



# A Study on Role of Digital Payments in Banking Sector

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**Abstract** – The banking sector in India has undergone a major transformation in recent years due to the rapid growth of digital payment systems. With the spread of smartphones, improved internet connectivity, and strong policy support from the Government of India and the Reserve Bank of India, digital payments have become an essential part of modern financial transactions. Instruments such as mobile banking, internet banking, debit and credit cards, Unified Payments Interface (UPI), and digital wallets have changed the way individuals and businesses carry out payments. These technologies have made transactions faster, more convenient, more transparent, and less dependent on cash. Against this background, the present study titled “A Study on the Role of Digital Payments in the Banking Sector” aims to examine the importance, growth, usage, customer satisfaction, and challenges associated with digital payment systems in India. The main objective of the study is to understand the role that digital payments play in improving banking services and customer experience. The study also seeks to identify the most commonly used digital payment methods, assess customer awareness and satisfaction, and examine the impact of these systems on banking efficiency. In addition, it explores the contribution of digital payments to financial inclusion, cash reduction, and transparent financial practices. The study further attempts to identify the practical difficulties faced by users, including security concerns, technical failures, and lack of digital literacy. In this way, the research aims to provide a clear understanding of how digital payments are shaping the Indian banking environment.

**Keywords:** Digital payments, Banking sector, Customer satisfaction, Operational efficiency, Financial inclusion, India.

## I. INTRODUCTION

Digital payments have transformed the banking sector by making financial transactions faster, easier, and more convenient. In India, the growth of smartphones, internet access, and government initiatives such as Digital India and UPI has encouraged people to use cashless payment methods in daily life. Today, services like mobile banking, internet banking, debit and credit cards, and digital wallets are widely used by customers for personal and business transactions. The increasing use of digital payments has brought significant changes in banking operations. Banks are now able to offer quick services, reduce manual work, and improve customer convenience. At the same time, customers benefit from 24/7 access, instant transfers, and better transparency in financial dealings. These advantages have made digital payments an important part of modern banking.

However, the adoption of digital payment systems also creates challenges. Many users still face issues such as cyber fraud, transaction failures, poor network connectivity, and lack of digital knowledge. In rural and semi-urban areas, limited infrastructure and low awareness can reduce the effectiveness of digital banking services. Therefore, it is important to study both the benefits and the limitations of digital payments in the banking sector. This research focuses on understanding the role of digital payments in banking, customer awareness, usage patterns, satisfaction levels, and related challenges. It also examines how digital payment systems contribute to operational efficiency and financial inclusion. The study is based on the idea that digital payments are not only changing the way banking services are delivered but are also shaping customer behaviour and expectations in the financial system. Digital payments have brought major changes in the banking sector by making transactions faster, easier,

and more convenient for customers. With the growth of smartphones, internet access, UPI, and mobile banking, people now prefer cashless transactions for daily financial needs. These services save time, reduce the need to visit bank branches, and improve transparency in banking operations. At the same time, digital payments help banks increase efficiency and provide better services to customers. However, issues such as cyber fraud, technical errors, and low digital literacy still create challenges for many users.

### Objectives

- To study the growth and adoption of digital payment systems in the banking sector.
- To identify the most commonly used digital payment methods among customers.
- To examine the level of customer awareness regarding digital payment services.
- To evaluate customer satisfaction with digital payment facilities provided by banks.

### Hypothesis

#### Hypothesis 1

- H0: Digital payments do not significantly affect customer satisfaction and banking efficiency.
- H1: Digital payments significantly affect customer satisfaction and banking efficiency

#### H0: Null Hypotheses

- There is no significant difference in the most commonly used digital payment methods among customers.
- There is no significant level of customer awareness regarding digital payment services.
- There is no significant customer satisfaction with digital payment facilities provided by banks.
- Digital payments do not have a significant impact on operational efficiency in banking.



## II. LITERATURE REVIEW

Digital payment systems have become a major area of study in banking research because they influence customer behaviour, service delivery, and operational performance. Recent studies show that the adoption of digital payment technologies by Indian banks has improved cost efficiency, especially when banks become part of the wider digital payments ecosystem rather than adopting technology in a limited way. Several studies on customer adoption indicate that people are gradually shifting from traditional payment methods to digital alternatives such as UPI, mobile wallets, internet banking, and card-based transactions. Convenience, perceived usefulness, and time-saving benefits are repeatedly identified as important reasons for adoption. At the same time,

The literature also highlights the role of digital payments in promoting financial inclusion and supporting a cashless economy. A systematic review on digital payments in India notes that these systems have improved banking performance, increased transaction speed, and made financial services more accessible to unbanked and underbanked groups. Despite these benefits, researchers consistently point out several challenges. Common issues include cyber fraud, transaction failures, weak internet connectivity, technical glitches, and low digital literacy. These problems can reduce customer satisfaction and affect trust in digital banking platforms.

### Research Gaps

The main research gap is that existing studies on digital payments focus mostly on benefits, while less attention is given to customer satisfaction, operational efficiency, and real user challenges in the banking.

There is limited empirical research on how awareness, usage patterns, and demographic. Most studies also overlook problems such as fraud risk, failed transactions, poor network connectivity, and.

Research on rural and semi-urban customers is still insufficient, even though these groups face more barriers.

## III. RESEARCH METHODOLOGY

### 1. Population and Sample

The population of this study includes all bank customers who are aware of or use digital payment services such as UPI, mobile banking, internet banking, debit cards, credit cards, and digital wallets. A sample of 100 respondents has been selected from this population using the simple random sampling method. In simple random sampling, each member of the population has an equal chance of being chosen, which helps reduce bias and improves the representativeness of the sample. The respondents are selected from different age groups, educational backgrounds, occupations, and income levels to ensure diversity in opinions and experiences.

### 2. Data and Sources of Data

This study uses both primary and secondary data to analyze the role of digital payments in the banking sector. Primary data are collected directly from bank customers through a structured questionnaire, which includes questions on awareness, usage patterns, satisfaction, and challenges related to digital payment services. Secondary data are gathered from books, journals, research articles, official reports, and relevant websites to provide background information and support the study.

### 3. Data Analysis Method

The data collected for this study will be analyzed using descriptive statistical methods. The responses obtained through the questionnaire will be classified, tabulated, and presented with the help of percentages, tables, and charts to show patterns in digital payment usage, awareness, satisfaction, and challenges. This method is suitable because it helps summarize the data clearly and makes it easier to interpret the role of digital payments in the banking sector. In addition, the analysis will compare responses across different demographic groups to identify trends and differences. The findings will then be used to evaluate the impact of digital payments on customer satisfaction and operational efficiency in banking.

### Cross-Tabulation (Contingency Table)

Cross-tabulation is a statistical method used to compare two categorical variables and show how responses are distributed across groups. It helps identify relationships between variables such as age, gender, education, and digital payment usage. In this study, cross-tabulation will be used to analyze patterns in customer awareness, satisfaction, and payment preferences. It makes the data easier to interpret and supports meaningful comparison between respondent groups.

### Chi-Square Test of Independence

The Chi-Square test is applied to determine whether there is a significant relationship between two categorical variables related to digital payment behavior.

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where:

O = Observed value

E = Expected values

This statistical method helps identify whether payment preference is significantly influenced by factors such as convenience, rewards, financial awareness, and security.

### Steps Used in Analysis

Formation of hypothesis (Null & Alternative)

Preparation of cross-tabulation table

Calculation of expected values



Application of Chi-square formula  
 Determination of p-value

**Decision Rule**

$p < 0.05 \rightarrow$  Significant relationship

$p > 0.05 \rightarrow$  Not significant

**IV. DATA ANALYSIS & INTERPRETATION**

To study the growth and adoption of digital payment systems in the banking sector.

Variables Analyzed: The study analyzes both independent variables (such as age, income, education, and occupation) and dependent variables (like digital payment usage, frequency, and preferred methods). These variables help in understanding customer behavior and adoption patterns. Which digital payment method do you use most often?

Table-1: Cross-Tabulation

Payment Method	Daily Usage	Weekly Usage	Monthly Usage	Total
UPI	40	15	5	60
Credit card	12	18	10	40
Total	52	33	15	100

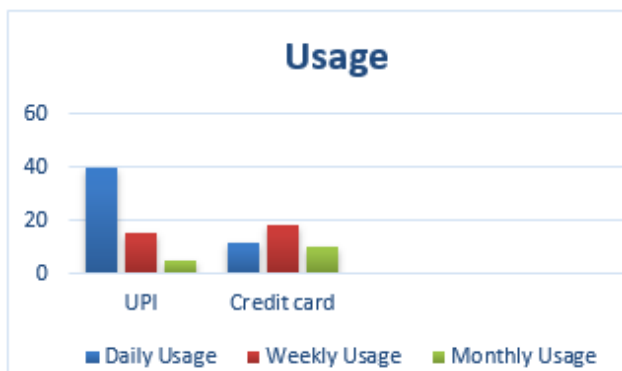


Fig -1: Daily vs Weekly vs Monthly usage

Chi-Square Results:  $\chi^2 = 16.45$ ,  $df = 2$ ,  $p\text{-value} = 0.001$   
 Interpretation: A p-value of 0.001 clearly shows that there is a significant relationship between MBA students' payment preferences and their frequency of usage. Students who prefer UPI are much more likely to use digital payments daily because of its speed, convenience, and easy accessibility. On the other hand, credit cards are used more selectively, mainly for larger purchases or reward-based spending. This result proves that payment preference is strongly influenced by practical factors such as convenience and transaction habits.

$H_{01}$  is rejected;  $H_{11}$  is accepted.

Objective 2: Which platform do you mainly use for digital payments? Cards

Variables Analyzed: Payment Method vs Transaction Purpose (Small Purchases/Large Purchases/Online Shopping)

Table-2: Cross-Tabulation

Payment Method	Small Payments	Large Payments	Online Payments	Total
UPI	35	8	17	60
Credit card	8	18	14	40
Total	43	26	31	100

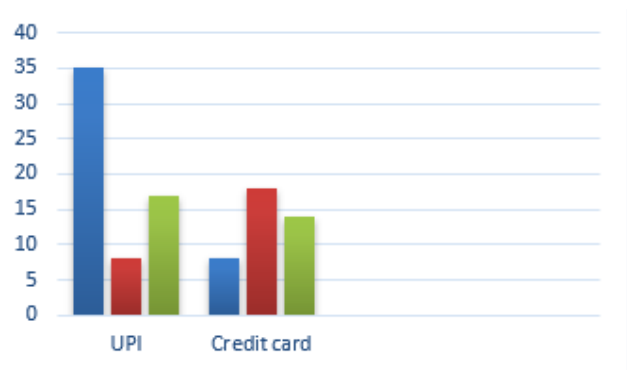


Fig -2 : Small vs Large vs Online payments

Chi-Square Results:  $\chi^2 = 18.32$ ,  $df = 4$ ,  $p\text{-value} = 0.000$   
 Interpretation: MBA students prefer UPI mainly for small daily payments, while credit cards are more commonly used for large purchases and online shopping due to benefits like rewards and EMI facilities.

$H_{02}$  is rejected;  $H_{12}$  is accepted.

**Objective 3:** To Identify Factors Influencing Payment Choices

Variables Analyzed: Payment Method Preference vs Convenience, Security, and Rewards

Table-3: Cross-Tabulation

Payment Method	Convenience	Security	Rewards	Total
UPI	30	20	10	60
Credit card	10	12	18	40
Total	40	32	28	100

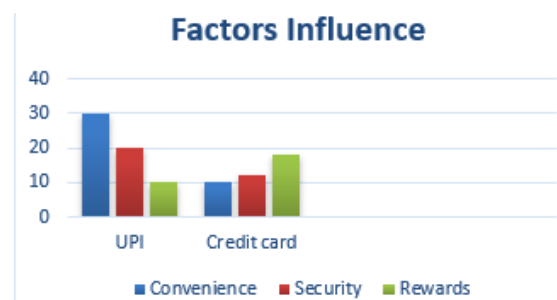


Fig -3 : Factors Influence choices



Chi-Square Results:  $\chi^2 = 20.67$ ,  $df = 4$ ,  $p\text{-value} = 0.000$

Interpretation: Convenience is the primary factor driving UPI preference, while rewards and financial benefits significantly influence credit card usage. Security remains important for both methods.

$H_{03}$  is rejected;  $H_{13}$  is accepted.

### Summary of Findings

The study found that digital payments are widely used by bank customers and have become an essential part of modern banking. Most respondents prefer digital payment methods such as UPI, mobile banking, debit cards, and internet banking because they are fast, convenient, and easy to use. Digital payments also help save time and reduce the need to visit bank branches. The findings show that digital payment systems improve banking efficiency by reducing manual work and enabling quicker transactions. Customers appreciate the transparency and record-keeping provided by digital platforms. Overall, the study indicates a positive relationship between digital payment usage and customer satisfaction. At the same time, several challenges were identified. These include transaction failures, poor internet connectivity, server issues, cyber fraud, and low digital literacy among some users. Such problems affect trust and satisfaction, especially among older and rural customers. The study also reveals that digital payments support financial inclusion by making banking services more accessible to a larger number of people. In conclusion, digital payments have a strong positive impact on banking services, but their full potential can be achieved only by improving security, awareness, and infrastructure.

### Key Findings and Discussion

UPI is the most preferred payment method for daily transactions:

- The study found that MBA students mainly use UPI for regular expenses because it is fast, easy to use, secure, and allows instant payments without extra charges. Its convenience makes it highly popular for day-to-day financial activities.
- Credit cards are preferred for larger and planned purchases:
- Credit cards are commonly used for online shopping, expensive purchases, and situations where students want to benefit from cashback, reward points, discounts, or EMI options.
- Convenience is the strongest factor influencing payment choice:
- Ease of use, quick transaction speed, and wide acceptance significantly drive UPI adoption, while additional financial benefits encourage credit card usage.

Financial awareness affects responsible payment behavior: MBA students with better financial knowledge tend to use credit cards more strategically, while also understanding the risks of overspending and debt accumulation.

Spending habits differ between UPI and credit card users: UPI users generally maintain better spending control since payments are directly linked to their bank balances, whereas credit card users may spend more due to credit flexibility and promotional incentives. Security remains an important factor for both payment methods: Students consider transaction safety, fraud protection, and trustworthiness while selecting digital payment options, making security a major influencing factor.

Digital payment preferences reflect evolving financial behavior. The growing use of UPI and credit cards among MBA students highlights the increasing role of fintech in shaping the financial habits of future business professionals, showing a shift toward cashless and technology-driven financial management.

## V. CONCLUSION

Digital payments have emerged as a vital part of the banking sector and have significantly changed the way financial transactions are conducted. With the support of technological development, increased internet access, and government initiatives such as Digital India and UPI, customers now prefer digital modes of payment over traditional cash-based methods. The study clearly shows that digital payment systems have improved convenience, speed, transparency, and accessibility in banking services. Customers can now transfer money, pay bills, and complete transactions anytime and anywhere without visiting bank branches, which has made banking more efficient and user-friendly. The findings of the study also suggest that digital payments have a positive impact on customer satisfaction. Most respondents feel that digital transactions save time, reduce paper work, and provide better control over financial activities. The ability to make instant payments and receive quick confirmation adds to the convenience of users. In addition, digital transactions create electronic records, which help customers track expenses and maintain transparency in their financial dealings. These benefits have made digital payment systems an essential tool for modern banking. At the same time, the study reveals that digital payments are not free from challenges. Many users continue to face problems such as cyber fraud, phishing, transaction failures, technical glitches, poor network connectivity, and server downtime. Some customers, especially older individuals and those with limited education, also experience difficulty in using digital platforms due to low digital literacy. These challenges affect user trust and reduce the overall effectiveness of digital payment services. Therefore, while digital banking offers many advantages, its success depends on how well these issues are addressed. Another important observation from the study is that digital payments contribute to financial inclusion by bringing more people into the formal financial system. They reduce dependence on cash and support the goal of a cashless economy. This is especially important in a developing country like India, where a large population



still depends on traditional banking practices. Digital payments can help bridge the gap between urban and rural customers if supported by strong infrastructure, proper awareness, and user-friendly systems. In conclusion, digital payments have transformed the banking sector in a positive and meaningful way. They have improved operational efficiency, enhanced customer satisfaction, and supported financial inclusion. However, to fully realize their potential, banks and policymakers must focus on strengthening cybersecurity, improving internet and digital infrastructure, and increasing customer awareness and training. With these improvements, digital payment systems can continue to play a major role in creating a modern, secure, and inclusive banking environment.

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