

## Impact of UPI and Digital Payments on Banking Transactions in India

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### ABSTRACT

The execution of all banking operations via a digital platform is known as "digital banking," which does away with the necessity for conventional paperwork like demand drafts, pay-in slips, and checks. It guarantees that clients may access services like investments, loan applications, account management, and fund transfers completely online from anywhere at any time. In India, digital payment methods are becoming essential to promoting financial inclusion. Credit card usage has significantly increased recently, whereas everyday transactions using debit cards have decreased. The flexibility and user-friendliness of the Unified Payments Interface (UPI) have made it a popular payment option for both low-value and high-value transactions. The success of businesses and the economy are significantly impacted by these changing tendencies. Time series research provides insightful information about how digital payment practices both reflect and impact more general economic activity. The transition to cashless transactions has been further accelerated by the government's post-demonetization initiatives. Digital payments have increased dramatically as a result of demonetization's effects. Even though digital payments have been around since the 1980s, they are not a new technology; rather, the innovations are found in the different technologies that are used to make them possible. For users, consumers, and the economy as a whole, digitization fosters accuracy, security, dependability, and transparency. By promoting financial inclusion and promoting economic growth, UPI has completely changed the financial landscape of India. It has established itself as the biggest retail quick payment system globally, accounting for 85% of all digital transactions in India. By connecting several banks on a single platform, UPI facilitates quick money transfers and pushes companies to use methods of payment that do not the study's main goal is to investigate UPI in Indian banking and electronic payments, with an emphasis on the benefits of digital banking transactions and their impact on banking transactions.

**Keywords:** Mobile-Payments, Unified Payments Interface, Banking Transactions, Digital.

### Introduction

Banking, encompassing both a process and a service, along with banks as physical establishments, has become essential to the lives of all citizens in the nation, ranging from rickshaw drivers to affluent entrepreneurs and government officials. Banks have transformed into a mechanism for distributing financial advantages to all participants, including subsidies, interest payments, and incentives. In India, banking has acted as a key tool for fostering financial inclusion. Digital Banking signifies the automation of conventional banking through digital platforms, such as the web and internet-enabled devices like smart phones. With Digital Banking, you can access almost all financial services at your convenience, available throughout the year, irrespective of national or bank holidays. This entirely

eliminates the need for you to visit a physical bank. UPI, or the Unified Payments Interface, is a revolutionary technology that has transformed India's financial landscape. Emerging technologies, shifting consumer behaviour, and changing industry expectations are all influencing the direction of digital banking. Blockchain, artificial intelligence, quantum computing, and 5G are examples of cutting-edge technology that will continue to propel change. Increased speed, precision, transparency, and operational efficiency are made possible by these improvements. Super applications, which are powered by open APIs, allow users to build a customized financial ecosystem. Hyper-personalization is a trend in digital banking where users can "remix" their financial instruments to suit their own needs. Long-term engagement, loyalty, and satisfaction are all improved by this customer-first strategy.

### **Review of Literature**

Neema and Neema (2016) demonetization has given Indian customers a unique way to receive digital payments. This essay examines the Unified Payment Interface (UPI) method of digital payment and describes its architecture, technologies, operations, parties involved in UPI transactions, benefits, and challenges. It also discusses the different UPI apps that are currently available as well as other digital payment methods and how they compare to UPI transactions. According to the study's findings, UPI is a tool with compatible qualities that may make financial transactions simple and economical for consumers, but it still requires the trust and knowledge of consumers who are primarily from rural backgrounds.

According to Das (2017), India is an expansive nation with a population exceeding 1.3 billion, where nearly one-seventh of its inhabitants reside in rural regions. Nevertheless, India enjoys a youthful demographic, with half of its population under the age of 21. Mobile phones have reached nearly every household, even in remote areas.

Sarkar and Das (2018) by using digital technologies to create unified customer experiences, achieve faster outputs, support unlimited banking volumes, encourage financial inclusion, and improve operational efficiencies and economies of scale, organizations are aiming for increased customer satisfaction and value. In many industries, including financial operations, digitalization has greatly improved customer satisfaction and efficiency. The purpose of this essay is to examine how digitalization has affected Indian financial transactions.

Pillai, Sandhya and Rejikumar (2019) show that even for small purchases, the trend shows a growing preference for non-cash payment alternatives, especially during times of cash shortages. Researchers had the chance to look into consumer behaviour in this setting. Assessing and analyzing consumer attitudes and behaviours regarding the adoption of mobile payment systems and UPI technology for transactions forms the basis for using the technology acceptance model.

Singh and Malik (2019) recognize that, despite various risks, banking services have steadily progressed through digitalization, making customer services readily available at their fingertips and on laptop screens. Philip (2019) India's payment systems have seen significant changes in recent years. Two crucial components of this strategy are the use of card and mobile payment technologies. The purpose of this study is to investigate consumer preferences for the Unified Payment Interface and evaluate how it affects customer satisfaction. Customers have a favourable opinion of the Unified Payment Interface, according to the study's findings.

According to Kolte and Humbe (2020), the Cardinal India enterprise has significantly increased the use of mobile phones and the internet, which directly leads to an increase in digital payments. The use of digital payments improves the transparency of financial transactions, which strengthens India's economy. According to Devi and Indoria (2021), without the inconvenience of entering credit card information, an IFSC code, or net banking or wallet passwords, it enables a client to pay various retailers straight from a bank account, both online and offline.

Rastogi et al. (2021) this paper seeks to investigate the influence of UPI on financial literacy, financial inclusion, and the economic advancement of impoverished individuals in India. The authors employ structured equation modelling to conduct a path analysis of the relevant constructs to clarify the relationships involved. Additionally, the study finds that the significant link between financial literacy and financial inclusion is partially mediated by financial stability, while the connection between financial inclusion and economic development is also partially mediated by trust. This research is distinctive as it is the first to examine the relationship between UPI, financial literacy, financial inclusion, and the economic development of the poor.

Indoria and Devi (2021) Although the Internet started gaining traction among the general populace in 1994, it took nearly four years to establish the security protocols (such as HTTP) and DSL that enabled quick access and a stable connection to the Internet. By 2000, the definition of ecommerce underwent a transformation. People began to view ecommerce as the act of buying available goods and services online through secure connections and electronic payment systems. Ecommerce empowers consumers to exchange goods and services electronically without the constraints of time or distance. Over the years, it has experienced rapid growth and is expected to maintain this momentum, or even increase. In the near future, the lines between "traditional" and "electronic" commerce will become increasingly indistinct as more businesses transition parts of their operations to the Internet.

Sankararaman and Suresh (2021) state that Indian banks have been dedicated for over twenty years to providing a diverse array of services through various electronic networks, including mobile banking, Automated Teller Machines, and digital payments. Mahesh & Bhat (2021) Examine the development of the Unified Payment System and its transformation in retail digital payments throughout the years. This study was carried out by reviewing secondary data sources and applying a Strengths, Weaknesses, Opportunities, and Threats analysis framework. UPI has seen remarkable growth in recent years, primarily due to the increasing preference of customers for contactless payment options.

A study by Sharma et al. (2022) investigated the impact of Financial Inclusion (FI) on digital payment systems using a socio-techno-ecosystem. FI seeks to offer adequate credit, financial services, and products without favouring the less fortunate members of society. According to the study, FI has an impact on UPI. According to the current analysis, offsite ATM makes a substantial contribution to the UPI's value creation. According to our research, this will help enterprises, consumers, and retailers use UPI platforms for quick and simple payments.

According to Badak et al. (2023) India has seen an astounding rise in digital transactions because to the Unified Payments Interface's remarkable performance. Innovative and user-friendly systems for conducting business have been made possible by the expanding influence of Fintech companies, digital wallets, and mobile banking apps. In addition to protecting the security of digital transactions, the RBI's rules and procedures are laying the groundwork for future ambitions for a digital currency. Professionals and politicians must acknowledge the critical role of finance in India's digital payment revolution as they navigate a field where innovation is boundless.

Bhatt, Shaikh and Patel (2023) the goals of the study are to explore how customers feel about using digital banking for payments, the methods they use to pay for goods, the issues they face during online transactions, and their overall satisfaction with the digital banking services they get.

According to Khatwani, Mishra, and Bedarkar (2023), BFSI is the foundation of the economy and, by modifying and controlling its operations, forms the ground for the growth of an economy. Innovative population-scale payment methods are unique to India's current digital payment ecosystem. In order to fully measure and assess the expansion and penetration of digital payments in different parts of India, we will employ empirical research in the context of the aforementioned defining trends in this study.

By combining data envelopment analysis and dynamic panel data approaches, Saroy, Jain, Awasthy, and Dhal (2023) discover that Indian banks' use of digital payment technologies has improved their cost effectiveness. The increase in efficiency may result from the cheaper availability of these inputs when banks become digital rather than from a direct reduction in the inputs utilized in intermediation. Instead of adopting technology piecemeal, these benefits can result from integration into the whole digital payments ecosystem. We observe persistence in both technical and cost efficiencies. Other significant factors that influence cost efficiency include the relative asset holdings of banks in the sector, non-performing assets, deposit costs, yields on advances, and equity.

Rameshkumar (2023) the Government of India started the Digital India program in 2015 with the goal of transforming India into a knowledge economy and society enabled by technology. Through the program, the government hopes to guarantee high-speed Internet access, give all citizens bank accounts and cell phones, guarantee real-time services from online and mobile platforms, make financial transactions cashless and electronic, and guarantee digital literacy and access to digital resources nationwide.

Strict guidelines for the use and preservation of data apply to UPI (Cornelli et al., 2024). Competent regulatory circumstances have been essential in addressing concerns that have arisen, such as technical challenges, inconsistent interoperability, and scalability for cross-border transactions, in addition to laying the foundation for this achievement.

Since 2016, India has been utilizing the Unified Payment Interface (UPI) platform (Kumar and Unnisa, 2024). The main idea of UPI is that it helps people in many different ways. It promotes financial inclusion and the economic development of the poor in addition to financial understanding. This research will look at India's Unified Payment Interface Ecosystem. We'll look at data use trends, digital transactions, digital payments, and the number of internet users in India. The study also emphasizes the implementation of UPI in 2020, 2021, and 2022. Policymakers can use the study's findings to improve future UPI policy formulation.

Samit (2025) claims that the widespread usage of digital payment technologies like Unified Payments Interface (UPI) has altered the financial habits of Indian consumers. The report concludes with legislative proposals to integrate financial inclusion and consumer protection in India's rapidly digital economy. Invali (2025) this study examines the evolution of digital payment systems in India using the theories of diffusion of innovation and network externalities. While Rogers' DOI theory argues that innovations diffuse differently depending on the adopter group and location, NE theory emphasizes that banks that provide bundled services enable consumers to adopt and benefit.

The study by Chaudhary, Kumari, and Mishra (2025) examines UPI transaction trends, volume, the rise in digital payment usage, and financial access measures such as account ownership and usage. The findings demonstrate a strong positive association between UPI's rapid expansion and increased formal financial system participation, particularly among low-income customers and small business owners.

According to the study by Malik, Gahlyan, and Singh (2025), a unified policy strategy is unable to close this digital divide. It recommends a number of targeted, context-sensitive policy interventions focused on infrastructure development, community-based digital literacy programs, and the creation of a robust, vernacular-language grievance redressal system to ensure that the advantages of India's digital revolution are distributed equitably. This article by Paramasivan & Surya (2025) examines how India's annual payment system has been transformed by UPI and IMPS.

**Objectives of the Study**

- To determine the Aspects of UPI in Banking and Digital Payment Modes in India.
- To identify the impacts on Banking Transactions and Benefits of Digital Banking Transactions.

**Research Methodology**

The current investigation aims to explore the impact of UPI and digital payments on banking transactions. This study specifically concentrated on the city of Chennai. A sample of 240 consumers was selected through Simple Random sampling. To achieve the research objectives, essential data was gathered from both primary and secondary sources. The required information was collected from the selected respondents via personal interviews, using a well-structured schedule. Respondents provided general information about their social, economic, and demographic characteristics, including age and education level, in relation to UPI and digital payments. Additional details regarding location, demographics, and other specifics about the study area were sourced from the city statistical office, along with various records and journals. The collected data was analyzed using SPSS, applying techniques such as Percentage Analysis, ANOVA, Paired Samples Correlation Statistics, and Correlations. A carefully designed questionnaire featuring closed-ended questions was utilized for this analysis.

**Analysis and Interpretation of Data**

**Table 1: Benefits of Digital Banking Transactions**

| <b>Benefits of Digital Banking Transactions</b> | <b>Frequency</b> | <b>Percentage</b> |
|---|------------------|-------------------|
| 24/7 Accessibility                              | 30               | 13                |
| Convenience & Speed                             | 32               | 13                |
| Enhanced Security                               | 21               | 9                 |
| Cost Efficiency & Higher Savings                | 40               | 17                |
| Detailed Financial Tracking                     | 28               | 12                |
| Comprehensive Service Access                    | 42               | 18                |
| Financial Inclusion                             | 47               | 20                |
| <b>Total</b>                                    | <b>240</b>       | <b>100</b>        |

The findings show that the effectiveness, accessibility, and inclusivity of digital banking are highly valued. Security features need to be better understood and trusted in order to boost user confidence.

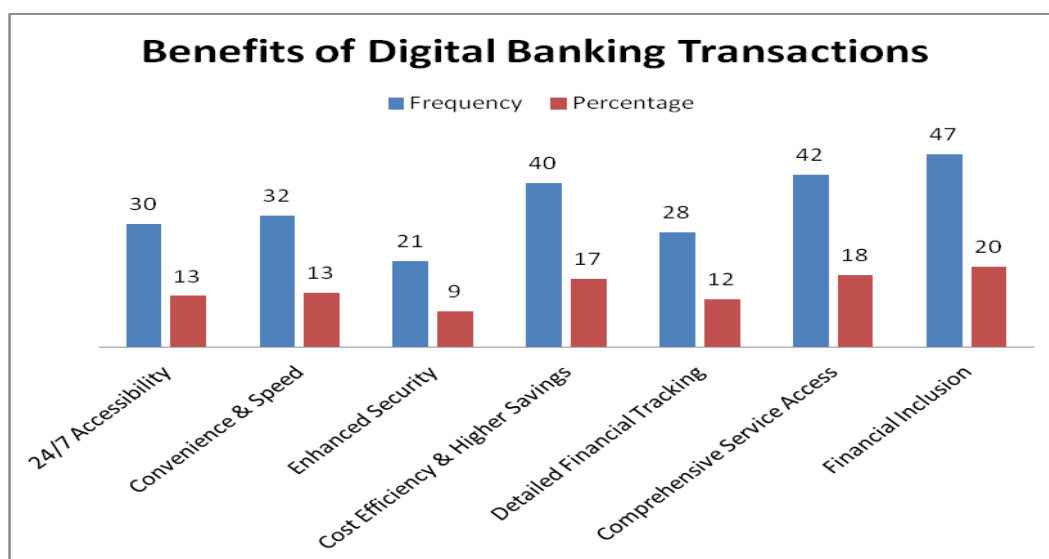


Figure 1: Benefits of Digital Banking Transactions

Table 2: Challenges of Digital Banking and the Level of Digital Technology Usage

| ANOVA                           |                |                |     |             |        |      |
|---------------------------------|----------------|----------------|-----|-------------|--------|------|
|                                 |                | Sum of Squares | DF  | Mean Square | F      | Sig. |
| Cyber security Threats          | Between Groups | 64.667         | 2   | 32.333      | 20.233 | .000 |
|                                 | Within Groups  | 378.733        | 237 | 1.598       |        |      |
|                                 | Total          | 443.400        | 239 |             |        |      |
| Digital Awareness and Education | Between Groups | 40.371         | 2   | 20.186      | 23.034 | .000 |
|                                 | Within Groups  | 207.691        | 237 | .876        |        |      |
|                                 | Total          | 248.063        | 239 |             |        |      |
| Lack of Physical Presence       | Between Groups | 21.543         | 2   | 10.772      | 6.477  | .002 |
|                                 | Within Groups  | 394.119        | 237 | 1.663       |        |      |
|                                 | Total          | 415.663        | 239 |             |        |      |
| Interoperability Issues         | Between Groups | 27.886         | 2   | 13.943      | 7.940  | .000 |
|                                 | Within Groups  | 416.177        | 237 | 1.756       |        |      |
|                                 | Total          | 444.063        | 239 |             |        |      |
| Regulatory Complexity           | Between Groups | 25.522         | 2   | 12.761      | 6.856  | .001 |
|                                 | Within Groups  | 441.140        | 237 | 1.861       |        |      |
|                                 | Total          | 466.663        | 239 |             |        |      |
| Operational Resilience          | Between Groups | 27.947         | 2   | 13.973      | 8.691  | .000 |
|                                 | Within Groups  | 381.049        | 237 | 1.608       |        |      |
|                                 | Total          | 408.996        | 239 |             |        |      |
| Fintech Disruption              | Between Groups | 67.333         | 2   | 33.667      | 20.924 | .000 |
|                                 | Within Groups  | 381.329        | 237 | 1.609       |        |      |
|                                 | Total          | 448.662        | 239 |             |        |      |
| Jurisdictional Compliance       | Between Groups | 21.617         | 2   | 10.809      | 6.008  | .003 |
|                                 | Within Groups  | 426.366        | 237 | 1.799       |        |      |
|                                 | Total          | 447.983        | 239 |             |        |      |

The ANOVA results unambiguously show that all of the preferred digital banking difficulties differ greatly between the various defendant groups. Fintech disruption, Cyber security threats, and digital mindfulness and instruction show the largest assortment among them, suggesting that these are the most significant and extensively discussed issues. This suggests that financial organisations and congresspersons should reinforce Cyber security frameworks, improve numerical literacy enterprises, adjust to fintech advances, and streamline operational and supervisory measures.

**Table 3: Paired Samples Correlation Statistics - Aspects of UPI in Banking and Digital Payment Modes in India**

|        |                                       | Mean | Std. Deviation | Correlation | t     | Sig. |
|--------|---------------------------------------|------|----------------|-------------|-------|------|
| Pair 1 | Real-Time Transactions                | 4.42 | 1.114          | .259        | 6.871 | .000 |
|        | UPI (Unified Payments Interface)      | 3.71 | 1.468          |             |       |      |
| Pair 2 | Interoperability                      | 4.50 | 1.047          | .115        | 2.398 | .076 |
|        | Aadhaar Enabled Payment System (AEPS) | 4.31 | .741           |             |       |      |
| Pair 3 | Security                              | 4.19 | 1.342          | .160        | 6.520 | .013 |
|        | IMPS (Immediate Payment Service)      | 3.46 | 1.331          |             |       |      |
| Pair 4 | Ease of Use                           | 4.75 | .888           | .152        | 6.479 | .018 |
|        | NEFT & RTGS                           | 4.08 | 1.501          |             |       |      |
| Pair 5 | Wide Adoption                         | 4.75 | .888           | .143        | 6.950 | .026 |
|        | Cards & Wallets                       | 4.03 | 1.495          |             |       |      |

With the exemption of interoperability with AEPS, which does not exhibit a significant impact, the investigation shows that the popular of digital investment features such as real-time transactions, security, ease of use and general adoption have a statistically significant effect on comparable payment systems.

**Table 4: Correlations - Impacts on Banking Transactions**

- I - Impacts on Banking Transactions
- I1 - Unprecedented Volume Growth
- I2 - Reduced Cash Handling Costs
- I3 - Faster Settlement and Efficiency
- I4 - Financial Inclusion and Access
- I5 - Shift in Banking Behaviour
- I6 - Increased Competition and Innovation

|    |                     | Correlations |        |        |        |        |     |
|----|---------------------|--------------|--------|--------|--------|--------|-----|
|    |                     | I1           | I2     | I3     | I4     | I5     | I6  |
| I1 | Pearson Correlation | 1            |        |        |        |        |     |
|    | Sig. (2-tailed)     |              |        |        |        |        |     |
|    | N                   | 240          |        |        |        |        |     |
| I2 | Pearson Correlation | .485**       | 1      |        |        |        |     |
|    | Sig. (2-tailed)     | .000         |        |        |        |        |     |
|    | N                   | 240          | 240    |        |        |        |     |
| I3 | Pearson Correlation | .213**       | .472** | 1      |        |        |     |
|    | Sig. (2-tailed)     | .001         | .000   |        |        |        |     |
|    | N                   | 240          | 240    | 240    |        |        |     |
| I4 | Pearson Correlation | .570**       | .232** | .256** | 1      |        |     |
|    | Sig. (2-tailed)     | .000         | .000   | .000   |        |        |     |
|    | N                   | 240          | 240    | 240    | 240    |        |     |
| I5 | Pearson Correlation | .736**       | .729** | .202** | .484** | 1      |     |
|    | Sig. (2-tailed)     | .000         | .000   | .002   | .000   |        |     |
|    | N                   | 240          | 240    | 240    | 240    | 240    |     |
| I6 | Pearson Correlation | .339**       | .582** | .433** | .182** | .356** | 1   |
|    | Sig. (2-tailed)     | .000         | .000   | .000   | .005   | .000   |     |
|    | N                   | 240          | 240    | 240    | 240    | 240    | 240 |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis shows that each variable has a significant and positive relationship. Variables like I5, I1, and I2 have stronger correlations, indicating their importance in the research model. These findings verify that a variety of interconnected factors have an impact on the research concept.

### **Recommendations and Conclusion**

The UPI understanding and India's cardinal compensation ecosystem offer important insights into the administrative assemblies of payment marketplaces across various countries. With the help of abundant public substructures and legal frameworks, the payments sector has developed over time. The imbursement services industry is conquered by a small number of powerful companies, although UPI has developed a thriving market with significant investments. Its impartial is to make currency transfers simple, rapid, and hassle-free by creating a unified interface. The features of UPI enthuse participants in the service sector to embrace this tool, and the former declared study pointed out a notable gender disparity in UPI adoption. The surge in smart phone usage, the presence of an online verifiable identity, universal access to banking, and the launch of biometric sensors in mobile devices will significantly promote UPI transactions. Additionally, the findings indicated that respondents view UPI communications positively, subsidiary the changeover to a less-cash society in India. With innovations and policy changes required to maintain growth, increase consumer confidence, and encourage broad financial inclusion, the future of digital payments in India looks bright. The emergent trends in UPI and IMPS will be critical in creating a more efficient, transparent and wide-ranging financial system for millions of Indians as the country transitions to a fully digital economy. The background of conservative banking has been profoundly misshapen by digital technologies. With improved speed, convenience, and security, it allows users to accomplish their investment needs anytime and from anywhere. To foster innovation, boost productivity, and provide customer-centric experiences, banks have excellently included digital models.

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