



A Journal of Radix International Educational and  
Research Consortium

**RIJEB**

**RADIX INTERNATIONAL JOURNAL OF  
ECONOMICS & BUSINESS MANAGEMENT**



**AN EMPIRICAL STUDY ON USAGE OF MOBILE BANKING:  
WITH SPECIAL REFERENCE TO RURAL INDIA**

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**Abstract**

*Mobile banking is an application of mobile computing which provides customers with the support needed to be able to bank anywhere, anytime using a mobile handheld device and a mobile service. Mobile banking removes space and time limitations from*

*banking activities such as checking account balances, or transferring money from one account to another. In recent research and studies it was found that while mobile banking have become popular in some regions of India, they were still not widely used. This study identifies and investigates the usage of mobile banking, and specifically focuses on the usage of Mobile banking in the rural area of India. A survey questionnaire was developed to collect data from nine different States of India. The results of this survey may also influence the design of future mobile commerce services and their related marketing campaigns.*

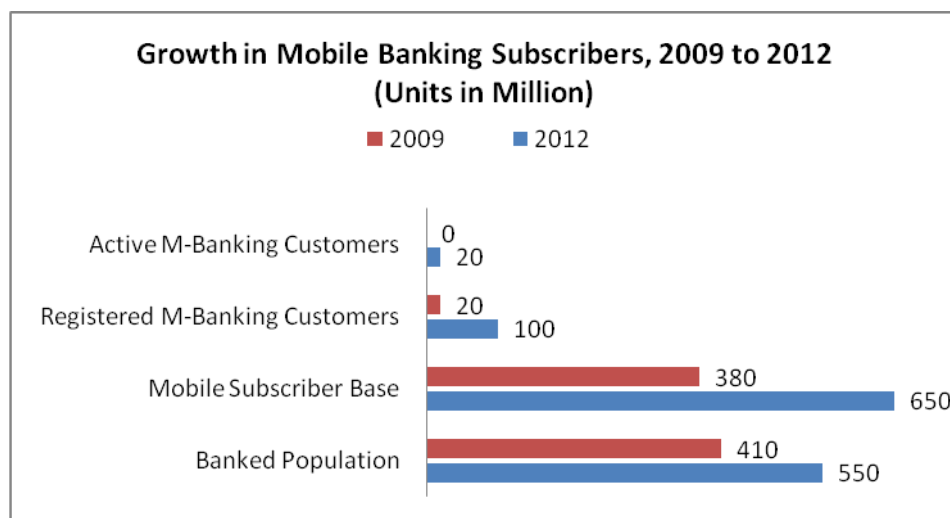
**Key Words:** Mobile Banking, Rural Consumer, Indian Market

## INTRODUCTION

Mobile banking is an application of mobile computing which provides customers with the support needed to be able to bank anywhere, anytime using a mobile handheld device and a mobile service. Mobile banking removes space and time limitations from banking activities such as checking account balances or transferring money from one account to another. In recent research and studies it was found that while mobile banking and more specifically SMS-based mobile banking applications have become popular in some countries and regions, even though they were still not widely used.

Mobile Banking is the emerging area of development in the banking sector and is expected to replace the credit/debit card system in future. Mobile Banking is also known as M-Banking and SMS Banking. Internet Banking helped give the customers anytime access to their banks. Customers could check out their account details, perform transactions like transferring money to other accounts, and pay their bills, sitting in the comfort of their homes and offices. However, the biggest limitation of

Internet Banking is the requirement of a PC with an Internet connection, not a big obstacle if we look at the US and the European countries, but definitely a big barrier if we consider most of the developing countries of Asia like India and China. Mobile Banking addresses this fundamental limitation of Internet Banking, as it reduces the customer requirement to just a mobile phone.



Source: [www.cashcow.in](http://www.cashcow.in), By - ShaliniAmarnani, Barriers to mobile banking

Mobile usage has seen an explosive growth in most of the Asian economies like India, China and Korea. According to Cellular Operators Association of India (COAI), the mobile subscribers' base in India hit 40.6 Million in August 2004, and it was almost 80 Million in 2008, i.e., nearly double. After a slow start at the turn of the millennium, it would seem this time around, that the devices, the networks, and the users have finally started using "Mobile Banking". The majority of the Indian banks, whether nationalized bank or privatized, are already involved in offering mobile services to their customers.

**MOBILE BANKING SERVICES**

Following are the banking facilities available on Mobile:

**A . Account Information**

1. Mini-statements and checking of account history
2. Alerts on account activity or passing of set thresholds
3. Monitoring of term deposits
4. Access to loan statements
5. Access to card statements
6. Mutual funds / equity statements
7. Insurance policy management
8. Pension plan management
9. Status on cheque, stop payment on cheque
10. Ordering check books
11. Balance checking in the account
12. Recent transactions
13. Due date of payment (functionality for stop, change and deleting of payments)
14. PIN provision, Change of PIN and reminder over the Internet
15. Blocking of (lost, stolen) cards

**B . Payments, Deposits, Withdrawals, and Transfers**

1. Domestic and international fund transfers
  2. Micro-payment handling
  3. Mobile recharging
  4. Commercial payment processing
  5. Bill payment processing
  6. Peer to Peer payments
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7. Withdrawal at banking agent
8. Deposit at banking agent

## **FACTORS INFLUENCING USAGE OF MOBILE BANKING**

User adoption of mobile commerce applications has been hindered by many factors. Literature findings identify some of the issues and factors associated with mobile banking, which are also related to other IS/IT applications. The factors can be organized into five categories: risk and security, socio-economic background and culture, service characterization, cost of service and device, and device features.

### **RISK AND SECURITY**

Security and trustworthiness of a service was identified as one of the most important factors within every target customer segment when deciding on the use of a banking service delivery channel. Some agreed that “using mobile phone in banking is trustworthy” Fain and Roberts defined “risk is a perception of consumer, not a characteristic of a product”. Furthermore, it was considered to be one of the greatest concerns in adoption of mobile banking, as individuals may worry about security issues during mobile banking service transactions such as data input and output mechanisms, loss of connection risk and personal performance mistakes. As a result, many people may decide not to use this service and ignore the extra benefits of using mobile banking. It can be concluded that the security aspect is to be investigated as an important element which influences the use of mobile banking.

## **SOCIO-ECONOMIC BACKGROUND AND CULTURE**

It is found that the lack of understanding of the concepts and benefits was a main barrier to consumers using mobile banking. Mobile banking users tended to come from high-income groups such as small business owners, salaried employees and senior managers. So, economic background tends to be one of the important factors. Furthermore, a negative, image of technologies and computers may have been perceived by consumers when thinking about using mobile banking. Therefore, the socio-economic background and culture of potential users could be factors that influence the usage of mobile banking.

## **SERVICE CHARACTERISTICS**

The account balance service is one of the most promising mobile banking services, and is designed to help customers check their account balance and latest transactions immediately anytime/anywhere. The ability to allow consumers to have more control over their financial situation is one of the important features of mobile banking services. This would save time and be perceived as convenient and efficient. The bank provides several services through mobile media, information-based, transaction-based and personal services. The SMS service is the easiest way to check account balances and latest transactions via mobile phone. Therefore, the characteristics of the service as perceived by the user and provided by the banking institution are important factors influencing the usage of mobile banking.

### **COST OF SERVICE AND DEVICE**

The cost of mobile devices and mobile services was identified as an investment concern. It is argued that financial cost was one of the greatest concerns in adoption of mobile banking services. As we know that it was not viable for consumers to change their way of performing their banking tasks without offering a strong performance-to-price advantage. The price of banking services may have an opposite effect with respect to the adoption of mobile banking. Users agree to pay a reasonable fee to use this service; however this would depend on the banking and service provider. Provision of a lower service cost is also a major benefit for users using mobile banking and performing banking transaction functions through a mobile device; so the “value for money” barrier may be another factor influencing the adoption of mobile banking services.

### **DEVICE FEATURES**

The somewhat limited input and display capability of current mobile devices is seen as limiting the use of mobile banking applications. For example, a mobile phone’s small screen cannot accommodate enough information about an account. It is found that when customers using a mobile phone service, they did not stress the importance of screen size in the service, but rather focused their attention on the spatial issues in the service consumption.

**LITERATURE REVIEW**

The usage of mobile banking services is increasing, and fast. *Union Bank of India (UBI) has also witnessed a six-fold increase in the number of mobile banking customers in the last few months.*

We may see regular reports in newspapers about mobile banking adoption in India; in reality mobile banking has a long way to go. As per one Business Standard article - "*The number of clients registered for mobile banking with SBI has surged from 10,000 in May 2009 to 33,000 as on October 2009. Bankers attributed the rising popularity of mobile banking service to an increase in the number of small-value fund transfers*"

If we will note each bank is talking about the number of registered customers rather than actual users. The Global consultancy firm - Celent report says 'Celent examines the potential for mobile banking growth in India's urban and rural markets. Mobile banking is currently free of cost to encourage customers to adopt this new channel. Despite this, the registered user base is only 25 million people, and the active user base is just 10% or 2.5 million of registered user base.'(Source: Professional Banker, February 2010).

Many experts have given their opinions regarding this emerging Mobile banking service. Mr.Sam Pitroda, advisor to Prime Minister on public information has said that – "For the first time we are a country of 600 million connected people. However, we need to find out how we can use it for our benefit." According to him "the next challenge for the government in its priority list is mobile banking and once introduced it will change the face of Indian Banking." So, as per his advice, government should take benefit of the large Mobile network, and should introduce it to have a growth in

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Banking sector not only in urban but in rural area as well."Mobile banking offers an opportunity for banks to reach out to the rural population and doing business in rural areas has become more viable," said DivakarGoswami, Executive Manager, global consultancy firm Deloitte Research.

So, if we look into the above discussed literature it is clear that there is a huge scope and facility available with the Indian rural market for mobile banking services. And therefore it is essential to find out its actual implementation and usage of Mobile banking services in the Indian Rural Market.

#### **A SURVEY ON USAGE OF MOBILE BANKING IN RURAL INDIA**

This study is identifying the importance of Mobile banking in rural area from view point of Banking Industry. It also provides necessary changes in order to accelerate number of users of Mobile Banking. Mobile penetration is increasing day by day and No. of users of Mobile Banking are also increasing rapidly. As a result it is needed to take necessary steps regarding proper implementation of Mobile banking in rural area. Now as India is having large Mobile Network available, Banks should try to utilize same for providing Mobile banking services in those rural area where banks have not reach but Mobile network is available. If banks really want to expand Mobile banking services, banks have to look in to the different factors which influence the usage of Mobile Banking. This study is also helpful for the current as well as potential customers of Mobile banking as it highlights practical aspects of Mobile banking.

## OBJECTIVES

The transactional capabilities of the mobile phone are clearly demonstrated with the popularity of mobile Value Added Services where carriers act as a service and/or billing provider. If mobile commerce and mobile marketing are to flourish, mobile banking will become “mainstream” in Indian rural market.

In particular, this survey aims to provide insight on the rural consumers’ usage of their mobile banking services. The results may also influence the design of future mobile banking services and their related marketing campaigns; all of which make up integral elements of adoption and experience of the mobile lifestyle.

## SURVEY METHODOLOGY

The survey was kept short to cater to the media of choice, the mobile internet. Participants were asked 13 questions. The survey was conducted from October to December 2011 in 9 states representing different regions of India: Gujarat, Maharashtra, Madhya Pradesh, Rajasthan, Karnataka, Andhra Pradesh, Kerala, Uttar Pradesh, and West Bengal. All these states were selected on the basis of geographical locations to represent India, as well as on the basis of Mobile Banking Transactions in Rural area. From each state 25 respondents from rural area has been interviewed on the structured questionnaire.

On an average, 33% of respondents are Female and 67% Male. The most used handsets for surfing are of Nokia. The percentagewise analysis of answers received for 13 questions of questionnaire is as follows:

**DATA ANALYSIS****1. Age**

Below 25 Years	33%
25 to 40 Years	52%
41 to 60 Years	12%
Above 60 Years	3%

Out of total respondents 52% are belongs to age of 25 to 40 years, 33% belongs to below 25 years, followed by 12% in 41 to 60 years and 3% in Above 60 years age group. This means Mobile Banking usage is more popular among the young age group.

**2. Occupation**

Student	35%	Professional	0%
Business	18%	Agriculture	10%
Government Employee	12%	House wife	12%
Private Employee	10%	Retired	3%

As shown in above table Mobile banking is most popular among students (35%) followed by service class people (22%).

### 3. You have Account with

Public Sector Bank	60%	Private Bank	40%
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In India still public sector banks are leading into providing services at rural area, so majority of respondents (60%) are account holder with public sector banks.

### 4. Average (Family) Monthly Income

Less than 5,000	3%	26,000 to 40,000	19%
5,000 to 25,000	20%	Above 40,000	58%

Out of total respondents 67% respondents have average monthly family income Rs. 40,000 of above it. Here we can relate the usage of mobile banking with the average income, because in India still usage of bank on mobile is considered to be a luxury.

### 5. Education

S.S.C	14%
H.S.C	31%
Graduate	42%
Post Graduate	13%
Professional	0%

Out of total respondents 42% are graduates, while 13% are post graduate; this shows popularity of mobile banking among educated people. In our respondents there were no professional respondents.

**6. From how many years are you using Mobile Banking Services?**

0 to 1 Years	53%
1 to 3 Years	35%
More than 3 Years	22%

If we look in to the usage status 53% of the respondents have started using Mobile Banking services in less than 1 year period.

**7. Are you aware of all Mobile Banking services provided by your bank?**

Yes	34%
No	66%

Majority of account holder h are not aware about the services provided by their banks on mobile. This becomes main barrier to increase usage of mobile banking in rural India.

**8. Which of the following Mobile Banking Services used by you for maximum time?**

Checking account balance	50%
Transferring money between account	12%
Paying bills	12%
Sending money to friends & family	10%
To check the dates of Deposit	8%
View recent transactions	8%

From above responses we can see that 50% are using mobile banking maximum for just checking their account balance. While 8% respondents using to check deposits, and 8% are using to view recent transaction. Only 34% respondents are using mobile banking for actual monetary transactions, which shows security concerned about mobile banking.

**9. How often do you use Mobile Banking Services?**

Daily	35%
Weekly	20%
Monthly	20%
Quarterly	15%
Yearly	10%

Across the India 75% of respondents used their mobile banking service at least once in a month, out of which 35% means equal to almost half respondents use mobile banking service on daily basis.

**10. How do you rate the following factors, while using Mobile Banking service?**

Factors	Strongly Agree	Agree	Un defined	Disagree	Strongly Disagree
Convenient accessibility	52%	13%	10%	13%	12%
Cost effectiveness	46%	23%	12%	8%	11%
Provide accurate information	18%	13%	20%	23%	26%
Provide efficient service	19%	18%	35%	15%	13%
Provide security against threats of losing information	9%	8%	12%	26%	45%
Time saving	35%	23%	14%	15%	13%

Here 65% respondents are agree upon convenient accessibility of mobile banking, 69% respondents believes that mobile banking is cost effective, 58% respondents

confirms that mobile banking is time saving, 71% respondents confirms that, mobile banking is not secure of information. On efficiency of service, and accuracy of information there is no major significance observe among respondents.

**11. How do you rate the Charges of Mobile Banking services?**

Most reasonable	21%
Reasonable	38%
Undecided	23%
Unreasonable	16%
Most unreasonable	2%

Only 18% respondents are not happy with the charges for mobile banking, this confirms that cost is not a barrier for the mobile banking.

**12. How do you rate the Mobile Banking services of your bank compared to other bank?**

Constantly poor service	7%
Poor service	6%
Can't say	48%
Good service	21%
Constantly good service	18%



As per above table 48% respondents are undecided about the quality of mobile banking service by their bank in compare to other banks. While 39% respondents favoring services provided by their banks. Only 13% respondents are not happy with mobile banking services by their banks.

**13. Do you suggest Mobile banking services to your friends & relatives?**

Definitely Yes	53%
Probably Yes	32%
Neutral	10%
Probably No	3%
Never	2%

As per the above data 85% respondents are in favor for suggestion of mobile banking services to others, while 10% are neutral, only 5% respondents are negative into suggesting mobile banking to other. With this response we can say that the future of mobile banking in rural India is Bright.

**FINDINGS**

- (1)** Mobile banking is more accepted by young generation.
  - (a)** 52% respondents having age less than 40 Years.
  - (b)** 35% respondents are students.
- (2)** Majority of respondents are new to mobile banking:
  - (a)** 53% respondents using mobile banking for the period less than one year

- (b) 66% respondents are not aware about the services offered by their bank on mobile.
- (3) 55% respondents possess the education qualification of graduate or post graduate, even though 48% respondents are uncertain about mobile banking services by their bank in compare to other bank. This reflects that education is not the barrier for mobile banking service in rural area.
- (4) 29% respondents have no resistance with the charge for mobile banking services.
- (5) Customers have only one threat with Mobile Banking that is security of information:
- (a) 65% respondents are agreed upon convenient accessibility of mobile banking.
  - (b) 69% respondents believes that mobile banking is cost effective
  - (c) 58% respondents confirms that mobile banking is time saving
  - (d) 71% respondents confirm that, mobile banking is not secure of information.
- (6) Actual usage of banking services through mobile is very low (34%), majority of respondents use mobile banking for tracking the transactions.
- (a) 50% respondents prefer to check account balance.
  - (b) 8% respondents prefer to view the date of deposits.
  - (c) 8% respondents prefer to view recent transactions.
- (7) The future of mobile banking in rural area is bright:
- (a) 85% respondents are agreed upon to suggest mobile banking to others.
  - (b) 39% respondents rate mobile banking service of their bank as good.
  - (c) 75% respondents use mobile banking at least once in a month.

**RECOMMENDATIONS**

- (1) The main hurdle to rural mobile banking in India is lack of awareness, so building customer awareness and informing the public on use of mobile banking modes is required. For this Reserve Bank of India and commercial banks should plan a coordinated campaign in partnership with the trainers and professional to educate customers.
- (2) Telecommunication department and cellular service providers should extend their network coverage in rural and remote areas to facilitate them communication and mobile banking also. The government should provide conditional financial support to cellular service providers to extend such networks in rural areas. At the same time banks should develop mobile banking software in regional language and should use most commonly used phrases, name and shortcuts in the software.
- (3) The main concern of mobile banking user is security, so Banks' technology used for mobile banking must be secure and should ensure confidentiality, integrity, authenticity and non-reputability. In addition banks should enhance their refund facilities concerns to if wrong transactions made by customers by mistake or if any.
- (4) To increase banking in rural India through mobile, banks can offer EMI or rental based mobile phone handsets to poorer peoples with tie up with mobile handset company. At the same time free and unconditional mobile number portability program should implement properly, it will be led to use their mobile phone as mobile banking device.

**CONCLUSION**

Indian banking scenario shows that there is need of mobile banking for financial inclusion of rural consumers. Since last five years mobile telephone service extended

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tremendously in India and it provides golden opportunities to extend mobile banking service in India. However, because of various problems in mobile banking system this is not widely accepted by Indian bank customers. Hence, there is need to improve mobile banking service including network coverage and security in mobile banking.

Several other actions are necessary to accelerate the financial inclusion through mobile banking while at the same time ensuring customer protection. Many of these actions fall in the policy and regulatory space.

- Building customer awareness and informing the public on use of mobile banking modes is required.
- The RBI and commercial banks should plan a coordinated campaign in partnership with the trainers and professional to educate customers.
- Unrestricted and free mobile number portability program should implement immediately it will be led to use their mobile phone as mobile banking device.
- Bank should develop mobile banking software in regional language and should use most commonly used phrases, name and shortcuts in the software.
- Bank should enhance their refund facilities concerns to if wrong transactions made by customers by mistake or if any.

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