial banks

Table 1: Demographic Profile of the Respondents

Variables	Parameters	Frequency	Percentage
Age	18-30	94	75.68
	31-45	21	16.53
	>46	10	07.79
	Total	**125**	**100.00**
Gender	Male	87	70.11
	Female	37	29.89
	Total	**125**	**100.00**
Marital Status	Married	44	35.20
	Unmarried	81	64.80
	Total	**125**	**100.00**
Educational Qualification	Illiterate	01	0.64
	High school	07	05.56
	Intermediate	08	06.04
	Degree	73	58.51
	Masters Degree	33	26.71
	Others	03	02.54
	Total	**125**	**100.00**
Occupation	Employee	47	38.00
	Business	21	17.01
	Profession	11	09.22
	Student	42	33.39
	Others	03	02.38
	Total	**125**	**100.00**
Income per Month	<20,000	65	51.99
	21,000-40,000	40	32.27
	41,000-80,000	14	11.13
	>80,000	06	04.61
	Total	**125**	**100.00**
Type of Bank	Public	63	50.24
	Private	62	46.40
	Total	**125**	**100.00**
Usage of Mobile Banking	< 1 Years	58	46.42
	1 - 3 Years	54	43.40
	> 3 Years	13	10.17
	Total	**125**	**100.00**
Frequency of using Mobile Banking	Daily	19	14.94
	Weekly	54	43.40
	Monthly	52	41.65
	Total	**125**	**100.00**

Source: Primary Data – Survey

The above has been clearly mentioned the socio-economic profile of the respondents. This research has taken with the study of customer acceptance of mobile banking in the city of

Bangalore. 125 respondents selected and study the variables of Age, Gender, Marital status, educational qualification, occupation and Income status.

To sum up, the profile of customers from Bengaluru constitute where Males dominate the sample population mostly with youngsters. The major population is educated with degree qualification and is unmarried. The single large categorized people are employees with income composition of less than 40,000 with more than 50% from public sector banks. Respondents with more than 90% of the sample are also the internet banking users with majority having frequency of less than 4 years usage experience. The mobile banking majority users in the sample are older by one year with frequency of use mostly on weekly basis.

Table 2: Descriptive statistics Overall– Various Mobile Banking Factors

	N	Max	Min	Mean	Std. Dev
Perceived Usefulness	125	1	5	4.09	.59
Perceived Ease	125	1	5	3.97	.70
Perceived cost	125	1	5	3.76	.78
Perceived Risk	125	1	5	3.61	.76
Security	125	1	5	3.85	.69
Reliability /Trust	125	1	5	3.88	0.63
Using Mobile Device for various service	125	1	5	3.78	0.68

An analysis of the above table brings out that 'Perceived Usefulness' achieved the highest mean score while the 'Perceived Risk' achieved the least mean score.

An analysis of the above table depicts the significant influence of various factors with the usage of mobile banking services. It is observed that Perceived usefulness variable has significantly influenced the usage of mobile banking followed by perceived ease of use, trust, security, cost and familiarity with the mobile device for banking functions. The least significant variable is the Perceived risk which cannot be very important variable when compared to other variables in terms of usage of mobile banking**.** A business user responds that “People easily share information; they are easily trapped by hackers like personal details are revealed hence lot of risk arises.”Student user responds that “fear of online fraud exist, security measures like bio-metric scanner should be used”. Probably for this reason there is slow adoption of m-banking. Few business people don’t prefer m-banking nor

Internet banking as they feel it is much riskier. And do not want to use without reason. They also fear taxation issues due to disclosure of income details".

TESTING OF HYPOTHESES

H_0: The perception of various mobile banking parameters is same across genders

H_A: The perception of various mobile banking parameters varies across genders

Table 3: T-Test – Mobile Banking Factor with Gender

	Genders	N	Mean	Std. Dev	F	T-value	Sig,
Perceived Usefulness	Males	87	4.11	0.59	0.004	.55	0.581
	Females	37	4.05	0.60			
Perceived Ease	Males	87	3.97	0.69	0.173	0.09	0.932
	Females	37	3.96	0.72			
Perceived cost	Males	87	3.79	0.78	0.002	0.76	0.449
	Females	37	3.68	0.78			
Perceived Risk	Males	87	3.62	0.77	.029	0.13	0.897
	Females	37	3.60	0.75			
Security	Males	87	3.88	0.67	.501	0.83	0.410
	Females	37	3.77	0.74			
Reliability /Trust	Males	87	3.91	0.62	0.132	0.78	0.437
	Females	37	3.82	0.66			
Using Mobile Device for various service	Males	87	3.78	0.69	0.018	0.19	0.850
	Females	37	3.76	0.68			

An analysis of the above table brings out that

- **Perceived Usefulness:** The mean score achieved by this parameter from male respondents was 4.11 while that from female respondents was 4.05. An analysis of the above table brings out that the t-value is .55 and significance is 0.581. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.
- **Perceived Ease:** The mean score achieved by this parameter from male respondents was 3.97 while that from female respondents was 3.96. An analysis of the above table brings out that the t-value is 0.09 and significance is 0.932. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.
- **Perceived cost:** The mean score achieved by this parameter from male respondents was 3.79 while that from female respondents was 3.68. An analysis of the above table brings

out that the t-value is 0.76 and significance is 0.449. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.

- **Perceived Risk:** The mean score achieved by this parameter from male respondents was 3.62 while that from female respondents was 3.60. An analysis of the above table brings out that the t-value is 0.13 and significance is 0.897. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.
- **Security:** The mean score achieved by this parameter from male respondents was 3.88 while that from female respondents was 3.77. An analysis of the above table brings out that the t-value is 0.83 and significance is 0.410. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.
- **Reliability /Trust:** The mean score achieved by this parameter from male respondents was 3.91 while that from female respondents was 3.82. An analysis of the above table brings out that the t-value is 0.78 and significance is 0.437. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.
- **Using Mobile Device for Various Services:** The mean score achieved by this parameter from male respondents was 3.78 while that from female respondents was 3.76. An analysis of the above table brings out that the t-value is 0.19 and significance is 0.850. Since the significance value is more than 0.05, the mean difference existing for this parameter across the two genders is not significant at 5% level. Hence, null hypothesis is accepted.

In order to examine the relationship between the demographic profile mainly gender of the respondents with the mobile banking usage, it is inferred that gender do not influence in the perception of mobile banking adoption for all variables.

Objective: To know significant differences in various mobile banking parameters across bank types

H_0: The perception of various mobile banking parameters is same across bank types

H_A: The perception of various mobile banking parameters varies across bank types

Table 4: T-Test – Mobile Banking Factor with Bank Type

	Bank Type	N	Mean	Std. Dev	F	T-value	Sig,
Perceived Usefulness	Public	63	4.08	0.61	0.079	-0.30	0.767
	Private	62	4.11	0.58			
Perceived Ease	Public	63	3.96	0.73	0.194	-0.17	0.868
	Private	62	3.98	0.67			
Perceived cost	Public	63	3.72	0.80	0.108	-0.48	0.629
	Private	62	3.79	0.76			
Perceived Risk	Public	63	3.57	0.77	0.103	-0.58	0.565
	Private	62	3.65	0.75			
Security	Public	63	3.86	0.76	1.605	0.15	0.881
	Private	62	3.84	0.62			
Reliability /Trust	Public	63	3.87	0.67	0.823	-0.28	0.779
	Private	62	3.90	0.60			

An analysis of the above table brings out that

- **Perceived Usefulness:** The mean score achieved by this parameter from respondents from public sector banks was 4.08 while that from respondents from private sector banks was 4.11. An analysis of the above table brings out that the t-value is -0.30 and significance is 0.767. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted.
- **Perceived Ease:** The mean score achieved by this parameter from respondents from public sector banks was 3.96 while that from respondents from private sector banks was 3.98. An analysis of the above table brings out that the t-value is -0.17 and significance is 0.868. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted.
- **Perceived cost:** The mean score achieved by this parameter from respondents from public sector banks was 3.72 while that from respondents from private sector banks was 3.79. An analysis of the above table brings out that the t-value is -0.48 and significance is 0.629. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted.

- **Perceived Risk:** The mean score achieved by this parameter from respondents from public sector banks was 3.57 while that from respondents from private sector banks was 3.65. An analysis of the above table brings out that the t-value is -0.58 and significance is 0.565. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted.
- **Security:** The mean score achieved by this parameter from respondents from public sector banks was 3.86 while that from respondents from private sector banks was 3.84. An analysis of the above table brings out that the t-value is 0.15 and significance is 0.881. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted
- **Reliability /Trust:** The mean score achieved by this parameter from respondents from public sector banks was 3.87 while that from respondents from private sector banks was 3.90. An analysis of the above table brings out that the t-value is -0.28 and significance is 0.779. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted.
- **Using Mobile Device for Various Services:** The mean score achieved by this parameter from respondents from public sector banks was 3.75 while that from respondents from private sector banks was 3.80. An analysis of the above table brings out that the t-value is -0.40 and significance is 0.692. Since the significance value is more than 0.05, the mean difference existing for this parameter across the bank type of the respondents is not significant at 5% level. Hence, null hypothesis is accepted. To examine whether the type of bank and mobile banking usage has any relationship, it is interpreted that type of Bank will not influences the various mobile banking parameters. Hence it is assimilated from the T test analysis that demographic profile that is gender marital status, type of Bank and adoption of internet banking will not influence the various mobile banking factors.

FINDINGS OF THE STUDY

The important findings which have emerged from the analysis have been summarized below:

1. Based on the mean score, the demographic profile of customers from Bengaluru constitutes the majority in the sample. Males dominate the sample population mostly with youngsters. The major population is educated with degree qualification and is unmarried. The single large categorized people are employees with income composition of less than 40,000 with more than 50% from public sector banks. Respondents with more than 90% of the sample are internet banking users with majority having frequency of less than 4 years usage experience. The mobile banking majority users in the sample are older by one year with frequency of use mostly on weekly basis.
2. An analysis of the study reveals that the time saving attribute is the most relevance factor contributed by younger generation between the age group 18-30 years.
3. The Study revealed that overall ease show a good score constituting the majority of younger generation while it can be interpreted that the older generation may find it difficult to understand.
4. Report on overall cost of m-banking shows a good score indicating cost effectiveness of mobile banking with less than 40000 income indicating the affordability by the users. The impact of transaction cost migrating from branch to mobile is 43times in branch, 13 times greater in a call center, 13 times greater than in ATM and 2 times greater than online channel (Javelin Strategy and Research, August 2015). This ensures that mobile is cost effective channel due to which the adoption rate in urban as well as rural area would increase.
5. The study revealed that perceived risk indicates that there is high risk in losing phone, followed by transaction error and fraud or misuse of accounts. Banks and manufacturers have to invest more in information technology in the security aspects of mobile banking.
6. From the point of security issue, the report of the study revealed that the valid MMID, MPIN and real time alerts is said to be satisfactory. There seems to be perception about account password as not being safe such as phishing, snoofing etc.,

7. Analysis about the trust factor revealed that the mobile banking users trust the bankers with respect to providing accurate information followed by the belief that banks are honest and trust worthy. With respect to keeping the best interest in mind and showing the sincere interest in solving customer's problem the users do not feel this is true for mobile banking.
8. Familiarity in mobile device for various banking function report reveals that the more frequent usage pattern of users is buying tickets, bill payment as well as top up of mobile phone. The usage pattern for share trading and merchandise payment is comparatively less. It is also observed that occupation influences while the income and age may not influence the usage of mobile banking.
9. Comparison of the relationship between the demographic profile mainly gender of the respondents with the mobile banking usage, it is inferred that gender do not influence the perception of mobile banking adoption for all variables.
10. Comparison of the type of bank and mobile banking usage has been compared to know any significant relationship exist and it is interpreted that type of Bank does not influences the various mobile banking parameters.

RECOMMENDATIONS

In the light of outcome of the research work involving the process of testing the hypothesis, the following recommendation has been taken place.

1. Demographic consideration shows that younger generation are mobile savvy and find mobile banking useful and easy. The population of India also shows that majority constitutes young population, males and graduated with moderate level of income. Hence, government vision of digital India can be envisaged by incubation center to educate and train youngsters in companies, colleges/universities, malls, Corporation building, offices or halls. These youngsters should in-turn train family members and other elders of society.
2. The respondents find problem about connectivity issues and not availing high speed network. Education about open access of network like Jio-network of Reliance company to customer is also essential. The socio-political influence for digitalized India and National telecoms new policy(for more than 2 Mbps)will lead to higher

network quality. The USSD platform NUUP is more secured and do not have interoperability issues.

3. It is implicated that since mobile banking is in the initial adoption stage the user lacks hands on experience. Hence education and training to consumers about safe banking tips and developing demo-banking apps with graphical interface to rural as well as urban consumers is essential. Alternatively, customer guidance cell in very banks will help in assisting customer's query about usage of mobile technology and new services offered. This will increase the banking business.
4. The opinion of users about frauds or misuse of account existing with the mobile banking technology make it essential for banks to make more investment in IT infrastructure to combat security issues. Precautions should be taken to control IP spoofing risk on bank computer network. The effective implementation of the safe Mobile banking platform has to take place with the merger of banks, technology providers and service providers which is already prevailing through contractual agreements. However higher technology standard like advanced biometric authentication, higher network standards such as 3DES which requires huge investment, higher standard for hardware security has to be accomplished for safe Banking. Customer service centers ensure to resolve issues within the time limit but the existence of the technical fault may not encourage the users to go for mobile banking channel. Less default on the side of technical providers has to be ensured in mobile banking channel. This should make the banks to adhere to stricter third party agreements with the service/technical providers for effective mobile banking operations.
5. Mobile banking users believe banks but there seems to be an element of fear psychosis among the users. Banks should assure about the financial security and work more on upgrading software and hardware solutions. Apart from all this even the mobile manufacturers should come out with more security feature as in the case of APPLE phones having a strong encryption feature not present in all other phones. Extensive awareness through advertisement in regional languages should be promoted about fake SMS, fake calls, downloading the bank app only from the right

source and not to share the bank information to others as well as to bankers who never ask bank details.

CONCLUSION

With the 120 million population at an annual growth rate of around 7%, it is noticed that there is no significant growth in banking access. However the progress of India can be envisaged from the emerging innovations in the modern banking system. As per World Bank, it is learnt that a 10% increase in broad band connection will lead to an increase of 1.38% in developing countries. Government vision of digital India and smart cities can be realized only by enabling digital infrastructure. Lower e-transaction fees, providing discounts and waive the service tax on cashless transaction, promoting cashless infrastructure for merchants, availability of low cost android phones, enhance government gateways like UPI an open network, BHIM a local app will certainly lead to digital based economy. Government has also come up with the implementation of JAM(Jan Dhan, Aadhar, mobile) to reach out the unbanked population as a part of financial inclusion strategy. RBI strict adherence to mobile banking guidelines is a dire need for growing security issues in digital world. The use of Artificial Intelligence, virtual reality and automation tool which is quite famous in online purchases is gaining significance but an eye should be on cutting costs and increase productivity by the mobile manufacturer. This will add to richer customer experience needful to the Gen Y consumers prompting usage of banking on small device in real time. Encouraging cashless purchases/sale by offering discount, additional discount, cash back offer and gift coupons on mobile based transactions will give further push in adoption of m-banking.

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