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## Contactless Payment in Mobile Banking : Risks & Advantages for Users

**Kajal Maurya**

School of Business, Galgotias University, Greater Noida

Email: [mauryakajal3888@gmail.com](mailto:mauryakajal3888@gmail.com)

### ABSTRACT :

In recent years, mobile banking has witnessed rapid adoption due to technological advancements and evolving consumer preferences. Among the most significant innovations is contactless payment, which allows users to make secure transactions without the need for physical contact or traditional banking interfaces. This study explores the dual aspects of contactless payments—its advantages, such as speed, convenience, and ease of use, and its associated risks, including cybersecurity threats, data privacy concerns, and fraud. The research aims to understand user behavior, trust levels, and security perceptions while offering practical recommendations for safer adoption of contactless payments.

Contactless Payment in Mobile Banking : Risks & Advantages for Users This study explores the increasing use of contactless payments through mobile banking. It highlights the key advantages such as speed, convenience, and cashless transactions, while also examining risks like data breaches, fraud, and technical issues. The aim is to understand user experiences, security concerns, and suggest ways to make these systems safer and more user- friendly.

Contactless mobile payments have transformed the financial ecosystem by enabling quick, digital transactions without physical interaction. Despite widespread adoption, these systems expose users to risks like cybersecurity threats, phishing, and lack of awareness. This study evaluates both sides—benefits and potential dangers—using user feedback and secondary data, to suggest ways to enhance mobile banking security and user confidence.

### Introduction

In today's digital age, the way people handle money has changed drastically. With the advancement of smartphones and internet connectivity, mobile banking has become an essential tool for managing financial transactions. One of the most significant innovations within this space is contactless payment, which allows users to make transactions using mobile devices without the need for cash, cards, or physical contact.

Contactless payment methods—such as UPI, QR codes, NFC (Near Field Communication), and mobile wallets like Google Pay, PhonePe, and Paytm—have become popular due to their speed, convenience, and ease of access. These systems are particularly valuable in a post-pandemic world where minimizing physical contact is preferred.

However, the growing use of such technology also brings challenges and risks. Users may face threats like digital fraud, data breaches, hacking, and technical failures. Despite multiple layers of authentication and encryption, not all users are aware of the security practices needed to protect themselves. At the same time, the advantages offered—such as cashback, transaction history, and 24/7 availability—make contactless payments appealing to a wide demographic.

This study aims to understand both the advantages and risks associated with contactless payment in mobile banking. It also seeks to examine user perception, security concerns, and the level of trust users place in these digital platforms.

### Objectives of the Research

1. To analyze the growing adoption of contactless payment methods through mobile banking.
2. To identify the key advantages of using contactless payments for users, such as convenience, speed, and ease of access.  
To examine the potential risks and security concerns related to mobile-based contactless transactions.
3. To study user awareness, trust levels, and safety practices while using contactless payment apps.
4. To evaluate the impact of age, education, and digital literacy on the use of contactless payment systems.

5. To provide suggestions for improving the safety and user experience of mobile banking platforms.
6. As digital adoption grows, especially after the COVID-19 pandemic, understanding the balance between convenience and security in mobile banking is crucial. The study is necessary to evaluate how users perceive these systems, the challenges they face, and how banks can improve trust and safety in digital transactions.
7. To assess the frequency and purpose of contactless payment usage among different user groups.
8. To compare user satisfaction across various mobile payment platforms (e.g., Google Pay, PhonePe, Paytm, etc.).
9. To study the role of biometric authentication and other security features in building user trust.
10. To identify the challenges faced by users during failed or delayed contactless transactions.
11. To explore the influence of promotional offers, cashback, and rewards on user adoption.
12. To examine the role of government policies and RBI regulations in promoting safe digital payments.
13. To understand the readiness of semi-urban and rural users for adopting contactless payment methods.
14. To suggest effective awareness strategies that can educate users about secure usage of mobile banking services.
15. To investigate the correlation between user education level and understanding of mobile payment security features.

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## Literature Review

The rapid growth of digital payments has transformed the financial landscape, particularly through the adoption of contactless payment methods in mobile banking. Several researchers and industry reports have analyzed the benefits, user behavior, and security risks associated with this transformation.

According to KPMG (2021), more than 70% of urban consumers prefer digital and contactless payment options due to speed, ease of use, and promotional benefits. Their study also highlighted that convenience is a major driver of adoption among young adults.

Statista (2023) shows a steady rise in the number of mobile wallet users in India, with UPI-based contactless payments leading the trend. It notes that while adoption is increasing, concerns about app failure and fraudulent transactions remain high among users.

Reserve Bank of India (2023) in its annual report pointed out the growing cases of cyber frauds in digital payments, mainly due to phishing and lack of awareness among users. The report suggests that banks need to improve their fraud detection systems and customer support services.

NITI Aayog (2022) emphasized the role of digital literacy in promoting safe use of mobile banking. It also recommended increasing awareness campaigns and implementing stronger authentication methods to reduce misuse and enhance trust.

In an academic context, the Journal of Mobile Commerce (2020) discussed that biometric security measures such as fingerprint and face recognition significantly enhance user confidence in mobile transactions. Their research also found that users tend to trust apps that offer real-time alerts and easy refund policies.

PwC India (2022) highlighted that although digital payments are growing rapidly, users in semi-urban and rural areas still face technological and trust barriers due to limited access to smartphones and internet services.

These studies collectively show that while contactless mobile payments offer notable advantages—such as efficiency, accessibility, and convenience—they also require strong security frameworks and user education to manage the risks involved.

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## Research Methodology

The research is descriptive in nature.

- Primary data was collected using surveys and questionnaires from mobile banking users.
- Secondary data was sourced from RBI, Statista, and industry reports.
- A sample size of 100+ users was taken using stratified random sampling.

- The data was analyzed using percentages, graphs, and comparative analysis.

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## Data Analysis and Interpretation

To understand user behavior and perceptions regarding contactless payments in mobile banking, a survey was conducted among 100+ users from urban and semi-urban areas. The results have been analyzed using simple statistical methods like percentages and bar graphs. Below is a summary of key findings:

### 1. Age-wise Adoption of Contactless Payments

- 18–25 years: 45%
- 26–40 years: 35%
- 41 and above: 20%

#### Interpretation:

Young adults are the highest adopters of mobile-based contactless payments, primarily due to their digital awareness and frequent smartphone usage.

### 2. Preferred Platforms for Contactless Transactions

- Google Pay: 40%
- PhonePe: 30%
- Paytm: 20%
- Others (Amazon Pay, BHIM, etc.): 10%

#### Interpretation:

Google Pay and PhonePe dominate the market due to their user-friendly interfaces, cashback offers, and widespread merchant acceptance.

### 3. Frequency of Usage

- Daily: 30%
- 2–3 times a week: 40%
- Occasionally: 25%
- Rarely/Never: 5%

#### Interpretation:

A majority of users rely on contactless payment frequently, especially for daily needs such as grocery shopping, online payments, and bill payments.

### 4. Perception of Security

- Highly Secure: 20%
- Moderately Secure: 50%
- Not Secure: 30%

#### Interpretation:

While many users feel moderately secure using mobile banking, a significant portion still doubts the safety of contactless transactions due to incidents of fraud and app glitches.

### 5. Issues Faced by Users

- App crashes or slow speed: 25%
- Wrong transactions/money not credited: 30%
- Lack of customer support: 20%
- Fear of fraud or hacking: 25%

#### Interpretation:

Technical failures and fraud risks are major concerns. These issues affect trust and can discourage some users from regularly using contactless payments.

### 6. Motivation for Using Contactless Payments

- Convenience: 50%
- Time-saving: 20%
- Cashback/Offer: 20%
- COVID safety/no contact: 10%

#### Interpretation:

Convenience is the primary reason for adoption, followed by rewards and time efficiency.

## The Conclusion & Recommendations

Contactless payments are here to stay due to their convenience. However, users must be made aware of security risks and protection measures. Banks and fintech apps should enhance cybersecurity, improve user education, and ensure fast grievance redressal to build long-term trust.

However, despite its growing adoption, many users still face challenges such as technical issues, fraud risks, poor customer support, and lack of awareness about security features. While most users feel moderately secure, there's a need to improve user confidence through better safety measures and education.

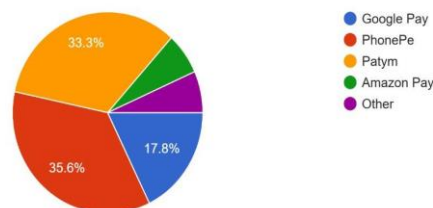
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3. NITI Aayog (2022) – Report on India's Digital Transformation
  - Highlights government initiatives and challenges in promoting digital finance in semi-urban and rural areas.
4. KPMG (2021) – Fintech in India: Powering Mobile Payments
  - Discusses market drivers, user behavior, and security challenges in mobile-based contactless payment systems.
5. PwC India (2022) – Digital Banking Report
  - Focuses on customer experience, platform security, and innovation in mobile banking.
6. Journal of Mobile Commerce (2020)
  - Academic journal article on user trust, security concerns, and adoption trends in contactless payments.

## Appendices

- Survey Sample: 100+ mobile banking users
- Popular Apps: Google Pay (40%), PhonePe (30%)
- Top Users: Age group 18–25 (45%)
- Main Benefits: Convenience, speed, offers
- Top Issues: Failed transactions, app errors, fraud
- Security Perception: 50% feel moderately secure
- Graphs Included: Age-wise usage, app preference, reasons for use, issues faced

Which mobile payment app do you use most frequently?  
45 responses



How would you rate the security of mobile contactless payments?  
46 responses

