



# Effective Adoption of Digital Banking Services -A Study in Karnataka

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## ABSTRACT

In the modern world, when consumers seek beyond the conventional method of visiting the bank to complete their financial operations, digital banking is essential. Internet banking has changed the way people do banking. Traditionally banking services were offered at a designated place and time but today it is seamless on accessibility with operating autonomy given to account holders that is they have all time access to their accounts. The other beneficiary of this transformation are the Indian banks themselves as they have benefited by adopting digital banking wherein banking operation has become more efficient in delivering to the requirement of the account holder and also streamline the operation costs. This paper studies digital banking as it stands today and explores how customers in India perceive the adoption of digital banking. This paper offers a thorough examination of how customers perceive and respond to services offered by digital banking facility. The results from this paper shows that the majority of the current account holders in private and national banks are all using digital banking services - internet banking, digital payment using UPI, it also has been observed in the study that they perceive the services to be convenient and trustworthy.

**Keywords:** Indian Banking, Internet banking services, digital payments, customer perception.

## INTRODUCTION

In the context of the Indian banking industry, where digital banking services are growing in popularity throughout both rural and urban areas of India. Indian banks currently provide their customers a wide range of digital banking services, including digital wallets, internet banking, and digital banking. Due to the convenience, efficiency, and simplicity of these services, they are becoming more and more popular with consumers.

However, not all demographic groups have adopted digital banking services equally. The study previously stated offers insights into the variables that affect the rate of acceptance of mobile banking services at various phases, which may be helpful for banks as they develop focused strategies to boost adoption rates across various customer base groups.

At various phases of the adoption process, the adoption of digital banking services varies dramatically. Initial account usage is heavily influenced by the perceived utility and simplicity of use, according to the account holders. While in the later phases of service acceptance, trust and security become more crucial.

### Indian Banking and the Digital Banking Services

The banking industry in India has a lengthy and illustrious history, and in recent years, the adoption of digital banking services has gained increasing significance. Traditional Indian banking has contributed to economic growth by enhancing the allocation efficiency of financial resources and channelling income from investors' funds. Today, an efficient banking system is considered a prerequisite for economic growth.

The Indian banking system comprises several institutions, including the central bank (Reserve Bank of India - RBI), commercial banks, cooperative banks, and development banks (development finance institutions). These institutions serve as a meeting ground for savers and investors and form the foundation of India's financial sector. The state government has pursued policy-driven development of the banking system, aiming to stimulate growth by ensuring the availability of adequate credit at reasonable or concessional interest rates for all account holders.

Digital banking in India has been a significant step towards providing financial freedom and fostering healthy investment behaviour among account holders. The implementation of digital banking services involved the development of online and



mobile banking platforms, integration of digital payment systems, process automation, improved security measures, expansion of digital channels, utilisation of data analytics for personalization, collaboration with fintech companies, and compliance with regulatory requirements. These services offer various conveniences to account holders:

**Mobile Banking:** Mobile banking refers to digital banking services accessed through dedicated apps designed for smartphones and tablets. These apps enable users to conduct transactions, such as making and receiving payments, checking account balances, and investing in fixed deposits.

**Fund Transfer:** Digital banking provides alternative methods for transferring funds, including NEFT, IMPS, RTGS, and UPI, eliminating the need for physical cheques or visiting a bank branch.

**Bill Payments:** Digital banking platforms offer an auto-debit feature, allowing users to set up automatic payments for bills. This feature ensures timely bill payments and helps users manage their financial obligations efficiently.

**Investment:** Account holders can utilise digital banking platforms to invest, raise loans, and open fixed deposit accounts, providing them with opportunities to grow their savings.

Continuous improvements in mobile banking integration have focused on enhancing the quality of services, particularly regarding transaction security and protecting client information from unauthorised access and fraudulent activities. Banks have implemented various security mechanisms, including SSL certificates to establish secure connections between users' devices and the bank's servers. Fraud monitoring systems employ advanced algorithms to detect and prevent fraudulent transactions. Firewalls and intrusion detection systems are additional security measures. Encryption is employed as a secondary level of security to transform sensitive data into unreadable code, preventing unauthorised interception. Multi-factor authentication is utilised to verify users through multiple identification methods, ensuring secure account access.

### **Consumer Perception and Digital banking**

These modifications have completely changed how consumers access and manage their financial services, enhancing comfort, effectiveness, and all-around user experiences. In reaction to the shifting digital world, the banking industry is continuing to develop and change, ensuring that clients have access to cutting-edge and safe financial options.

Although consumer acclimatisation to digital banking varies, it has typically been quick in recent years. The rate of adoption is influenced by a variety of variables, including technological preparedness, convenience, trust, user-friendly interfaces, awareness, incentives, and demography. Consumers that feel more ease using technology, view digital banking as secure and easy, and have access to dependable internet tend to adopt more rapidly.

Adoption can also be accelerated via user-friendly interfaces, seamless experiences, and educational initiatives. However, because of disparities in technology infrastructure, acculturation to conventional banking practices, and generational differences, the rate of adoption may vary among people and geographical areas. By resolving customer concerns and continually enhancing digital banking services, financial institutions help to promote speedier adoption.

## **LITERATURE REVIEW**

The studies reviewed on the topic of digital banking service effective adoption confirms that the rate of adoption has increased and effectiveness in the service delivery is yet to be quantified the major study insights are discussed below:

Dr. Hamza Salim Khraim's investigation encompasses demographic variables, perceived usefulness, trust, and social influence, employing a descriptive research approach. The study underscores the urgency of innovative financial solutions to meet the evolving demands of customers and emphasizes how a bank's proactive engagement in shaping technological standards can enhance its public image and competitive edge.

Amola Bhatt's comprehensive exploration delves into accessibility, service quality, perceived risk, and attitudes towards technology, employing a descriptive research approach. The study underscores that banks are strategically leveraging mobile banking to tap into the burgeoning smartphone industry, effectively addressing customer reservations regarding the adoption of new technology.

Amina Abdinoor's research in Tanzania undertakes a nuanced analysis of perceived utility, attitudes towards technology, accessibility, and service quality, utilizing a combination of primary and secondary research methodologies. The study's



findings illuminate the pivotal role of consumer awareness and acceptance in driving the adoption of mobile financial services in the Tanzanian context.

Yogesh K. Dwivedi's investigation in Jordan meticulously examines perceived usefulness and attitudes towards technology, revealing their substantial influence on individuals' behavioural intentions. The study establishes a positive connection between perceived utility, ease of use, and the formation of favourable attitudes towards mobile banking.

Minna Mattila's research contributes a unique perspective by integrating consumer behaviour modelling, innovation adoption, and demographic characteristics. Employing a descriptive research approach, the study proposes dimensions that influence the adoption of mobile banking services, stemming from innovation attributes, perceived risk, and external factors.

Tero Pikkarainn, Kari Pikkarainn, Heikki Karjaluo, and Seppo Pahnala's collective study zeroes in on virtual banking, consumer behaviour, and user studies. Their secondary research underscores the pivotal roles of perceived usefulness and accessible information on websites in fostering the adoption of online banking services.

Milind Sathye's study focusing on Australian consumers employs secondary research to quantify the determinants influencing the adoption of internet banking. The research puts forth actionable steps that can expedite the transition to online banking, resulting in significant cost savings for banks.

Despite the wealth of studies exploring user perception, attitude, and profiling, a noticeable gap remains in assessing the effectiveness of digital banking services. This current study aims to address this gap by rigorously evaluating how users' perceptions of mobile banking's utility are influenced by their knowledge levels, contributing to a more comprehensive understanding of the dynamics of adoption in this rapidly evolving field.

### **Objectives**

The objectives of the "continuous adoption of mobile banking integrating mobile banking services quality and trust transfer process into expectation confirmation model" can be summarised as follows:

1. To study the total number of customers using mobile services.
2. To know the various banking services provided by Indian banks.
3. Identify factors that help in increasing that adoption rate of mobile banking services.
4. To know the efficiency rate of digital banking transactions.

These objectives are interrelated and achieving one can contribute to achieving others. Service providers may strive towards these goals and eventually increase the acceptance and success of their mobile banking services by including the quality of mobile banking services and the trust transfer process into the expectation confirmation model.

## **RESEARCH METHODOLOGY**

### **Research Design**

Research method used in the paper is descriptive research, with a survey research approach. Primary data collection is done using the structured questionnaire, for the survey the sample is drawn with the sample type - convenient sampling, sample size was 150

### **Statement of Hypothesis:**

H0 (Null Hypothesis): There is no impact in usage of digital banking services with gender.

H1(Alternative Hypothesis): there is a significant impact in usage of digital banking services with gender.

H0 (Null Hypothesis): Impact on satisfaction level of digital banking services with gender is not significant.

H1 (Alternative Hypothesis): Impact on satisfaction level of digital banking services with gender is significant.

## **RESULTS AND DISCUSSION**

In this section of the paper the analysis from the primary data collected is discussed below. Responses from the total sample of 164 respondents is given



Firstly by profiling the respondents and discussing their usage pattern for digital banking services which are popularly adopted followed by the analysis of the respondent's perception and preferences for digital banking.

Profile of the digital banking service users in Karnataka shows that 58.5% of the users are male and 41.5% are female and most of the users come from the age group of 18 to 25 followed by 45 to 55 years old.

Usage pattern and perceptions of users towards digital banking services has shown a positive pattern of acceptance of the services as discussed below- 95% of people in India are using mobile data services, indicating a high penetration of mobile devices and mobile usage. Secondly 86.4% of respondents are aware of digital banking services and consider mobile banking advantageous for society.

Usage pattern of mobile banking on a daily basis is seen among more than 50% of the sampled population showing a significant adoption of mobile banking as a preferred method for conducting daily financial transactions.

The extent of satisfaction with the digital banking services was measured this shows that 71.6% of the users perceive high satisfaction with digital banking services this suggests that a majority of users are satisfied with the features and functionality offered by mobile banking apps. Based on the rating provided, the majority of respondents (56.7%) are moderately satisfied with the speed of mobile banking transactions (rated as 4 on a scale of 1 to 5). However, there is room for improvement, as a significant percentage (17.9%) rated it as 3, indicating some level of dissatisfaction.

Perceived quality of digital banking services shows that 62.7% of the users were of the opinion that they have faced issues only sometimes and only 17.9% have faced issues while using the services very frequently. Discounts received on transactions and incentives for using the digital banking services has positive perception among users where it is seen that 69.2% of respondents feel encouraged to use mobile banking services for the discounts on transactions offered, while 30.8% are motivated by cash back offers.

Users' perception towards the choice of digital banking service shows three important factors influence their choice - first is the extent of convenience the service provides in conducting the transactions with a few clicks (55.2%), second factors is accessibility to 24/7 service and faster transactions (50.7%), and thirdly the service being a secured transaction (38.8%). These factors highlight the value that users place on convenience, speed, and security in their banking experience.

User perception for the quality-of-service delivery or service processing indicates that a higher percentage of 64% of the users have experienced delays or issues in digital banking transactions Recovery of service quality and handling of customer queries also has indicated that 53.7% of users have occasionally contacted customer support to resolve issues related to digital banking transactions, while 19.4% have done so frequently. The most commonly offered services by bank mobile apps include account balance check (76.1%), fund transfer (74.6%), bill payments (65.7%), and loan applications (31.3%). These services cover essential banking needs and indicate a well-rounded set of features provided by the banks.

As per the study the results from the users of the services the opinion gathered is to conduct any type of awareness building programs for promoting digital banking services the banks can do it through effective use of bank staff (40.3%), workshops or training programs (25.4%), interactive sessions with customers (29.9%) and the last and least popular form of building awareness are advertisements and discount offers (remaining). These strategies can help educate and engage customers, promoting the benefits and usage of mobile banking.

Effectiveness of services of digital banking among the users has shown varied influence. The extent of awareness and the choice of using digital banking services among users has at least or no relation to their gender group.

**Table 01: Test results of Pearson Correlation between gender and use of digital banking services.**

	Gender	Do you use mobile banking?
Gender	1	
Do you use mobile banking?	0.0	1
p-value	0.973	

**Table: 02 Test results of One Way ANOVA for gender influence on respondent’s preference for digital banking**

	Df	Sum Sq	Mean Sq	F Value	Pr(>F)
<b>Analysis</b>	1	0.000	0.000035	0.001	0.973
<b>Residuals</b>	161	4.847	0.030103		

From the above table no 01 shows that the correlation test result as 1 infer that there is a significant relation between the variables gender and its influence on the respondent’s preference to usage of digital banking. From the table no 02 shows the test results of one-way ANOVA at a significance level of 0.05 with a degree of freedom of 163, the f value is 0.0 and P value is 0.97 indicating that the sample shows that there is no impact on usage of digital banking services by the gender of the user. So, accept Null Hypothesis (H0).

Extent of satisfaction of effective use of digital banking services among users have shown that gender and other demographic factors have an influence on the choice and use of service. The test results of correlation and one way ANOVA discussed below.

**Table: 03 Test results of Pearson Correlation showing the scores of how satisfied are users with the digital banking services and gender of the respondents**

<b>Test results of Pearson Correlation</b>	<b>Correlation</b>		<b>P value</b>
Gender	1		
How satisfied are you with the digital banking services provided by your bank?	0.19012	1	
P value			0.0152

From the table no. 03 the result of correlation test shows that at a significance level of .05 the correlation test value is significant at 1 , showing a relation between the variables gender and its influence on extent of satisfaction with mobile banking.

**Table: 04: One-way ANOVA- to test the significant levels of relation between gender and satisfaction level among users of digital banking services**

	Df	Sum Sq	Mean Sq	F Value	Pr(>F)
<b>Gender/Satisfaction</b>	1	5.35	5.352	6.021	0.0152
<b>Residuals</b>	161	143.11	0.889		

The obtained p value is 0.0152 which is less than 0.05. So, Accept Alternative Hypothesis (H1) we can conclude that there is a significant impact of gender towards the satisfaction level of digital banking services.

**Results of the Study:**

The analysis of digital banking in India reveals a strong adoption of mobile banking services driven by the widespread use of mobile data services. The majority of users who find the mobile banking services provided by Indian banks are satisfied with the services provided presently. This reflects a positive perception towards benefits of digital banking among the population.

Customer support and reliability of the digital platforms emerge as areas of concern. Convenience, faster transactions, and secure transactions are the primary reasons for using mobile banking services, while account balance checks, fund transfers, bill payments, and loan applications are the most commonly offered services by bank mobile apps.



To increase awareness, banks can leverage their staff, conduct workshops or training programs, engage in interactive sessions with customers, and use advertisements and discount offers. Improving the speed of mobile banking transactions is crucial to enhance user satisfaction. However, there are challenges that need to be addressed, as a considerable percentage of users have faced issues and delays in their mobile banking transactions.

This study gives light on the dynamic environment of digital banking adoption in India, paying particular attention to consumer perceptions and behaviour. The survey shows that Indian customers quickly adopted digital banking services into their everyday routines, propelled by elements including technical preparedness, convenience, and trust. Its accessibility and effectiveness are shown by the widespread use of digital banking, which includes mobile banking, internet transactions, and digital payments.

## CONCLUSION

The study report emphasises how drastic changes through digital banking has altered the Indian financial system. Indian customers have welcomed the efficiency and convenience provided by mobile banking, online transactions, and digital payments because to the country's fast adoption of digital banking services. Although the majority of customers consider these services to be beneficial and practical, there are still issues to be resolved, such as enhancing transaction speed and attending to customer care issues.

The study emphasises how important user choices are in determining convenience, security, and accessibility. Digital banking has made significant strides in India, addressing issues, enhancing customer support, and focusing on speed and reliability will be instrumental in further strengthening the digital banking ecosystem.

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## ANNEXURE

### Syntax

**Table 2**

```
Mrs1<-read.csv("C://Users//Shreevatsa//onedrive//Desktop//mrs1.csv")
Mrs1
Str(mrs1)
Summary(mrs1)
Is.na(mrs1)
Sum(is.na(mrs1))
Analysis<-na.omit(mrs1)
Analysis
Install.packages("multcomp")
Library(multcomp)
```



```
Onewayanova<-aov(analysis$Do.you.use.mobile.banking..~analysis$Gender)  
Summary(onewayanova)
```

**Table2**

```
Anova<-aov(analysis$How.satisfied.are.you.with.the.mobile.banking.services.provided.by.your.bank.  
~analysis$Gender)  
Summary(anova)
```