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Evolution and Current Status of Digital Payment Systems in India: A Decade after the 2016 Indian Demonetization

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ABSTRACT

The rapid growth of digital payment systems has significantly transformed the financial transaction landscape in India over the past decade. This study examines the evolution and current status of digital payment systems in India in the decade following the 2016 Indian Demonetisation. The study is based on secondary data obtained from the Monthly Payment System Indicators published by the Reserve Bank of India. Monthly transaction data for the year 2025 have been analysed to assess the value and trends of major digital payment systems such as Unified Payments Interface (UPI), credit cards, and debit cards. The analysis is primarily descriptive and focuses on identifying patterns in digital payment transactions across different months. The findings indicate that UPI has emerged as the most dominant digital payment platform in India, accounting for a substantial share of total digital transactions. The consistently high volume and value of digital payments reflect the increasing adoption of electronic payment methods and highlight the continued expansion of India's digital payment ecosystem.

Keywords: Digital Payments, Reserve Bank of India, Demonetization, UPI, India

In the digital age, advances in technology have significantly transformed the global financial system. Digital payment systems have emerged as an essential part of modern financial infrastructure, enabling fast, secure, and convenient financial transactions. Digital payments refer to financial transactions conducted through electronic means such as internet banking, mobile banking, debit and credit cards, prepaid payment instruments, and real-time payment platforms. In India, the rapid growth of digital payment systems has been driven by technological advancements, policy changes, and the increasing penetration of smartphones and internet connectivity.

A major turning point in the growth of digital payments in India was the 2016 Indian

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demonetization, when the Indian government announced the demonetization of ₹500 and ₹1000 currency notes on November 8, 2016 (Waitugi, 2025). This policy invalidated 86 percent of currency in circulation overnight, creating a severe cash crunch that accelerated adoption of digital alternatives like UPI, debit cards, and mobile wallets. Digital payment usage surged, with cash's share in transactions dropping significantly and metrics like UPI transactions rising from near zero to hundreds of millions within months (Agarwal et al., 2024).

Following demonetization, digital payment infrastructure and usage in India expanded significantly. Platforms such as the Unified Payments Interface (UPI), Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT), debit and credit cards, and mobile wallets rapidly gained popularity among users. The launch of UPI by the National Payments Corporation of India revolutionized the digital payment ecosystem by enabling instant and convenient fund transfers through mobile applications. Regulatory support and policy measures initiated by the Reserve Bank of India have also played a key role in strengthening the digital payment infrastructure and ensuring the safety and efficiency of electronic transactions.

The rapid growth of digital payments is driven by several factors, including government initiatives like the Digital India program, increased internet connectivity, rising smartphone penetration, and the development of user-friendly mobile payment applications. These developments have encouraged consumers and businesses to gradually shift from cash-based transactions to digital payment modes, contributing to greater financial transparency, efficiency, and financial inclusion in the economy. Despite the rapid expansion of digital payment systems in India, it is important to examine how these systems have evolved over a longer period following major policy interventions. In particular, the 2016 Indian Demonetisation is widely considered a key catalyst that accelerated the adoption of digital payment platforms. A decade after this policy intervention, it becomes essential to assess the current status and growth pattern of digital payment systems in the country. Therefore, the present study analyses the evolution and current status of digital payments in India using monthly payment transaction data published by the Reserve Bank of India. By examining these trends, the study aims to provide insights into how digital payment systems have developed over the ten years following demonetisation and how they have transformed India's payment ecosystem.

REVIEW OF LITERATURE

Several studies have examined the growth and impact of digital payment systems in India, particularly after the 2016 Indian Demonetisation.

Lakshmi (2025) investigated the role of digital payments in promoting financial inclusion and improving transaction efficiency. The study concluded that initiatives such as the Digital India programme and the rapid expansion of mobile internet services have accelerated the adoption of digital payments across both urban and rural areas.

Another study by Bala and Sharma (2025) examined the determinants of digital payment adoption among Indian consumers. Their research identified factors such as technological advancement, smartphone penetration, financial literacy, and government policy support as important drivers of digital payment usage.

A study by Agarwal and Khatri (2024) analysed users' awareness and perception of digital payment systems such as UPI, mobile wallets, and internet banking. The study found that increasing awareness and government initiatives have significantly encouraged consumers to shift from cash-based transactions to digital modes of payment.

Mahajan and Agarwal (2017) examined the early impact of demonetisation on digital transactions and found that the sudden shortage of cash significantly accelerated the use of electronic payment methods such as mobile wallets, debit cards, and online banking. The study suggested that demonetisation acted as a catalyst for expanding the digital payment ecosystem in India.

Similarly, Gandhi (2018) highlighted the role of regulatory initiatives introduced by the Reserve Bank of India in strengthening payment infrastructure and promoting safe and efficient digital transactions. The study emphasised that improvements in payment systems and regulatory support have been crucial for sustaining the growth of digital payments.

Mishra and Patel (2021) analysed the role of digital payment systems in promoting financial inclusion in India. The study highlighted that the expansion of digital financial services has improved access to banking and financial transactions, particularly among rural and semi-urban populations.

While previous studies have examined digital payment adoption, consumer perceptions, financial inclusion, and the technological aspects of digital payment systems, most of them primarily focus on

short-term changes following the 2016 Indian Demonetisation. Limited research has systematically analysed the long-term evolution and current status of digital payment systems in India over an extended period. In particular, there is a need to examine how digital payment transactions have progressed over the decade following demonetisation using reliable secondary data sources. Therefore, the present study attempts to address this gap by analysing the evolution and current status of digital payment systems in India using monthly transaction data published by the Reserve Bank of India for the period covering the decade after demonetisation.

METHODOLOGY

Objectives of the study

The present study aims to examine the evolution of digital payment systems in India in the decade following the 2016 Indian Demonetisation. The study primarily focuses on analysing the current status and growth of major digital payment systems in the country using monthly transaction data published by the Reserve Bank of India. By examining these trends, the study seeks to understand how digital payment transactions have expanded over time and how the payment ecosystem in India has developed during the ten years after demonetisation.

Data and methodology

The present study is descriptive and analytical in nature and aims to examine the current status and growth pattern of digital payment systems in India in the decade following the 2016 Indian Demonetisation. The study is entirely based on secondary data collected from Payment System Indicators released by the Reserve Bank of India. Monthly data for the year 2025 has been used to analyse the value of major digital payment systems such as Unified Payments Interface (UPI), credit cards, debit cards, and total digital payments. For the purpose of analysis, the collected data have been systematically organised and presented in tabular form to show the monthly trends of digital payment transactions. The study employs simple descriptive statistical tools such as percentages, tables, to analyse the status and growth of digital payments across different months.

ANALYSIS AND FINDINGS

Over the past decade, India has witnessed a significant expansion in transactions conducted through digital payment channels. Today, in year 2025, nearly ten years after the 2016 Indian demonetization, a detailed examination of monthly digital payment data offers crucial insights into the structure and dynamics of India's constantly evolving payment ecosystem. Analyzing the transaction values across various digital payment mediums helps in understanding the relative significance of different platforms, as well as the shifting preferences of both consumers and businesses. India has experienced a transformative shift in its payment infrastructure, a process that gained substantial momentum following the 2016 demonetization. The proliferation of mobile-based payment technologies, enhanced digital infrastructure, and supportive regulatory initiatives undertaken by the Reserve Bank of India have collectively driven a significant surge in the adoption of electronic payment systems.

Table 1 presents the monthly value of major digital payment systems in India for the year 2025, including UPI, credit cards, debit cards, and total digital payments based on the monthly payment system statistics published by the Reserve Bank of India. The data reveals important trends regarding the structure and dominance of different digital payment instruments within India's payment ecosystem.

Table 1

Monthly value of major digital payment systems in India (in year 2025) (Value in ₹ Billion)

Month	UPI	Credit Cards	Debit Cards	Total Digital Payments (₹ Billion)
January	23,480.37	1,841.26	389.63	249,419.70
February	21,964.82	1,672.08	343.14	230,108.57
March	24,772.22	2,014.94	390.55	301,176.31
April	23,949.26	1,842.37	381.13	244,641.64
May	25,142.97	1,898.32	369.78	246,143.18
June	24,039.31	1,830.88	354.63	264,198.84
July	25,084.98	1,938.49	381.38	266,538.67
August	24,854.73	1,911.59	374.06	239,392.64

September	24,897.37	2,167.07	367.76	278,793.61
October	27,277.91	2,142.30	421.43	270,890.51
November	26,316.33	1,887.99	341.43	246,691.00
December	27,967.13	2,046.87	372.74	305,672.64

Source: Reserve Bank of India, *Monthly Payment System Indicators*, 2025

The analysis clearly indicates that Unified Payments Interface (UPI) is the most dominant digital payment system in India. Throughout 2025, UPI transactions consistently recorded the highest values among all retail digital payment modes. The value of UPI transactions fluctuated between ₹21,964.82 billion in February and ₹27,967.13 billion in December, showing a generally increasing trend toward the end of the year. The highest value was recorded in December, reflecting the growing popularity and widespread acceptance of UPI for both peer-to-peer and merchant transactions. This strong performance highlights the crucial role of UPI in driving the expansion of India's digital payment ecosystem after the 2016 Indian Demonetisation.

Credit card transactions also exhibited a relatively stable pattern during the year. The monthly value ranged between ₹1,672.08 billion in February and ₹2,167.07 billion in September. Compared with UPI, credit card payments accounted for a smaller share of the total digital payments but still remained an important mode for higher-value retail purchases and online transactions. Debit card transactions showed comparatively lower values throughout the year, ranging from ₹341.43 billion in November to ₹421.43 billion in October. The relatively lower value of debit card transactions may reflect the increasing preference for mobile-based digital payments, particularly UPI, which has gradually replaced card-based payments for small and medium-value transactions. The table also highlights the overall magnitude of digital payments in the Indian economy. Total digital payments remained consistently high during the year, exceeding ₹230,000 billion each month. The highest value of total digital payments was recorded in December, 2025 (₹305,672.64 billion), while the lowest was observed in February (₹230,108.57 billion). These fluctuations may be influenced by seasonal economic activities, consumer spending patterns, and business transactions across different months.

Overall, the findings indicate that India's digital payment ecosystem has expanded significantly, with UPI emerging as the primary driver of digital transactions. The increasing reliance on electronic payment systems reflects the structural transformation of India's payment infrastructure over the past decade. The continued growth of digital payments demonstrates the strengthening of financial technology infrastructure, increased smartphone penetration, and supportive regulatory initiatives implemented by institutions such as the Reserve Bank of India. These developments collectively highlight the evolving nature and growing importance of digital payment systems in India's financial landscape.

Conclusion

This study examined the current status and growth of digital payment systems in India, utilizing monthly transaction data for the year 2025 published by the Reserve Bank of India. The analysis reveals that in the decade following India's 2016 demonetization, digital payments have emerged as a pivotal component of the country's financial transaction system. The findings indicate that UPI has emerged as a leading digital payment platform, commanding the largest share of digital transactions, while credit and debit cards continue to contribute significantly to the overall digital payment ecosystem. The consistently high monthly volume of digital payment transactions underscores the growing adoption of electronic payment methods by both consumers and businesses. Overall, these results highlight the substantial expansion of India's digital payment infrastructure and reflect a structural shift within the country's payment system toward a more digital and technology-driven financial environment.

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