



A Study on factors influencing adoption and usage of Mobile Banking Applications

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Abstract

This study explores the factors influencing the adoption and usage of mobile banking applications among customers in the Raipur district. The growing integration of digital technologies into banking has positioned mobile banking as a key service channel, valued for its convenience and operational flexibility. The research is guided by two objectives: examining the level of mobile banking adoption among customers in the district and identifying the difficulties experienced during its use. A descriptive and analytical research design has been adopted, drawing on primary data collected from bank customers through a structured questionnaire, along with secondary information sourced from journals, books, bank reports, and official publications. Suitable statistical techniques have been employed to examine adoption trends and user experiences. The results indicate a notable level of mobile banking adoption, supported by factors such as ease of use, time efficiency, and accessibility. At the same time, users report concerns related to security and privacy, technical constraints, network connectivity issues, and transaction failures. These observations highlight important areas for improvement in mobile banking services and offer useful direction for banks and policymakers seeking to strengthen customer trust and encourage more effective use of digital banking applications.

Keywords: Mobile banking applications, digital banking, technology adoption, customer perception, banking services, security concerns and Raipur District

Introduction

Advancements in information and communication technology have brought noticeable changes to the structure and functioning of the modern banking system. In India, the expansion of digital infrastructure, rising smartphone penetration, and improved internet accessibility have encouraged banks to move beyond traditional branch-based operations and adopt digital service delivery models. Within this transformation, mobile banking applications have assumed a prominent role by enabling customers to access banking services directly through their mobile devices. Facilities such as balance enquiries, fund transfers, bill payments, mobile recharges, and account management can now be carried out conveniently, reducing the need for frequent visits to bank branches.

Mobile banking applications are increasingly regarded as a key element of customer-centric banking. From the perspective of banks, these applications help lower operational costs, improve service efficiency, and handle an expanding customer base with greater ease. For customers, mobile banking offers speed, flexibility, and ease of access, features that align closely with the demands of contemporary lifestyles. Recognizing these advantages, banks have actively promoted mobile banking through awareness programmes, incentives, and digital assistance aimed at encouraging customer adoption.

Despite the availability of mobile banking applications and their perceived benefits, customer acceptance has not been uniform. While many customers rely on mobile banking for routine financial transactions, others use these services selectively or remain hesitant to adopt them. Such differences in usage can be linked to various influencing factors. Concerns related to security and privacy, limited trust in digital platforms, lack of technical familiarity, and difficulties in navigating applications often restrict wider

adoption. At the same time, factors such as perceived usefulness, ease of use, and prior exposure to technology contribute positively to customers' willingness to use mobile banking services.

The growing emphasis on digital banking has increased the relevance of studies examining the factors that influence mobile banking adoption and usage. An understanding of customer behaviour enables banks to design applications that are more secure, user-friendly, and responsive to customer expectations. It also supports policymakers in promoting digital financial inclusion by identifying challenges faced by different segments of the population.

Raipur district offers an appropriate context for examining these issues. As the capital city of Chhattisgarh, Raipur has experienced rapid urban development, expanding commercial activity, and improved digital connectivity. The presence of both public and private sector banks, along with increasing awareness of digital services, has created favourable conditions for mobile banking adoption. At the same time, variations in age, education, occupation, and technological familiarity continue to shape customer perceptions and usage patterns. Against this backdrop, the present study examines the level of adoption and usage of mobile banking applications among customers in Raipur district and identifies the factors influencing their acceptance, with the aim of contributing to both academic understanding and practical improvements in digital banking services.

Review of Literature

Mobile banking has become an integral part of digital financial services, reshaping how customers access and manage banking transactions. Over the years, researchers have examined mobile banking from multiple perspectives, including adoption behaviour, user perceptions, and

challenges faced across different demographic and regional contexts. Existing studies provide a strong theoretical and empirical foundation for understanding customer acceptance of mobile banking applications.

Davis (1989)^[2], through the Technology Acceptance Model (TAM), established that perceived usefulness and perceived ease of use are central to users' acceptance of new technologies. This framework has been extensively applied in mobile banking research, consistently demonstrating that customers are more inclined to adopt mobile banking applications when they find them efficient, convenient, and easy to operate. Extending this understanding, Laforet and Li (2005)^[5] analysed consumer attitudes toward online and mobile banking and identified security concerns and lack of trust as major barriers to adoption. Their findings indicate that even technologically capable users may hesitate to adopt mobile banking if perceived financial risks remain high.

Venkatesh *et al.* (2012)^[13] introduced the Unified Theory of Acceptance and Use of Technology (UTAUT), highlighting performance expectancy, effort expectancy, social influence, and facilitating conditions as key determinants of technology adoption. Subsequent empirical studies applying UTAUT have confirmed its relevance in explaining mobile banking adoption, particularly in developing countries where infrastructural and social factors play a significant role. In the Indian context, Gupta and Yadav (2017)^[3] found that convenience, time-saving benefits, and accessibility strongly influence mobile banking adoption, while technical issues and low digital literacy restrict effective usage among certain groups.

Studies focusing on service quality and user satisfaction provide further insights. Rao and Malik (2018)^[9] observed that although adoption levels were relatively high among urban customers, satisfaction depended heavily on application reliability, transaction speed, and the effectiveness of customer support services. Similarly, Singh and Srivastava (2020)^[12] emphasized the role of awareness and education in shaping adoption behaviour in urban and semi-urban areas, noting that fear of fraud and weak grievance redressal mechanisms discourage frequent usage. Kumar and Bansal (2021)^[4] highlighted practical challenges such as network connectivity problems, transaction failures, and lack of personalized assistance, underscoring the need for improved technological infrastructure and user training. More recent work by Sharma *et al.* (2022)^[11] reinforced the positive relationship between mobile banking adoption and customer convenience, while also pointing to persistent security concerns affecting long-term trust and usage.

Recent literature in India suggests that although mobile banking adoption has expanded rapidly due to increased smartphone penetration and government initiatives promoting digital payments, issues related to usability, security, and customer support continue to affect user experience, particularly among middle-aged and elderly customers.

Research Gap

The review of existing studies shows that mobile banking adoption and related challenges have been widely examined at national and international levels. However, limited empirical research has focused specifically on the Raipur district of Chhattisgarh, especially studies that examine both the level of adoption and the problems faced by customers

within a single analytical framework. In addition, region-specific factors influencing customer experience and usage behaviour remain insufficiently explored. The present study addresses this gap by providing an empirical assessment of mobile banking adoption and identifying usage-related challenges among customers in Raipur district, offering insights that are relevant to both academic research and practical banking strategies.

Research Methodology

The study employs a descriptive and analytical research design to examine the level of adoption of mobile banking applications and to identify the problems encountered by customers during their use. The descriptive approach is used to capture the existing pattern of mobile banking adoption among customers, while the analytical component facilitates a systematic examination of adoption levels and usage-related issues based on empirical evidence.

The geographical scope of the study is limited to the Raipur district of Chhattisgarh, with particular focus on customers residing within Raipur city. As a major urban and commercial centre, Raipur offers a suitable environment for analysing mobile banking usage behaviour, given its growing banking network and increasing exposure to digital financial services. The population for the study consists of bank customers in the district who own mobile phones and have access to banking services, including customers of public sector banks, private sector banks, and other scheduled commercial banks.

For the purpose of empirical analysis, data were collected from 105 respondents selected from Raipur district using the convenience sampling technique. This method was adopted due to constraints related to time and accessibility. Care was taken to include respondents from varied demographic backgrounds such as age, gender, education, occupation, and income, ensuring a broad representation of customer perspectives.

The study relies on both primary and secondary sources of data. Primary data were obtained through a structured questionnaire administered to the selected respondents. The questionnaire was designed to gather information on demographic characteristics, awareness and usage of mobile banking applications, frequency of use, types of transactions performed, and problems experienced while using these services. Secondary data were drawn from books, research journals, published articles, bank reports, Reserve Bank of India publications, and relevant online sources to support the empirical findings.

A structured questionnaire served as the main research instrument and included multiple-choice questions, dichotomous questions, and statements measured on a five-point Likert scale to capture respondents' perceptions regarding mobile banking adoption and associated problems. Adoption was assessed using indicators such as awareness, usage status, frequency of use, and the nature of transactions conducted through mobile banking applications. Problems faced by customers were examined through variables related to security and privacy concerns, technical difficulties, lack of knowledge, network connectivity issues, transaction failures, and ease of use.

In line with the stated objectives, two sets of hypotheses were formulated. For the first objective, which examines the level of adoption of mobile banking applications among customers in Raipur district, the null hypothesis assumes no

significant level of adoption, while the alternative hypothesis assumes a significant level of adoption. For the second objective, which focuses on identifying problems faced by customers, the null hypothesis assumes that customers do not face significant problems in using mobile banking applications, whereas the alternative hypothesis assumes the presence of significant problems.

The collected data were analysed using appropriate statistical tools and techniques. Percentage analysis was applied to describe the demographic profile of respondents and adoption levels. Measures such as mean and standard deviation were used to analyse perceptions, and suitable inferential statistical tests were employed to test the formulated hypotheses using standard statistical procedures and software. The study was carried out over a defined period covering data collection, analysis, and interpretation. Certain limitations, including restriction to Raipur city, a sample size of 105 respondents, and reliance on self-reported data, were inherent to the study. Ethical standards were observed throughout the research process, with respondents assured of confidentiality and anonymity, and the data collected were used exclusively for academic purposes.

Data Analysis and Interpretation

The data collected from 105 respondents residing in Raipur city were analysed using appropriate statistical tools to examine the level of adoption of mobile banking applications and the problems experienced by customers while using these services. The analysis has been structured in accordance with the stated objectives and corresponding hypotheses of the study.

Demographic Analysis (Age)

The respondents were in the age group of 20 to 55 years, with an average age of approximately 35 years. This indicates that the sample largely represents economically active individuals who are more likely to engage with digital financial services. The age profile of the respondents is suitable for examining mobile banking adoption, as individuals in this range generally possess both the need and the capability to use technology-based banking services.

Analysis of Objective 1

To study the level of adoption of mobile banking applications among customers in Raipur district

The level of adoption was assessed using an adoption score derived from responses related to awareness, frequency of use, confidence, and preference for mobile banking applications. The adoption score ranged from 3 to 5 on a five-point scale. The mean adoption score was calculated at 3.99, which is noticeably higher than the neutral value of 3, indicating a strong level of adoption among the respondents. A large proportion of customers reported regular use of mobile banking applications for activities such as fund transfers, bill payments, balance enquiries, and mobile recharges etc. The relatively low standard deviation reflects consistency in adoption behaviour across the sample.

These results suggest that customers in Raipur district have shown a positive inclination towards mobile banking and have integrated these applications into their routine banking activities. On the basis of the observed adoption level, the null hypothesis (H_{01}), which assumes no significant adoption of mobile banking applications, is rejected, and the alternative hypothesis (H_{11}) is accepted.

Analysis of Objective 2

To identify problems faced by customers while using mobile banking applications. The problems experienced by customers were measured using a problem score based on issues such as security concerns, technical difficulties, network connectivity, transaction failures, and lack of guidance. The problem score ranged from 2 to 5 on a five-point Likert scale. The mean problem score was found to be 3.76, indicating that customers experience a noticeable level of difficulty while using mobile banking applications. Commonly reported issues included failed transactions, slow or unstable network connectivity, concerns related to security and privacy, and difficulty in understanding certain application features. The moderate standard deviation points to variation in the intensity of problems faced by different users.

The findings indicate that, despite widespread adoption, operational and technical challenges continue to affect the user experience. On the basis of the problem score, the null hypothesis (H_{02}), which assumes that customers do not face significant problems, is rejected, and the alternative hypothesis (H_{12}) is accepted.

Overall Interpretation

The analysis highlights a strong level of mobile banking adoption among customers in Raipur district, alongside the presence of persistent technical, security, and usability-related concerns. These findings underline the importance of improving application design, strengthening security measures, and enhancing customer awareness and support mechanisms to ensure a smoother and more reliable mobile banking experience.

Results and Findings

The study examined the level of adoption of mobile banking applications and the problems faced by customers in Raipur district based on responses collected from 105 participants. The analysis brought out several important observations related to usage behaviour and customer experience.

Findings Related to Objective 1

The results indicate a strong level of adoption of mobile banking applications among customers in Raipur district. A majority of respondents reported regular use of mobile banking services for routine transactions such as fund transfers, balance enquiries, bill payments, and mobile recharges. The overall adoption score reflects a favourable attitude toward mobile banking, with customers perceiving these applications as convenient, efficient, and time-saving. Many respondents expressed confidence in using mobile banking platforms and demonstrated a preference for digital transactions over visiting bank branches. These patterns suggest that mobile banking has become a regular part of banking practices for a large section of customers in the study area.

Findings Related to Objective 2

Alongside high adoption levels, the study identified several issues that affect customer experience with mobile banking applications. Commonly reported problems include concerns regarding security and privacy, technical issues such as application crashes and slow processing, network connectivity constraints, and instances of failed or delayed transactions. Some respondents also reported difficulty in

understanding certain application features and showed reluctance to use mobile banking for high-value transactions. These findings indicate that acceptance of mobile banking does not eliminate usage-related challenges, which continue to influence customer confidence and satisfaction.

Hypothesis-Based Findings

The statistical analysis led to the rejection of the null hypothesis (H_{01}) related to the level of adoption, confirming a significant adoption of mobile banking applications among customers in Raipur district. Similarly, the null hypothesis (H_{02}) concerning the absence of problems was rejected, indicating that customers experience significant difficulties while using mobile banking applications. The acceptance of both alternative hypotheses highlights the coexistence of widespread adoption and notable operational challenges.

General Findings

The overall findings show that mobile banking applications are widely accepted and actively used by customers in Raipur district, reflecting growing digital awareness and openness toward technology-driven banking services. At the same time, persistent concerns related to security, technical reliability, and user support point to areas that require focused attention from banks. Improvements in these areas can strengthen user confidence and enhance the quality of the mobile banking experience.

Conclusion

The study examined the adoption and usage of mobile banking applications among customers in Raipur district, with particular attention to the challenges encountered during use. The results demonstrate that mobile banking applications have gained strong acceptance among customers, supported by convenience, accessibility, and efficiency in performing banking transactions. The widespread use of these applications highlights the increasing role of digital platforms in everyday banking activities.

At the same time, the study identifies several issues that influence user experience, including security and privacy concerns, technical limitations, network-related problems, and difficulties in understanding application features. These challenges have the potential to affect customer satisfaction and may limit deeper engagement with mobile banking services. Strengthening technological systems and improving user support can play an important role in enhancing trust and long-term usage of mobile banking applications.

Suggestions

Based on the findings of the study, the following suggestions are offered to improve the adoption and effective use of mobile banking applications:

- 1. Enhancement of Security Measures:** Banks should strengthen security mechanisms such as multi-factor authentication, biometric verification, and real-time transaction alerts to address customer concerns related to data privacy and fraud.
- 2. Improvement in Technical Infrastructure:** Continuous upgrades to mobile banking platforms can help reduce issues related to application crashes, slow

processing, and transaction failures, ensuring smoother service delivery.

- 3. User-Friendly Application Design:** Simplified interfaces and clear instructions can make mobile banking applications easier to use, particularly for first-time users and those with limited technical knowledge.
- 4. Customer Awareness and Training Programmes:** Awareness campaigns and digital literacy initiatives can help customers understand application features, benefits, and safe usage practices, encouraging more confident use.
- 5. Efficient Customer Support Services:** Responsive customer support systems, including in-app assistance and dedicated helplines, can help resolve user queries and grievances more effectively.
- 6. Improved Network Support:** Collaboration with telecom service providers may help address network-related issues that affect the smooth functioning of mobile banking applications.

The adoption of these measures can contribute to improved customer experience, greater trust in mobile banking services, and sustained growth in digital banking usage.

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