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STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

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- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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A STUDY ON PERFORMANCE OF MOBILE BAKING SERVICES AND MODELS IN INDIA

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ABSTRACT

Mobile banking (M-Banking) has been welcomed in most of the countries as a new branch in electronic banking (E-Banking). Mobile banking (also known as M-Banking) is a term used for performing balance checks, account transactions, payments, credit applications and other banking transactions through a mobile device such as a mobile phone or Personal Digital Assistant (PDA). In developing countries such as Iran mobile banking is limited to fields such as SMS due to lack of infrastructure and because of high costs. In this paper we present a method for developing banking services through mobile phone in the bank area. Customers inside the bank and also around the bank are connected to the bank system through Bluetooth technology and handle their banking operations through their mobile phones. This way they won't pay any additional cost and for example they can handle operations while they are inside their car parked near the bank. Moreover they can handle some of their other banking operations through their mobile phones while they are dealing with other activities inside the bank. This way they can use their time in an optimal way and the banks can also avoid the rush hours. Since our method using Bluetooth, most of mobile phones can use this system.

KEYWORDS

E-Commerce, Electronic Banking, Mobile baking models, Mobile marketing, perception and Statistics.

INTRODUCTION

Electronic commerce, commonly known as e-commerce or e-comm, is the buying and selling of products or services over electronic systems such as the Internet and other computer networks. Electronic commerce draws on such technologies as electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web at least at one point in the transaction's life-cycle, although it may encompass a wider range of technologies such as e-mail, mobile devices and telephones as well. Mobile banking (also known as M-Banking) is a term used for performing balance checks, account transactions, payments, credit applications and other banking transactions through a mobile device such as a mobile phone or Personal Digital Assistant (PDA).

Mobile banking and Mobile payments are often, incorrectly, used interchangeably. The two terms are differentiated by their service provider-to-consumer relationship; financial institution-to-consumer versus commercial institution-to-consumer for mobile banking and payments, respectively. Mobile Banking involves using mobile devices gain to access financial services. Mobile payments on the other hand may be defined as the use of mobile devices to pay for goods or services either at the point of purchase or remotely. Bill payment is not considered a form of mobile payment because it does not occur in real time. The earliest mobile banking services were offered over SMS, a service known as SMS banking. With the introduction of the first primitive smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

After Internet Banking, Mobile Banking or M-Banking has become the buzz word in the industry. It's a fact that Internet Banking has given a boost and has shown a successful way to consider it as a good alternative procedure against physical branch banking. Now where ever you are, you can access your bank account and you can do lot more things like checking your account balance, transfer money to some other account, pay your utility bills online and so on, just by comfortably sitting at your home or office. But, the technical disadvantage of Internet Banking is, you have to have internet connectivity and a computer. Definitely it's not a big hindrance in US or Europe or in the other developed countries, but if one considers the developing economies, then it's a genuine problem and more specifically in the tier II cities. And here Mobile Banking comes into the picture to address the basic limitation of Internet Banking. If we only consider Asian developing countries, the availability of mobile connectivity is really huge. Where one may not find out a landline telephone or an internet connection, but still in those remote places getting mobile connectivity is not a major issue today. So, Mobile Banking has given the traditional banking a newer look "Anywhere Banking". Now you don't need a PC or a laptop with internet connectivity, just you need your cell phone with you. Considering the Asian economy countries like China, India and Korea have seen the mobile boom in last one decade. A projected value of mobile connectivity in India shows that it will touch 180 Million subscribers by the end of 2008, where it was pegged at around 2 Million in the year 2000. In Korea, more than 70% of the entire population is carrying mobile devices. The biggest advantage Mobile Banking provides to the banks is that it helps to cut down the costs as it's even more economic than providing tele-banking facilities where banks have to keep hundreds of tele-callers. Additionally, Mobile Banking helps banks to upgrade the quality of services and nature of customer relationship management. Using Mobile Banking, banks can communicate to the defined cluster of clients. The offers can be customized and this personalization can give the banking industry a huge mileage, even at a lower cost. Again, using the same mobile channels, banks can up-sell and cross-sell their highly complex financial products to the specific set of customers which can be coupled with the selling strategies of Credit Cards, Home Loans and Personal Loans etc. On the contrary, the service providers can also accrue more business by providing the Mobile Banking services to their clients. Countries like Japan, Korea or Singapore where the mobile connectivity has already reached its saturation, the service providers can make handsome business by providing additional banking services to the same static client base. In the services front, different banking services can be provided, depending upon the banking regulations in respective countries which may include Account Balance Enquiry, Account Statement Enquiry, Credit/Debit Alerts, Bill Payment Alerts, Cheque Book Requisition, Transaction History, Minimum Balance Alerts, Fund Transfer Facilities, etc.

Mobile Banking activities can be categorized in two different manners.

1. By the Nature of Service: It can be any of the two, either Enquiry Based or Transaction Based. For example, Account Balance Enquiry or a Cheque Book Requisition can be the good examples of Enquiry Based Services where a Fund Transfer or a Bill Payment is a Transaction Based activity.
2. Depending on the Originator: Again there can be two different types of services; Push and Pull, depending on the nature of the originator. A Push based service is from the Bank to the Client and vice versa. For example, Bill Payment Alert can be a Push based service, when getting Recent Account History is a Pull based one.

In different countries, Mobile Banking has already gained its popularity. For example, in the South Korean market LG Telecom teamed up with Kookmin Bank to provide their Mobile Banking services in 2004 and since then they have seen a nice and steady growth. In India, Reliance InfoComm Ltd. has started providing Mobile banking services to ICICI Bank and HDFC Bank through their R-World environment. The Mobile Banking services will become more popular once the availability of the smart phones or PDA phones shall increase as Smart Phones come with larger screens and bigger memory size. In the application development front, both J2ME and BREW have done excellent work and industry expects by the year 2012, more than 80% of the mobile handsets will be able to run stand alone Mobile Banking applications and that time it will be "Anywhere Banking" in real sense.

LITERATURE REVIEW

Functionalities provided by banks in the developed markets has been incrementally enhanced by various banks which initiated from basic information such as "viewing" to that of "transactional capabilities" in last few years till 2010. Study conducted by Rajesh Tiwari and Stephen Buse demonstrated the functionalities such as Mobile Payment Mobile account operations, Mobile Brokerage, Mobile based financial Information service suiting to the advancement in the technologies till that period (Tiwari & Buse 2007). Yankee Group's study indicated Moving Banks from Inquiry to revenue generation including Peer-to-Peer Payments to Attract Generation Y, the Un-banked and Under-banked (Paisner, Castonguay & Collins 2009). Also the research paper by Tower group on "Ceiling Banking to Your Customers" describes the progress of mobile banking in the developed markets with popular functionalities up to 2007-2008 such Balance Inquiries, Funds Transfer, Location finders, Bill Pay, Normal alerts (Riley, Schmidt & Tubin 2009), Further in 2009-2010 advanced functionalities have stabilized. View Images, Check reorder, M-statements, personal finance, Action alerts, and Advanced Mobile payments. Celent research report "key trends Key Trends in Mobile Financial Services in the European describes functionalities such as Mobile digital content, Mobile remote purchases, Mobile proximity purchases, Mobile ticketing, Mobile P2P and remittances (Florina 2009). Also Blog by Celent Research's senior analyst Jacob Jegher, describes the functional usage to advance to automated functionalities to positive pay decision, payment approvals esp. in corporate Banking world (Jegher 2010).

THE METHODOLOGY AND OBJETIVES

In predicting the multi-dimensional functional I referred various research materials in terms of

- To Understanding the potentials Capabilities of mobile phones to cater to multiple areas suiting the business needs in future.
- To study of mobile banking models.
- To study of Growth rate of the Mobile Banking channel.
- To study of Regional trends of Mobile Banking growth and services in world.

MOBILE BANKING MODELS

Mobile banking (also known as M-Banking) is a term used for performing balance checks, account transactions, payments, credit applications and other banking transactions through a mobile device such as a mobile phone or Personal Digital Assistant (PDA).

Mobile banking and Mobile payments are often, incorrectly, used interchangeably. The two terms are differentiated by their service provider-to-consumer relationship; financial institution-to-consumer versus commercial institution-to-consumer for mobile banking and payments, respectively. Mobile Banking involves using mobile devices gain to access financial services. Mobile payments on the other hand may be defined as the use of mobile devices to pay for goods or services either at the point of purchase or remotely. Bill payment is not considered a form of mobile payment because it does not occur in real time.

The earliest mobile banking services were offered over SMS, a service known as SMS banking. With the introduction of the first primitive smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

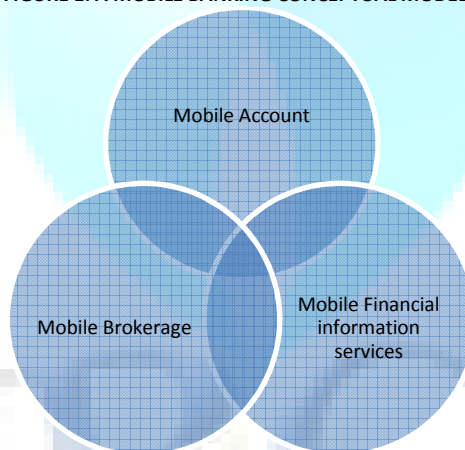
Mobile banking has until recently (2010) most often been performed via SMS or the Mobile Web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special client programs, called apps, downloaded to the mobile device.

A MOBILE BANKING CONCEPTUAL MODEL

Mobile Banking refers to provision and an ailment of banking- and financial services with the help of mobile telecommunication devices. The scope of offered services may include facilities to conduct bank and stock market transactions, to administer accounts and to access customised information."

According to this model Mobile Banking can be said to consist of three inter-related concepts:

FIGURE 1: A MOBILE BANKING CONCEPTUAL MODEL



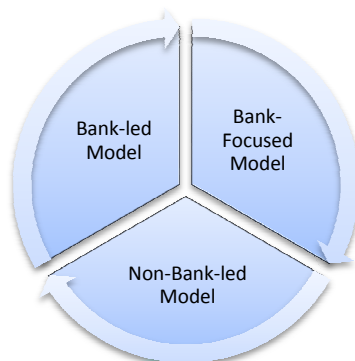
Most services in the categories designated Accounting and Brokerage are transaction-based. The non-transaction-based services of an informational nature are however essential for conducting transactions - for instance, balance inquiries might be needed before committing a money remittance. The accounting and brokerage services are therefore offered invariably in combination with information services. Information services, on the other hand, may be offered as an independent module. Mobile banking may also be used to help in business situations as well as financial.

MOBILE BANKING BUSINESS MODELS

A wide spectrum of Mobile/branchless banking models is evolving. However, no matter what business model, if mobile banking is being used to attract low-income populations in often rural locations, the business model will depend on banking agents, i.e., retail or postal outlets that process financial transactions on behalf telcos or banks. The banking agent is an important part of the mobile banking business model since customer care, service quality, and cash management will depend on them. Many telcos will work through their local airtime resellers. However, banks in Colombia, Brazil, Peru, and other markets use pharmacies, bakeries, etc.

These models differ primarily on the question that who will establish the relationship (account opening, deposit taking, lending etc.) to the end customer, the Bank or the Non-Bank/Telecommunication Company (Telco). Another difference lies in the nature of agency agreement between bank and the Non-Bank. Models of branchless banking can be classified into three broad categories - Bank Focused, Bank-Led and Nonbank-Led.

FIGURE 2: MOBILE BANKING BUSINESS MODELS



1. BANK-FOCUSED MODEL

The bank-focused model emerges when a traditional bank uses non-traditional low-cost delivery channels to provide banking services to its existing customers. Examples range from use of automatic teller machines (ATMs) to internet banking or mobile phone banking to provide certain limited banking services to banks' customers. This model is additive in nature and may be seen as a modest extension of conventional branch-based banking.

2. BANK-LED MODEL

The bank-led model offers a distinct alternative to conventional branch-based banking in that customer conducts financial transactions at a whole range of retail agents (or through mobile phone) instead of at bank branches or through bank employees. This model promises the potential to substantially increase the financial services outreach by using a different delivery channel (retailers/ mobile phones), a different trade partner (telco / chain store) having experience and target market distinct from traditional banks, and may be significantly cheaper than the bank-based alternatives. The bank-led model may be implemented by either using correspondent arrangements or by creating a JV between Bank and Telco/non-bank. In this model customer account relationship rests with the bank.

3. NON-BANK-LED MODEL

The non-bank-led model is where a bank has a limited role in the day-to-day account management. Typically its role in this model is limited to safe-keeping of funds. Account management functions are conducted by a non-bank (e.g. telco) who has direct contact with individual customers.

MOBILE BANKING SERVICES

A specific sequence of SMS messages will enable the system to verify if the client has sufficient funds in his or her wallet and authorize a deposit or withdrawal transaction at the agent. When depositing money, the merchant receives cash and the system credits the client's bank account or mobile wallet. In the same way the client can also withdraw money at the merchant: through exchanging SMS to provide authorization, the merchant hands the client cash and debits the merchant's account.

Kenya's M-PESA mobile banking service, for example, allows customers of the mobile phone operator Safaricom to hold cash balances which are recorded on their SIM cards. Cash may be deposited or withdrawn from M-PESA accounts at Safaricom retail outlets located throughout the country, and may be transferred electronically from person to person as well as used to pay bills to companies. One of the most innovative applications of mobile banking technology is Zidisha, a US-based nonprofit micro lending platform that allows residents of developing countries to raise small business loans from web users worldwide. Zidisha uses mobile banking for loan disbursements and repayments, transferring funds from lenders in the United States to the borrowers in rural Africa using nothing but the internet and mobile phones.

In Côte d'Ivoire, Orange has a commercial offer which allows subscribers to use ATMs to top up their mobile wallet account. Due to very flexible and modular scap software, it is easy to add future options such as the payment of utility bills or insurance premium.

INVESTMENTS

- Portfolio management services
- Real-time stock quotes
- Personalized alerts and notifications on security prices

SUPPORT

- Status of requests for credit, including mortgage approval, and insurance coverage
- Check book and card requests
- Exchange of data messages and email, including complaint submission and tracking
- ATM Location

CONTENT SERVICES

- General information such as weather updates, news
- Loyalty-related offers
- Location-based services

A report by the US Federal Reserve (March 2012) found that 21 percent of mobile phone owners had used mobile banking in the past 12 months. Based on a survey conducted by Forrester, mobile banking will be attractive mainly to the younger, more "tech-savvy" customer segment. A third of mobile phone users say that they may consider performing some kind of financial transaction through their mobile phone. But most of the users are interested in performing basic transactions such as querying for account balance and making bill payment.

FUTURE FUNCTIONALITIES IN MOBILE BANKING

Based on the 'International Review of Business Research Papers' from World business Institute, Australia, following are the key functional trends possible in world of Mobile Banking.

With the advent of technology and increasing use of Smartphone 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 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.

TABLE 1: 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".

MOBILE BANKING IN THE WORLD

Mobile banking is used in many parts of the world with little or no infrastructure, especially remote and rural areas. This aspect of mobile commerce is also popular in countries where most of their population is unbanked. In most of these places, banks can only be found in big cities, and customers have to travel hundreds of miles to the nearest bank.

In Iran, banks such as Parsian, Tejarat, Mellat, Saderat, Sepah, Edbi, and Bankmelli offer the service. Banco Industrial provides the service in Guatemala. Citizens of Mexico can access mobile banking with Omnilife, Bancomer and MPower Venture. Kenya's Safaricom (part of the Vodafone Group) has the M-Pesa Service, which is mainly used to transfer limited amounts of money, but increasingly used to pay utility bills as well. In 2009, Zain launched their own mobile money transfer business, known as ZAP, in Kenya and other African countries. In Somalia, the many telecom companies provide mobile banking, the most prominent being Hormuud Telecom and its ZAAD service.

Telenor Pakistan has also launched a mobile banking solution, in coordination with Taameer Bank, under the label Easy Paisa, which was begun in Q4 2009. Eko India Financial Services, the business correspondent of State Bank of India (SBI) and ICICI Bank, provides bank accounts, deposit, withdrawal and remittance services, micro-insurance, and micro-finance facilities to its customers (nearly 80% of whom are migrants or the unbanked section of the population) through mobile banking. In a year of 2010, mobile banking users soared over 100 percent in Kenya, China, Brazil and USA with 200 percent, 150 percent, 110 percent and 100 percent respectively.

Dutch Bangla Bank launched the very first mobile banking service in Bangladesh on 31 March 2011. This service is launched with 'Agent' and 'Network' support from mobile operators, Banglalink and Citycell. Sybase 365, a subsidiary of Sybase, Inc. has provided software solution with their local partner Neurosoft Technologies Ltd. There are around 160 million people in Bangladesh, of which, only 13 per cent have bank accounts. With this solution, Dutch-Bangla Bank can now reach out to the rural and unbanked population, of which, 45 per cent are mobile phone users. Under the service, any mobile handset with subscription to any of the six existing mobile operators of Bangladesh would be able to utilize the service. Under the mobile banking services, bank-nominated 'Agents' perform banking activities on behalf of the banks, like opening mobile banking account, providing cash services (receipts and payments) and dealing with small credits. Cash withdrawal from a mobile account can also be done from an ATM validating each transaction by 'mobile phone & PIN' instead of 'card & PIN'. Other services that are being delivered through mobile banking system are person-to-person (e.g. fund transfer), person-to-business (e.g. merchant payment, utility bill payment), business-to-person (e.g. salary/commission disbursement), government-to-person (disbursement of government allowance) transactions.

MOBILE BANKING IN INDIA - PERCEPTION AND STATISTICS

The Reserve Bank of India has given approval to 32 banks for providing mobile banking facility and of these 21 banks has started providing these services. All banks are now allowed to offer mobile banking service to their customers subject to a daily cap of Rs 50,000 per customer for both funds transfer and transactions involving purchase of goods and services.

India has about 207 MM (September' 2007 TRAI Data) mobile phone subscribers, a number that is larger than the number of bank accounts or Internet users. Given the mobile tele-density of about 20% and development of secure mobile technology solutions, banks are well-positioned bridge the digital divide and introduce the unbanked sector to the financial mainstream. You may be aware that Reserve Bank of India had set up the Mobile Payments Forum of India (MPFI), a 'Working Group on Mobile Banking' to examine different aspects of Mobile Banking (M-banking). The Group had focused on three major areas of M-banking, i.e., (i) technology and security issues, (ii) business issues and (iii) regulatory and supervisory issues.

In India, Banking sector has become more customers friendly to provide banking services through mobile phone. It has given an opportunity to customers to update themselves about Account balance, transactions and do the transfer of amount from one Account to another. All the public and private sector banks in India have started providing their different services through mobile phone. Currently they are offering banking services through mobile free of cost (Except some bank) but customers have to bear the cost of mobile service providers.

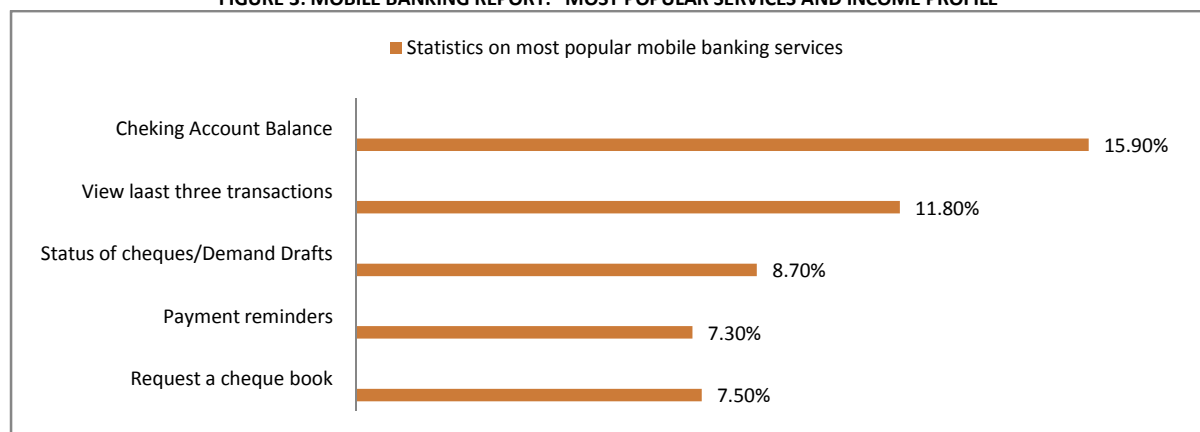
Over the last few years, the mobile and wireless market has been one of the fastest growing markets in the world and it is still growing at a rapid pace. Mobile phones have become an essential communication tool for almost every individual. Advent of ecommerce has managed to take mobile VAS to next level, adding tremendous value to telecommunication industry. Mobile banking which is an integral part of ecommerce has become very popular among mobile users ever since its existence in 2007. It creates new, convenient communication and fast financial transactional channel for mobile users which is accessible from anywhere, anytime.

Checking account information, balance available, credit/debit card information, cheque status, setting alerts, payment reminders, locating ATMs and bank branches, accessing mini statement, accessing loan and equity statements, insurance policy management, placing orders for cheque books etc via mobile phones are some of the services offered in mobile banking. With multiple access channels such as SMS, downloadable client, mobile Internet (WAP) mobile banking is encouraging mobile users more to explore the service.

MOBILE BANKING SERVICES - INSIGHTS AND REPORTS

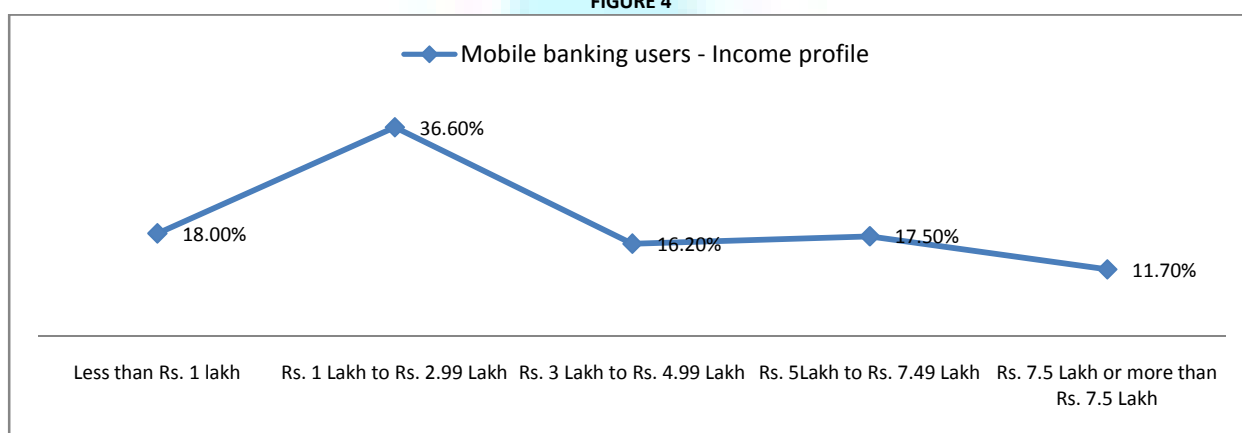
Based on data gathered in April 2009 for Feb/March mobile banking urban Indian customers checking account balance is the most frequently cited reason for using mobile banking. 40 million Urban Indians used their mobile phones to check their bank account balances followed by viewing last three transactions. ICICI bank continues to maintain its leadership extending in mobile space, 42% of all mobile banking users bank with ICICI, followed by HDFC (25.3%).

FIGURE 3: MOBILE BANKING REPORT: "MOST POPULAR SERVICES AND INCOME PROFILE"

Sources: <http://www.telecomindiaonline.com>

Filtering the data further to understand which income groups in urban India use mobile banking more. As depicted in the chart below, mobile banking is most used by subscribers falling in Rs. 1 Lakh to Rs. 2.99 Lakhs income bracket followed by less than Rs 1 Lakh income bracket. Therefore it is observed, mobile banking is more popular among low income group of mobile users than higher income group of mobile users.

FIGURE 4

Sources: <http://www.telecomindiaonline.com>

Many believe that mobile users have just started to fully utilize data capabilities in their mobile phones. Service providers are every day coming up with new services, providing methods to make the solution more easy to use, implementing techniques to improve security, launch of 3G is providing higher data transfer rate and invention of new phones more frequently is driving mobile users towards subscribing to mobile banking services. In India, where mobile subscribers far exceed fixed line subscribers because of better mobile infrastructure in comparison to fixed line infrastructure has made mobile banking much more appealing in India today. Various players involved in providing mobile banking services (banks, financial institutions, service providers, operators etc) are therefore expecting a potential growth in mobile banking industry in India.

CONCLUSIONS

Mobile Banking has been in existence since more than a decade. However in the earlier phase of Mobile Banking was more used for quick reference to the banking transaction and balances esp. in SMS environment. However with the proliferation of multiple technologies in the hardware, infrastructure, network, software segments, the mobile banking has found its due recognition in last couple of recession. Less developed market could adopt transaction based mobile irrespective of the type of handset due to innovative products esp. in "fund transfer" or "remittances" segment with collaboration between telecom companies, payment providers, banks etc and some of the selected features have been effectively utilized in these markets. In contrast to this, developed world excluding Far Eastern market could adopt the mobile Banking in a limited way esp. due to multiplicities of the operators in this segment and heavily developed Internet Banking market. However with the high-featured mobile phones in Smart environment would definitely take mobile banking to the next height in next 3 to 4 years from now. Mobile Banking would be increasingly used from "Building customer relations, reducing cost, achieving new revenue stream" etc to that of "connecting with the new customer segments, enhancing customer relationships to improve loyalty and reduce attrition, create new ways to generate lead in the process of prospecting, real time experience of bi-directional customer experience etc." And needless to say the technological revolution would play a major role in days to come.

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