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Mobile Bankingin in India: Barriers in Adoption and Service Preferences

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ABSTRACT

Mobile banking is growing yet there are numbers of issues and threats in mobile banking system and the major problem of mobile banking is its non-adoption by the customers. This research focuses on the barriers in adoption of mobile banking. It further focuses on preferred services by the mobile banking customers and influence of demographic variable on mobile banking service adoption. A cross-section descriptive design was adopted and data collected was subject to Product moment correlation, One way Kolmogorov-Smirnov test and Frequency analysis. Findings suggest that customers'security concern is the major barrier in adopting mobile banking services. As far as preferred services are concern balance check tops, as customers prefer information based services rather than financial services provided by the bank.

Keywords : Mobile banking, Barriers, Preferred services

1. Introduction :

Recent innovations in telecommunications have enabled the launch of new access methods for banking services; one of these is mobile banking; whereby a customer interacts with a bank via mobile phone (Barnes & Corbitt, 2003). In India 617 million mobile subscribers far exceed fixed line subscribers because of better mobile infrastructure (TRAI, 2010). The banks in India are racing to use this latest technology to reduce their operational costs and increase customer base (Peterson, 2009). Mobile Banking refers to provision and availment of banking and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank transactions, to administer accounts and to access customized information (Tiwari & Buse, 2007).After the launch of mobile banking in India, mobile banking transactions have seen some growth. What attracts customers to mobile banking is the round the clock availability and ease of transactions. But mobile banking still has a long way to go as majority of customers prefer banking in the traditional ways (Ashta, 2010; Wang, Wang, Lin & Tang, 2003). Key question is why customers are not adopting mobile banking. Various factors may influence customers' adoption. It is argued that adoption will not take place unless customers perceive the service to be useful (Ali & Bharadwaj, 2010). Understanding the symptoms of the problem of why there is a low rate of mobile banking usage along with understanding of preferred mobile banking services, could help banks to come up with a right solution to improve their mobile banking service as well as to increase the rate of Mobile banking usage.

2. Review of Literature:

Clark (2008)suggested that as a Channel the mobile phone can augment the numberof channels available to consumers, thereby giving consumers more low-cost self-service options by which to access funds,bankinginformationandmakepayments.Mobileasachanneldeliversconvenience, immediacy and choice to consumers. But there are a large number of different mobile phone devices and it is a big challenge for banks to offer Mobile banking solution on any type of device. Some of these devices support Java2 Micro Edition(J2ME) and others support Wireless Application Protocol (WAP) browser or only SMS. Further Vyas (2009) stated that Indian banks will target non-online banking users who may lack

regular access to desktop Internet but are very likely to own a mobiledevice, thus reporting great potential of Mobile banking in India.This report of Vital Analytics suggested huge potential of Mobile banking in India ,as it found that urban Indian customers' checking account balance is the mostfrequentlycitedreasonforusingMobilebanking.40 million Urban Indian sused their mobile hones to check their bank account balances followed by viewing last three transactions. Rao&Prathima(2003)find that there is huge potential of Mobile banking in India but Indian banks offering m-banking services still have a long way to go.

Comninos et al. (2008) suggested that consumers will only transact electronically (online/mobile banking) if there is convenience and security. Further Sharma and Singh (2009) found that Indian mobile banking users are specially concern with security issues like financial frauds, account misuse and user friendliness issue - difficulty in remembering the different codes for different types of transaction, applicationsoftwareinstallation&updationduetolackofstandardization.

Gan, Clemes, Limsogunchai & Weng (2006) findings stated that in New Zealand the output from the logistic regression indicates that the service quality, perceived risk factors, user input factors, employment, and education were the dominant variables that influence consumers' choice of electronic banking and non-electronic banking channels.

Kolodinsky, Hogarth & Hilgert (2004) stated that millions of Americans are currently using a variety of e-banking technologies including Mobile banking. However, millions of others have not or will not. They explored factors that affect the adoption or intention to adopt three e-banking technologies and changes in these factors over time and suggested that relative advantage, complexity/simplicity, compatibility, observability, risk tolerance, and product involvement are associated with adoption. Income, assets, education, gender and marital status, and age also affect adoption. Adoption changed over time, but the impacts of other factors on adoption have not changed.

Rotchanakitumnuai&Speece 2003); Akinci, Aksoy & Atilgan (2004) stated that researchers investigated why corporate customers do not accept electronic form of banking ,which

can assist banks to implement this self-service technology more efficiently. Further they suggested that security of the e-Channel is a major factor inhibitingwideradoption.Thosealreadyusingelectronicformofbankingseemtohave more confidene that the system is reliable, where as non-users are much more service conscious, and do not trust financial transactions made via e-channels. Non electronic form of banking users tend to have more negative management Attitudes toward adoption and are more likely to claim lack of resources. Legal support is also a major barrier to electronic form of banking adoption for corporate customers.

Sathye (1999) study focused on the capital cities of Australia where use of internet and population was likely to be high and suggested that security concerns and lack of awareness about Internet banking and its benefits standout as being the obstacles to the adoption of Internet banking in Australia. Author suggested some of the ways to address these impediments. Further, he suggested that delivery of financial services over the Internet should be apart of overall customer service and distribution strategy. These measures could help in rapid migration of customers to Internet banking, resulting in considerable savings in operating costs for banks.

3. Objectives :
This study focuses on following research objectives:
1 To study the barriers in using Mobile banking services.
2 To study the perceived utility of various Mobile banking services.
3. To study the influence of demographic variables on Mobile banking usage.

4. Research Methodology :
To measure these objectives a cross sectional descriptive study was designed.

4.1 Questionnaire Design :
Based on the research objectives, a structured questionnaire with 40 variables, mainly with a 5-point Likert scale was used, in which 1 = strongly disagree and 5 = strongly agree.

4.2 Data Collection :
All bank customers of coimbatore were considered as population of research interest.The total sample size was fixed at 100 usable responses for data analysis. For data collection purposive sampling was adopted. To ensure all questions being answered in a proper way, questionnaires were completed and screened one-by-one.

Table 1: Sample Distribution

Demographic Variables	Percentage distribution
Gender	80% Males, 20% Females
Age	33% Less than 30, 47% 30-39, 20% Above 39
Education	67% Graduates, 33% Post Graduates
Income	63% 10000 or less monthly in INR, 37% More than 10000 monthly in INR
Profession	46% Managerial Position, 54% Non Managerial Position

4.3 Data Cleaning :
Data was screened for missing values and no missing value was found. Further data was analyzed for outliers using SPSS 17. All standardized values (z scores) were between -2.11 to 2.64, suggesting absence of outliers.

4.4 ReliabilityAnalysis:
Cronbach alpha was found to be .722 suggesting satisfactory internal consistency among items.

4.5 Analytical Tools :
The SPSS 17 was used to analyze the data using Kolmogor-ov-Smirnov test, Product moment correlation and Frequency analysis.

5. DATAANALYSIS
5.1 Perception towards Mobile Banking :
Vast majority (77%) of Mobile Banking users agrees that the service is more convenient than traditional banking; transactions can be done faster and allows easier maintenance of transaction activities. Overall, most users(61%) agree that Mobile Banking is better than traditional banking, how ever, on average the users were uncertain whether Mobile Banking is more reliable or safer and secure(59% were in different). It may be said that current Mobile Banking users are over all satisfied with the service which shows an opportunity to increase the customer base in future and in turn helps in financial inclusion i.e. providing banking facility to the one who is not having access to traditional financial system and through this research it is clear that by creating the awareness about Mobile Banking security dilemma of users that whether it is safe or not will also eradicate.

5.2 Barriers in using Mobile Banking:
The first research objective meant to explore barriers in using Mobile banking. Table 2 shows that the One way Kolmogorov-Smirnov test summery of mobile banking barriers viz. security concern, network problem, insufficient operating guidance, cost per transaction and handling mobile phones.

Table 2: Barriers in Using Mobile Banking

	Security concern	Network problem	Difficulty in Handling mobile phone	Insufficient Operating guidance	Cost per transaction
N	100	100	100	100	100
Mean	4.15	3.99	1.19	3.87	2.51
-Kolmogorov Smirnov Z	2.457	3.200	2.156	2.863	2.030
Asymp. Sig.	.000	.000	.001	.000	.001

Z value for 'security concern' (2.45) was found to be significant at .01 with mean value of 4.15(>3; Agree). It may be said that 'security concern' is a significant barrier in using mobile banking means banks should focus on the security aspect and need to create awareness that it is as secured as traditional banking channel, what is needed by the customer is that to be alert at the time of doing the banking transaction through mobile phone.

Z value for 'network problem' (3.20) was found to be significant at .01 with mean value of 3.99 (>3; Agree). It maybe said that 'network problem'is a significant barrier in using mobile banking, for this banks should coordinate with the telecom companies to improve their network which in turn will eliminate this barrier.

Z value for 'difficulty in handling mobile phone' (2.15) was found to be significant at .01 with mean value of 1.19 (<3; Disagree). It may be said that 'difficulty in handling mobile phone' is not a significant barrier in using mobile banking, as now youth consist the major part of population in India and it is being found that youths are technology friendly, so banks can increase their customer base through mobile banking channel by targeting this point i.e. it is easy to do banking through mobile phone.

Z value for 'insufficient operating guidance' (2.86) was found to be significant at .01 with mean value of 3.87 (>3; Agree). It may be said that 'insufficient operating guidance' is a significant barrier in using mobile banking, for this banks need to have help desk for mobile banking in every branch and need to create awareness of guidance through various channels as well like newspaper, internet, television etc.

Z value for 'cost per transaction' (2.03) was found to be significant at .01 with mean value of 2.51 (<3; Disagree). It may be said that 'cost per transaction' is not a significant barrier in using mobile banking Because it is very cheap to operate mobile banking for customer as banks charge nothing what is being charged is by the telecom companies that too very nominal i.e. Rs.3per SMS.

5.3 Perceived utility of Mobile banking services :
The second objective of the research referred to the customers' perceives utility of various Mobile banking services. Respondents were provided with a list of 17 Mobile Banking services and in relation to these services respondents were asked to indicate the degree of perceived utility they attach to particular the service.

Rank Mobile Banking Service (cumulative %)

1. Review accounts balances(86%)
2. Recent transactions / Mini-statements (60%)
3. Review credit cards balances (55%)
4. Status on cheque, stop payment on cheque (43%)
5. Alerts on account activity (37%)
6. Change of PIN (9%)
7. Ordering check books (7%)
8. Bill payment processing (7%)
9. Access to loan statements (7%)
10. Domestic fund transfers (6%)
11. Credit card payment due date (6%)
12. Mobile recharging (4%)
13. Branch location (3%)
14. Managing loan account (1%)
15. ATM Location (0%)
16. Withdrawal at banking agent (0%)
17. Deposit at banking agent (0%)
18. Mutual funds /equity statements (0%)

The Mobile banking services perceived to have high utility were Review (checking) accounts balances (86%), Recent transactions / Mini-statements (60%), Review credit cards balances (55%),

Status on cheque/ stop payment on cheque (43%) and Alerts on account activity (37%). This suggests that overall most of the customers prefer information based services rather than financial services provided by the bank. It is clear that major mobile banking users are interested in having the information of various types like checking balance, review mini statement, review credit card balances rather transaction based services is not preferred by the customer reason may security, network problem or insufficient operating guidance as founded in this research as a major barrier.

5.4 Influence of Demographic Variables :
At last the usage of the Mobile banking was tested to see whether it is associated with demographic variables viz. gender, age, education, income and profession using Product moment correlation. It may be said that the Mobile banking usage is not associated with demographic variables except age and education as their estimated correlation coefficients were .611 and .521respectively; significant at .05level.

Table3: Demographic Variables & Mobile Banking Usage

Demographic variables	Correlation coefficient
Gender	.233
Age	.611*
Education	.521*
Income	.198
Profession	.201

*Significant at .05 level of significance

6.Suggestions and Recommendations
The study shows 'mobile handset operability' is an important issue in mobile banking, due to availability of various handset

models (supporting different type of technology) in the market. To resolve it service providers i.e. banks must coordinate with mobile handset manufacturers so that all handsets irrespective of manufacturer and technology (GSM or CDMA) become compatible with single mobile banking technology. Majority customers perceived 'privacy and security' a critical issue. Here banks are advised to educate customers on this issue to raise their awareness. Especially for the customers' worries like losing money if once mobile handset is lost (substantial number of respondents worried about it). Secondly banks and telecom operators are suggested to draft comprehensive joint policy regarding security & privacy so that customers can be assured at both banks and telecom operator's levels while doing mobile banking. 'Standardization' is another major issue as lack of standardization of mobile banking services in the country resulted in increased complexity while using mobile banking services (especially when using mobile banking services of multiple banks). For resolving this issue banks are advised to developed mobile banking standards in guidance of RBI. Issues of 'download & installation of application s/w'service quality' were not perceived critical or important. Reason may be that study was conducted in urban area so technological aspect of application s/w, absence of local/ preferred language and telecom service quality like network unavailability were not perceived as major issues. But banks are well advised not to overlook above issues as these may be critical in pan India adoption of mobile banking., 'customization' (user's preferred language) and 'telecom. The major concern among customers was the safety concern regarding mobile banking services which forms a real obstacle to use the service, followed by network problem and insufficient operating guidance. The research also found that even most of those who frequently use the Mobile Banking services, usually do not conduct much of financial transactions, but find the service very useful for information based transactions mainly checking account status. This means that the Mobile banking services is not solving the purpose it was originally made for, which is to provide customer convenience and reduce customer visits to the banks. Based on the findings, it is strongly believed that ensuring the security of Mobile banking and familiarizing customers with how to use the service will definitely increase the rate of using Mobile banking services.

7. Conclusion :
In line with the global industries' move in acquiring the latest advanced technology to stay a head of competitors, banks throughout the world and India have notably been moving in the same direction. Evidently, Mobile banking is considered a new era in banking, in which banks are spending considerable amount of money to have it available to their customers and to cut their operations costs. Unfortunately, evidences have shown that a large number of customers do not use Mobile banking for various reasons, despite its benefits. With the advent of technology and increasing use of smart phone and tablet based devices, the use of Mobile Banking functionality would enable customer connect across entire customer life cycle much comprehensively than before. With this scenario, current mobile banking objectives of say building relationships, reducing cost, achieving new revenue stream will transform to enable new objectives targeting higher level goals such as building brand of the banking organization. Emerging technology and functionalities would enable to create new ways of lead generation, prospecting as well as developing deep customer relationship and mobile banking world would achieve superior customer experience with bi-directional communications. Among digital channels, mobile banking is a clear IT investment priority in 2013 as retail banks attempt to capitalise on the features unique to mobile, such as location-based services [7].

The Mobile Payment Forum of India (MPFI) has been formed with Institute for Development and Research in Banking Technology (IDRBT) and Rural Technology Business Incubator (RTBI), IIT Madras taking the lead role. It has members and representatives from the telecommunications industry, financial institutions (banks and microfinance institutions) as

well members from the Reserve Bank of India. Three sub-committees have been formed – on technology, on business models and on regulatory issues. The first meeting of MPFI was held in Hyderabad on the 15th of September 2007. The subcommittees are expected to go over their particular concerns in depth and submit a report shortly. Lots of challenges are to be overcome for a successful implementation of mobile payments to be widely accepted as a mode of payment. Businesses, merchants and consumers have to come forward and make value-producing investments. A regulatory framework and widely accepted standards will be the pillars on which mobile payment applications will be built.Research so far has outlined a diversity of thinking and innovation that exists in the m- payments arena. Numerous solutions have been tried and failed but the future is promising with potential new technology innovations.

Illustration of objective based functionality enrichment In Mobile Banking

- Communication enrichment: - Video Interaction with agents, advisors.

- Pervasive Transactions capabilities: - Comprehensive "Mobile wallet"
- Customer Education: - "Test drive" for demos of banking services
- Connect with new customer segment: - Connect with Gen Y – Gen Z using games and social network ambushed to surrogate bank's offerings
- Content monetization: - Micro level revenue themes such as music, e-book download
- Vertical positioning: - Positioning offerings over mobile banking specific industries
- Horizontal positioning: - Positioning offerings over mobile banking across all the industries
- Personalization of corporate banking services: - Personalization experience for multiple roles and hierarchies in corporate banking as against the vanilla based segment based enhancements in the current context.
- Build Brand: - Built the bank's brand while enhancing the "Mobile real estate".

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