

# A Study on the Adoption Level of Mobile Banking In the State Of Gujarat

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**Abstract—** The rapid growth of technology has transformed the way businesses work today. With this there has been an evolution in the past decade in the field of banking too. The banking industry has evolved from the traditional maneuvers to the modern acceptance of technology to bring about change in the business industry. The present study explores the adoption rate and awareness levels of mobile banking in the state of Gujarat. The study has been carried out using structured questionnaire in different areas of Gujarat. The respondents were varied in their age to occupation to their usage patterns. The study revealed that users are adopting mobile banking but face technical and security issues with their regular usage.

**Index Terms—** Mobile banking, Customer satisfaction, adoption levels

## I. INTRODUCTION

The global scenarios and the development of the country, banking systems are redefined as financial super markets that lure the customers with attractive offers and services. Today the banks are keen to improve their level of services by upgrading the technology and also amassing the larger population of the country. In order to acquire the standards of global competitors the banks throughout the world and in India are accepting the latest advanced technology, working in the same direction. With the onset of the 21<sup>st</sup> century there has been an enormous growth in the internet and mobile sector in our country.

Mobile banking is embedded to serve the quotient of unanswered sectors of financial services where it offers services to give away answers to the financial inclusion questions which has been a major issue in our country. Encompassing the larger mass of population on the same grid of providing financial services at their scope of area was a necessary issue and for this branchless banking came to the survival with the help of technology enabled services that are like hand to mouth services for the common man. To meet the customer's expectation the banks are widening their number of services through technology enabled diversities, may it be the internet or the mobile users. These clusters of customers are served wide range of access from ATMs to online banking and the latest mobile banking. But what comes to the doubted issue is there are lesser number of account holders and more

number of mobile users. This can be justified by increasing the number of account holders which was a successful attempt recently under the PMJDY (Pradhan Mantri Jan Dhan Yojna). Mobile banking provides customer convenience, reduced cost and ensures customer friendly financial literacy.

The banking penetration towards branchless banking was accepted not just by the private sector banks but also the public sector banks. ICICI was the first bank to launch online banking, followed by many private sector banks. The first public bank to take branchless banking to a new avenue was State Bank of India that provided fully computerized mechanism (RBI,2010). It also increased its number of delivery chains with the maximum number of ATMs in the country crossing 22000 plus ATMs all over the country.

## II. MOBILE BANKING

Mobile banking was introduced in the late 1990s and the beginning of 2000s. Mobile banking or m-banking enables a customer to make banking services through a mobile device. These services were introduced initially through short messaging services (SMS), WAP (Wireless Application Protocol), or GPRS (General Packet Radio Services) enabled mobile devices. Mobile banking (M-Banking or m-banking) is defined as "a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA) "(Barnes & Corbitt, 2003). Mobile banking services can be categorized two types: transaction based and enquiry based services. Compared to other banking channels (e.g., ATM, Phone Banking, and Internet Banking), the distinct features of mobile banking are ubiquity, mobility, and flexibility. Mobile banking is not an add-on to internet banking instead considered as a better digital alternative to other traditional banking channels such as ATM, internet banking, and physical branches (Puschel et al, 2010) and can reach to wider population due to the high penetration of mobile devices.

The Reserve Bank of India has granted approval to 69 banks to offer mobile banking services as on June 2012, where in which 49 banks have already started operations. Mobile banking in India is presently driven by a bank-led model insisted by RBI. The mobile banking guidelines issued by the RBI being modified on December 2011, which removed the daily cap, which was earlier set for fund transfer for both personal remittance and for purchase of goods and services. Fund transfer of small value transactions up to Rs.5000/- can be done without end-to-end encryption. In addition to this, banks have permitted in money transfer facility up to Rs.5000 from a bank account to beneficiaries who is not having bank accounts with a cash payout facility at an ATM or by a banking correspondent.

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**III. LITERATURE REVIEW**

Kumbhar., (Kumbhar, (August 2011,))reveals in his research paper about the expanded, efficient and effective use of technology that can be used to offer wider opportunity for financial services for the unbanked and rural people. He has also put a light on the problems faced in serving the technology in the banking sector. He concludes that the golden and wide opportunity of tremendous technological advancement can serve the large asession of subscribers by creating awareness about financial inclusion and serving through the mobile banking services..Mas, (Ignacio, 2009)2009 suggests that the initiating point for a changed structure is to take banking transactions out of the branches just as retail stores. With this he has also put up a question of serving the true mass with an affordable and access to cost transaction for branchless banking. Branchless banking in the authors context is not just bringing about change in the existing segments but to create new segments and players with thrust in volumes and profitability. Shi Yu in his paper (Yu, 2009) “Factors influencing the use of Mobile Banking:The case of SMS-based Mobile Banking” investigates about the various factors that influence the decision of using mobile banking and focuses on the evaluation of SMS based mobile banking in New Zealand. He has used the focused group discussion method and also reviewed individual behaviour. Shevlin (Shevlin, 2010) The Aite group surveyed large banks and found that customers has no issues in the basic mobile functions but were further wrestling as to how to justify their investments in the mobile channels. Dermish, Kneiding, Leishman and Ignacio Mas, (Dermish, 2012)reveal in their research about the risk a poor faces and the role finance plays to help him maintain his investments or enhanced opportunities. He has discussed the factors that drove the success of branchless banking and mobile banking in Kenya. He also put a light on the regulatory framework for the protection of the end user.

**RESEARCH GAP**

The above study reveals that there has been an uproar in the utilization of technological banking yet the problem lies at the grass root level where awareness and security concerns are the major draw backs. Very few studies have been conducted on mobile banking in Gujarat. The researchers have made an attempt to explore the adoption rate and awareness levels of mobile banking in the state of Gujarat.

**RESEARCH PROBLEM:**

An economy of successful development exists when the awareness and adoption is at the same level of acceptance. The research problem here is to explore the awareness and adoption level of mobile banking in the state of Gujarat.

**RESEARCH OBJECTIVE**

1. To study the adoption level of mobile banking
2. To study the factors that triggers the adoption of mobile banking.

**SCOPE OF RESEARCH:**

The study has been conducted through a structured questionnaire in different states of Gujarat and different variants of users to study the adoption level and perception of

mobile banking users. It tries to understand the perception of users on various factors like ease of use, usefulness, relative advantage etc

- Secondary Data: Secondary data have been collected using various books, articles and information from magazines and visit to relevant websites.
- Primary Data: The primary data has been collected through a customer survey to examine the awareness and intentions to use various mobile banking services.

**SAMPLING TECHNIQUE:**

Data is collected using a purposive convenience sample of 712 customers from different regions of Gujarat like Kutch, Saurashtra, North Gujarat, Central Gujarat and South Gujarat.

**HYPOTHESIS:**

There is no significant relation between demographic variables and the factors that trigger adoption(awareness, economic factors, ease of use, adoption triggers)

**DATA ANALYSIS AND INTERPRETATION:**

This study deals with the descriptive and inferential statistical analysis of Awareness and Perceptions about Branchless Banking Services with special reference to Mobile Banking in the state of Gujarat.725 responses have been obtained. After data cleaning, 712 useful samples have been used for data analysis purpose. The basic profile of respondents is given below. The analysis discusses the descriptive statistics like mean, structural equation model. Non-parametric tests like Mann- Whitney u test and Kruskal-Wallis test are also applied.

**Demographic Study:**

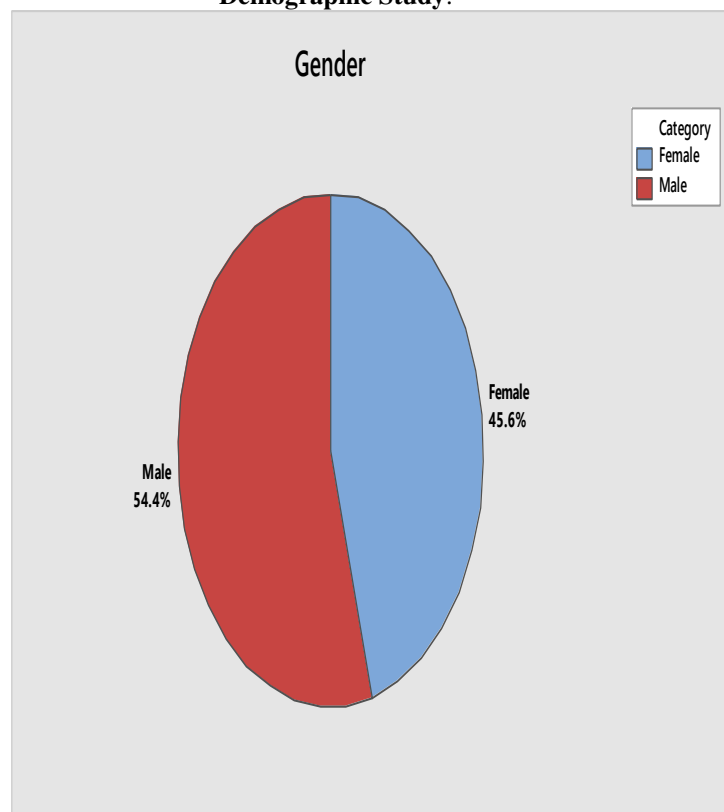


Figure 1:Gender

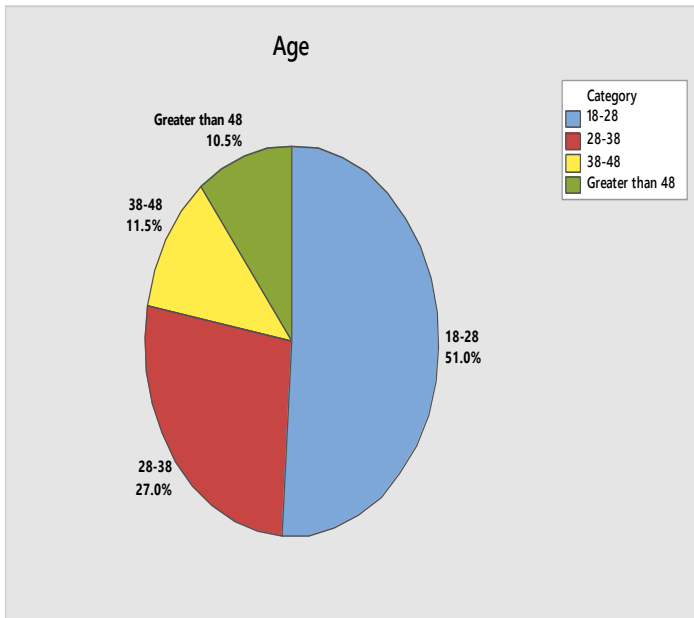


Figure 2: Age

The above chart Figure 1 show that 54% of users are male and Figure 2 shows that the major users of mobile banking fall in the younger generation i.e 51%.

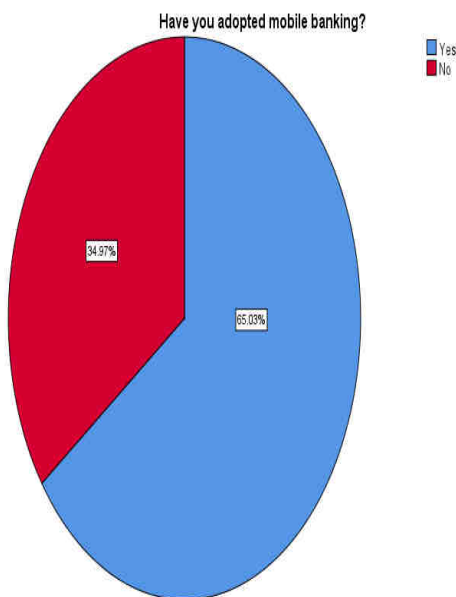


Figure 3:Adoption of Mobile Banking

The above chart Figure 3 depicts that out of the 712 respondents 65% users have already adopted mobile banking.

**HYPOTHESIS TESTING**

**H<sub>0</sub>:** There is no significance difference in the mean rank of Awareness, Mobile Self efficacy, Ease of use, Organizational Barrier, Social Influence, Legal, Trust of the system, usefulness, Relative Advantage, Economic Factors and Adoption of Mobile Banking between Male and Female respondents.

**H<sub>1</sub>:** There is a significance difference in the mean rank of Awareness, Mobile Self efficacy, Ease of use, Organizational Barrier, Social Influence, Legal, Trust of the system, usefulness, Relative Advantage, Economic Factors and Adoption of Mobile Banking between Male and Female respondents.

**Table 1: Mean Analysis**

Factors for Adoption	Gender	N	Mean Rank
Awareness	Male	387	375.65
	Female	325	333.70
	Total	712	
Self-Efficacy	Male	387	370.56
	Female	325	339.75
	Total	712	
Economic Factors	Male	387	337.08
	Female	325	379.62
	Total	712	
Relative Advantage	Male	387	380.22
	Female	325	328.25
	Total	712	
Usefulness	Male	387	386.52
	Female	325	320.75
	Total	712	
Ease of Use	Male	387	375.40
	Female	325	333.99
	Total	712	
Social Influence	Male	387	371.53
	Female	325	338.61
	Total	712	
Legal	Male	387	347.81
	Female	325	366.84
	Total	712	
Trust	Male	387	346.36
	Female	325	368.57
	Total	712	
Organizational Barrier	Male	387	346.51
	Female	325	368.39
	Total	712	
Adoption of Mobile banking	Male	387	363.93
	Female	325	347.65
	Total	712	

**Table 2: Mann-Whitney Test**

Test Statistics	Factors for Adoption	Mann-Whitney U	Asymp. Sig. (2-tailed)
		Awareness	55478.000
Self-Efficacy	57445.000	0.038	
Economic Factors	55373.000	0.004	
Relative Advantage	53706.000	0.000	
Usefulness	51268.500	0.000	
Ease Use	55571.500	0.004	
Social Influence	57072.500	0.021	
Legal	59526.000	0.178	
Trust	58963.500	0.114	
Organizational Barrier	59023.000	0.118	
Adoption of Mobile banking	60012.000	0.150	

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In the above tables to check the significance difference between the factors of adoption like awareness, Ease of use, Social influence, Usefulness, Relative advantage, Economic Factors and Adoption) with the demographic variables Mann-Whitney Test is applied.

The tables above show the Mean Ranks and Test Statistics. For Awareness, Mobile Self efficacy, Ease of use, Social Influence, usefulness, Relative Advantage, Economic Factors and Adoption of Mobile Banking P value is less than 0.05. Hence H<sub>0</sub> can be rejected at 5 percent level of significance and it can be concluded that There is a significance difference in the mean rank of Awareness, Mobile Self efficacy, Ease of use, Social Influence, usefulness, Relative Advantage, Economic Factors and Adoption of Mobile Banking between Male and Female respondents

### MAJOR FINDINGS

The above analysis shows the following highlights:

1. There was a very fine line of difference in the gender of users as male and female
2. The majority of users fall in the age group of 18 to 28 which suggest that the adoption level is high among the younger generation
3. The adoption rate chart suggest that the adoption rate is not quite feasible as this marks as a concern issue and should be taken into consideration
4. The analysis suggest that the gender of a person does not affect the factors of adoption yet the age does have an effect on the adoption rate.

### DISCUSSION AND RECOMMENDATION

The above analysis shows that there has been quite a surge in the adoption of mobile banking technologies. Yet there are a few highlights from the survey

1. Authenticity: The major concern of the respondents was the authenticity of transactions that made it relevant to adopt the new technology
2. Security: The major concern was trust over security issue and how to accept the transactions based on OTPs and SMS based technologies
3. Customer Value and Satisfaction: The priority of any amalgamation is always customer. Here the amalgamation of technology and banking is trying to serve the functionality yet it still has to work on retaining the customer loyalty and serve the value to customers.

### LIMITATION OF THE STUDY:

1. The study is limited to the state of Gujarat
2. The number of respondents for the study is 725
3. The view and opinions of respondents is limited to the questionnaire which may vary in the future.

**Scope of further study:** The research is geographically limited to the state of Gujarat. It can be conducted at the national level with more sample size.

### CONCLUSION:

It shall be benefitted to the banking industry here to understand the level of awareness and adoption rate and further it shall help them to work on mobile banking. The

research here explores the relationship between demographic variants and their effect on factors of adoption of mobile banking. The research gave an insight about the perceptions the respondents hold for adoption of a new variant of banking industry. The new technology is no doubt beneficial to the demand and the supply side yet it needs to work on aspects of security, trust of system, feasibility and adoption levels at grass root level.

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