

# Factors Influencing Adoption of E-Banking Services in Selected Areas of Gujarat

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## Abstract

In the contemporary era, the rapid evolution of technology has ushered in a paradigm shift in the way individuals manage their financial transactions. Among the myriad advancements, the adoption of mobile banking applications stands out as a transformative force, redefining the landscape of banking services. The present study tried to study the awareness of mobile banking services of banking applications and to ascertain the factors influencing consumer behavior adoption of Mobile. Further study carried out to study the association among demographic variables regarding factors studied for consumer behaviour adoption of mobile. In conclusion, the analysis of customers' preferences underscores a moderate response to the mobile banking application. While the current features of the application are satisfactory, customers express a desire for additional features akin to those found in alternative mobile banking applications such as SBI and HDFC. The prevailing perception among customers is that the application offered by Kotak Mahindra Bank is characterized by basic and uncomplicated features. Despite this, customer satisfaction with the Mobile Banking Application remains notably high, attributed to an extensive array of features and services. This observation accentuates the importance of ongoing efforts to enhance the mobile banking application in alignment with evolving customer expectations and industry standards.

**Key Words:** Adoption of E-Banking, Banking Services, Mobile banking

## 1. INTRODUCTION

In the contemporary era, the rapid evolution of technology has ushered in a paradigm shift in the way individuals manage their financial transactions. Among the myriad advancements, the adoption of mobile banking applications stands out as a transformative force, redefining the landscape of banking services. As smartphones become ubiquitous, mobile banking applications have emerged as powerful tools, offering unprecedented convenience, accessibility, and functionality to users.

This research embarks on an in-depth exploration into the multifaceted factors influencing the adoption of mobile banking applications. As the financial sector witnesses this revolutionary wave, understanding the determinants that drive or hinder the acceptance of mobile banking applications becomes paramount for financial institutions, policymakers, and researchers alike.

The purpose of this study is to dissect and analyze the intricate interplay of various factors that contribute to the decision-making process surrounding the adoption of mobile banking applications. By delving into the psychological, socio-economic, and technological dimensions, this research aims to provide a comprehensive framework for understanding the complex web of influences that shape consumer behavior in the realm of mobile banking.

Key questions that will guide our investigation include: What motivates individuals to embrace mobile banking applications? What barriers impede their adoption? How do socio-economic factors, trust, security concerns, and technological literacy intertwine to mold user perceptions? Through a meticulous examination of these questions, we seek to unravel the underlying patterns and trends that govern the acceptance or rejection of mobile banking applications.

As we navigate through this research, we aspire to offer insights that extend beyond the confines of theoretical frameworks. Practical implications derived from our findings have the potential to inform financial institutions, policymakers, and technology developers in refining their strategies to enhance user adoption and satisfaction. Ultimately, this study aspires to contribute to the ongoing dialogue surrounding the transformative impact of mobile banking applications on the financial landscape and the broader implications for society at large.

## LITERATURE REVIEW

- **Srivastava & Vishnani (2021)**

Creating awareness is necessary to ensure that customers understand how to use the innovation and its benefits to customers. A study in India illustrated that the ease of use, security, and service quality were fundamental in determining the adoption of mobile banking.

- **Elhajjar and Ouida (2020)**

Established that perceived ease of use, perceived usefulness, and perceived risks influenced customers' attitudes and affected the adoption of mobile banking services.

- **Naruetharadhol et al. (2021)**

System breakdown can lead to low customer satisfaction, which affects the adoption of an innovation negatively. In Thailand established that convenience and security played a major role in influencing the adoption of mobile banking. Customers find mobile banking to be convenient as it helps them to access their banking services at any time and place remotely

- **Vaser Sobhanifard, Iran (2017)**

This paper explores a model of the Consumer based mobile service consumption, combining the use of exploratory factor analysis (EFA) and Analytic network process (ANP). The research form is divided in to two phases. In the first phase the consumer based factors that mentioned in theoretical framework was presented to samples of customers that use online banking to determine their level of agreement, exploratory factor analysis was used to form a model. In the second phase ANP method was used for ranking discovered factors to determine priority of this factor to improvement.

Findings present a model for online banking usage this model has 4 main factors: internal, external, usefulness and demographic factors that effect on online banking usage. There are 10 sub-factors. The priority of factors show the banking industry must focus on the models factors by this priority. This priorities: 1) Internal benefits 2) Government support 3) external benefits 4) attitude, 5) Level of customer education, 6) customer experience, 7) bank activity, 8) trust 9) technology support, 10) ease of use.

- **Agbemabiese George Cudjoe, Patrick Amfo Anim, Joseph Gerald Nii Tetteh Nyanyofio 2015**

The study examined the determinant of mobile banking adoption among bank customers in Ghana, within specific emphasis on Access Bank. In line with literature, the study applies theoretical frame works which have been developed from existing literatures on innovation and adoption to collect responses from one hundred and fifty (150) sampled customers of Access Bank in order to investigate the determinants of mobile banking adoption in the Ghanaian banking industry.

- **Dr. Gomathy Thyagarajan N.I. Dalmia Institute of Management Studies and Research, Mumbai (2016)**

The smart phone revolution in India has paved way for an unprecedented growth of Mobile Commerce and Mobile banking in India. Mobile banking is already the largest channel for banking transactions but the adoption is mostly high only in some urban areas and metro cities but very low and untapped in rest of the country. In this back drop, it is highly imperative to understand the reasons as to why some consumers are he stating to adopt m-banking. This review paper aims to succinctly review the existing literature on Mobile banking carried out worldwide and in India.

- **Aijaz A. Shaikh, Heikki Karjaluton (2014)**

Electronic commerce (e-commerce) continues to have a profound impact on the global business environment, but technologies and applications also have begun to focus more on mobile computing, the wireless Web, and mobile commerce. Against this back drop, mobile banking (m-banking) has emerged as an important distribution channel, with considerable research devoted to its adoption. However, this research stream has lacked a clear roadmap or agenda.

- **Dr. Dunstan Rajkumar, Tamil Nadu, India May (2017)**

Banking system plays a very important role in the Indian economy. It is like a central nerve to a nation's economy as it caters to the financial needs of credit in all the domains of the society. The growth and advancements in technology has led to a paradigm shift in the entire banking operations and systems. Further the development of e-banking created a massive change in terms of fulfilling customers' divergent needs.

- **Dr. Parul Deshwal (2014)**

Banking is the back bone of every industry and technology plays an important role in every industry. The role of technology is increasing very rapidly day by day, which is also promoting the banking industry. Banking is one of the largest financial institutions which regularly explore the opportunity of technology to provide better customer services. Over the years, banking has transcended from a traditional brick-and mortar model of customers queuing for services in the banks to modern day banking where banks can be reached at any point for their services. In today's business, technology has been the largest indicators of growth and competitiveness. The banking industry today is in the industry of its revolution. Information technology has basically been used under two different avenues in banking.

- **V. Deva devan Institute of Forest management, Bhopal, India (2013)**

Technology plays an important role in banking sector. Banking is one of the largest financial institutions constantly explores the opportunity of technology enabled services to provide better customer experience and convenience. Mobile phone is a common technology device that became part of every individual in the information era. Mobile Banking is an emerging alternate channel for providing banking services. India is the second largest telecom market in the world, which is having high potential for expanding banking services using mobile.

- **Ali Alsoufi and Hayat Ali Bahrain (2014)**

Mobile applications have been rapidly changing the way business organizations deliver their services to their customers and how customers can interact with their service providers in order to satisfy their needs. The use of mobile applications increases rapidly, and has been used in many segments including banking segment. This research aims at extending the Technology Adoption Model (TAM) to incorporate the role of factors in influencing customer's perception towards M-banking adoption.

- **Dr. Garima Malik, Mr. Kapil Gulati (2013)**

Banking through Mobile is crucial these days for those who are busy with their jobs and also for those who are employed. The study is sought to investigate the perceptions of banks and customers regarding the adoption of technology by the use of a survey conducted in NCR (Northern Capital Region) during Feb-March 2012. A sample of two Public Sector Banks was chosen including 300 Bank customers using mobile banking for past six months. Data was gathered through questionnaire followed by small discussion with customers and hence was analyzed using descriptive analysis like Factor Analysis.

- **Nitin Nayak, Vikas Nath and Nancy Goel (2014)**

Recent innovations in the telecommunication have proven to be a boon for the banking sector and its customers: one of these is Mobile Banking, where customers interact with the bank via mobile phones and banks provide them the services like short message services, fund transfers, account details, issue of cheque book etc. Presently almost all the banks in the world have started providing their customers "Mobile Banking" services. The main issue of this study is to understand the factors which contribute to user's intention to use the mobile banking services. The purpose of this review paper is to explore the factors that influence the adoption behavior of mobile banking services by Indian consumers. This paper also discusses the various steps that mobile banking providers should take to increase their mobile banking services user's database.

## **RESEARCH METHODOLOGY**

### **Problem Statement**

In the era of liberalization of banking industries in India. Now as too many private banks had opened up branches, it was very difficult to do the business. So banks have started banking in India to attract the customer. Mobile banking again is a part of this niche services.

### **Research Objective**

- To ascertain the factors influencing consumer behavior adoption of Mobile
- To study the association among demographic variables regarding factors studied for consumer behaviour adoption of mobile.

### **Research Design**

A Research design is a master plan or model for the conduct of formal investigation. A Research design is the specification of the methods and procedure for acquiring information needed for solving problem. The formal

investigation plan will concentrate on the selection of sources of information and selection of model and procedure for gathering data.

### **Type of research design**

A research design specifies the method and procedure for conducting a particular study.

Descriptive Research:

A descriptive study is undertaken when the researcher want to know the character of certain group. The research design used for this project is Descriptive Research Design. A descriptive study tries to discover answer to the questions who, what, when, where and sometimes, how?

### **Sampling**

#### **• Sampling Method:**

Sampling method is the method of selecting sample from population necessary to selected right method of sampling to right study. It is a process of selecting a representative group from the population under study. It has two types: Probability sampling and non-probability sampling .In probability samples, each member of the population has a known non-zero probability of being selected.

- Probability methods include random sampling, systematic sampling and stratified sampling
- In non-probability sampling, members are selected from the population in some non-random manner. It includes convenience sampling, judgment sampling, quota sampling and snowball sampling.

### **Tools for Analysis**

Descriptive and inferential statistics will be used and to analysis the data some statically tools are used like,

1. SPSS Software
2. Ms- Excel

### **Benefits of the Study**

- This study is helpful to knowing the Adoption Behavior of mobile banking applications.
- To identify how many customers of south Gujarat region are aware with mobile banking applications.
- Banks can also understand and troubles of customers which are currently using mobile banking service.
- The study will help bank to develop effective strategies for the mobile banking services.

### **Limitation of the study**

There are some Limitations of the report which are given below:

- The data for study mainly based on a single bank.
- This study is restricted to South Gujaratreign only, and hence the result may not be true for the other geographical area.
- Finding may be according to demographic factor such as Age, Gender, Education, Occupation, Income level, etc. as these entire factor have not been considered separately.

## **HYPOTHESIS TESTING**

### **Chi-Square Test:**

- **Chi square test between sex (gender) and using mobile banking facilities:**

**H0:**There is no significant relationship between gender and using mobile banking facilities.

**H1:**There is a significant relationship between gender and using mobile banking facilities.

Level of significance: The hypothesis to be taken of 95% confidence level of significance i.e. chances of 5% occurrence of error.

**Chi-Square Tests**

	Value	Df	Asymp. Sig.(2-sided)
Pearson Chi-Square	4.330	3	.228
Likelihood Ratio	4.325	3	.228
Linear-by-Linear Association	3.388	1	.066
N of Valid Cases	200		

**Interpretation**

Hence the chi-square value is 4.330 & asymptotic value is 0.228 which is greater than 0.05 hence H0 is fails to reject hence there is no significant relationship between gender and using mobile banking facilities.

• **Chi square test between Age and Aware of Mobile banking application:**

**H0:** There is no significant relationship between Age and aware of mobile banking application.

**H1:** There is a significant relationship between Age and aware of mobile banking application

**Chi-Square Tests**

	Value	Df	Asymp. Sig.(2-sided)
Pearson Chi-Square	2.561	3	.464
Likelihood Ratio	2.531	3	.470
Linear-by-Linear Association	0.682	1	.409
N of Valid Cases	200		

**Interpretation**

Hence the chi-square value is 2.561 & asymptotic value is 0.464 which is greater than 0.05 hence H0 is fails to reject hence there is no significant relationship between Age and aware of mobile banking application.

**Mann Witney test between factors consider while using mobile banking application and Gender:**

**H0:** There is no significant difference in the factor consider while using mobile banking application between male and female.

**H1:** There is a significant difference in the factor consider while using mobile banking application between male and female.

No.	Hypothesis	Test	Sig.	Decision
1	I think that using mobile banking application would enable me to accomplish my tasks more quickly.	Independent Samples Test Mann Witney Test	0.738	Retain the null hypothesis.
2	I think that using mobile banking application would make it easier for me to carry out my tasks.	Independent Samples Test Mann Witney Test	0.199	Reject the null hypothesis.
3	I think that mobile banking is useful.	Independent Samples Test Mann Witney Test	0.987	Retain the null hypothesis.
4	Overall, I think that using mobile banking application is advantageous.	Independent Samples Test Mann Witney Test	0.476	Reject the null hypothesis.
5	I think that learning to use mobile banking application would be easy.	Independent Samples Test Mann Witney Test	0.278	Reject the null hypothesis.
6	I think that interaction with mobile banking	Independent Samples Test	0.066	Reject the null hypothesis.

	application does not require A lot of mental effort.	Test Mann Witney		hypothesis.
7	I think that it is easy to use mobile Banking application to accomplish my banking tasks.	Independent Samples Test Mann Witney Test	0.324	Reject the null hypothesis.
8	Mobile banking application services may not perform well because of net work problems.	Independent Samples Test Mann Witney Test	0.598	Retain the null hypothesis.
9	Mobile banking application services may not perform well and process payments incorrectly.	Independent Samples Test Mann Witney Test	0.233	Reject the null hypothesis.
10	When transferring money through mobile banking application, I am afraid that I will lose money due to careless mistakes such as wrong input of account number and wrong input Of the amount of money.	Independent Samples Test Mann Witney Test	0.233	Reject the null hypothesis.
11	When transaction errors occur, I worry that I cannot get compensation from banks.	Independent Samples Test Mann Witney Test	0.431	Reject the null hypothesis.

**Interpretation**

It can be observed from the above table that the statement number 0.5 less than the significant different so the null hypothesis have positive effective significant. the p values are greater than 0.05, which means that the H0 fails to reject hence there is no significance difference between gender and customers using mobile banking application. In case the p value is less than 0.05 so there is significance relevance between gender and customers using mobile banking application.

**Kruskal-Wallis test between factor consider while using mobile banking application and education:**

**H0:** There is no significant difference between in the factor consider while mobile banking application and Education Level.

**H1:** There is a significant difference between in the factor consider while mobile banking application and Education Level.

No.	Hypothesis	Test	Sig.	Decision
1	I think that using mobile banking application would enable me to accomplish my tasks more quickly.	Independent Samples Test Kruskal-Wallis Test	0.870	Reject the Null Hypothesis
2	I think that using mobile banking application would make it easier for me to carry out my tasks.	Independent Samples Test Kruskal-Wallis Test	0.780	Reject the Null Hypothesis
3	I think that mobile banking is useful.	Independent Samples Test Kruskal-Wallis Test	0.563	Reject the Null Hypothesis
4	Overall, I think that using mobile banking application is advantageous.	Independent Samples Test Kruskal-Wallis Test	0.461	Reject the Null Hypothesis
5	I think that learning to use mobile banking application would be easy.	Independent Samples Test Kruskal-Wallis Test	0.523	Reject the Null Hypothesis
6	I think that interaction with mobile banking application does not require a lot of mental effort.	Independent Samples Test Kruskal-Wallis Test	0.135	Reject the Null Hypothesis
7	I think that it is easy to use mobile Banking application to accomplish my banking tasks.	Independent Samples Test Kruskal-Wallis Test	0.027	Reject the Null Hypothesis

8	Mobile banking application services may not perform well because of network problems.	Independent Sample Test Kruskal-Wallis Test	0.414	Reject the Null Hypothesis
9	Mobile banking application services may not perform well and process payment sin correctly.	Independent Samples Test Kruskal-Wallis Test	0.433	Reject the Null Hypothesis
10	When transferring money through mobile banking application, I am afraid that I will lose money due to careless mistakes such as wrong input of account number and wrong input Of the amount of money.	Independent Samples Test Kruskal-Wallis Test	0.433	Reject the Null Hypothesis
11	When transaction errors occur, I worry that I cannot get compensation from banks.	Independent Samples Test Kruskal-Wallis Test	0.712	Reject the Null Hypothesis

**Interpretation**

1. From this table can conclude that there is no significant difference between education and factors of mobile banking application.
2. Because all the 5 statements of p value > 0.05. So null hypothesis is not rejected.
3. There are only statement which p value > 0.05, so null hypothesis is rejected.

**FINDINGS**

A comprehensive analysis of Bank's customer profile reveals noteworthy trends.

- Notably, 35% of customers maintain savings accounts, while a minimum of 12% and 10% engage in Loan-advance and Term deposits, respectively. Predominantly, customers opt for current and personal accounts.
- An impressive 38% of respondents actively utilize the bank's mobile banking services, citing the application's simplicity and responsive design as key factors in their preference.
- The survey underscores the widespread adoption of various mobile banking applications for transactions, with a particular inclination towards Cash Withdrawal and bank-to-bank payment transfer services.
- While customers appreciate the ease of operation, there is a discernible demand for heightened security measures. Furthermore, the study reveals that a significant portion of customers supplements their mobile banking experience with alternative applications, expressing a preference for other banking apps like SBI and HDFC over Kotak Mahindra Bank.

**CONCLUSION**

In conclusion, the analysis of customers' preferences underscores a moderate response to the mobile banking application.

- While the current features of the application are satisfactory, customers express a desire for additional features akin to those found in alternative mobile banking applications such as SBI and HDFC.
- The prevailing perception among customers is that the application offered by Kotak Mahindra Bank is characterized by basic and uncomplicated features.
- Despite this, customer satisfaction with the Mobile Banking Application remains notably high, attributed to an extensive array of features and services.
- This observation accentuates the importance of ongoing efforts to enhance the mobile banking application in alignment with evolving customer expectations and industry standards.

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