



Impact of digital payments on cashless economy in India

Vidyadhara M V

Assistant Professor, Department of Economics, Sri JCBM College, Sringeri, Karnataka, India

Abstract

The rapid evolution of digital payments has served as the primary catalyst in transitioning India toward a cashless economy, fundamentally altering the nation's socio-economic fabric. This paper examines the shift from a cash-reliant society to a global leader in real-time digital transactions, driven largely by the Unified Payments Interface (UPI), mobile wallets, and government-led initiatives like Digital India. The study highlights how the formalization of the economy has led to increased GDP growth, enhanced tax compliance, and the streamlined delivery of social security through Direct Benefit Transfers (DBT). Furthermore, it explores the critical role of digital trails in providing financial inclusion for the unbanked and enabling credit access for MSMEs. Despite record-breaking transaction volumes, the transition faces persistent hurdles, including the rural-urban digital divide, escalating cybersecurity threats, and infrastructure dependencies. The paper concludes that while India has achieved a "digital leap," the long-term sustainability of a cashless ecosystem depends on strengthening cyber-resilience, improving last-mile connectivity, and fostering digital literacy among vulnerable populations.

Keywords: Digital payments, cashless economy, UPI, financial inclusion, india, fintech, economic formalization

Introduction

The shift toward a cashless economy marks a historic transition from physical currency to a digital-first financial system. At its core, this movement is driven by the integration of digital payment technologies such as mobile wallets, UPI, and contactless cards into the daily lives of consumers and businesses. While the concept of electronic money has existed for decades, the current "digital revolution" has been accelerated by the global ubiquity of smartphones, high-speed internet, and government initiatives aimed at increasing transparency. By replacing paper notes with digital trails, a cashless economy seeks to enhance financial inclusion, reduce the costs of managing physical cash, and curb the "shadow economy."

However, this impact is not uniform; it brings both immense operational efficiency and significant challenges, including concerns over cybersecurity, data privacy, and the widening digital divide. Ultimately, the impact of digital payments is not just about changing how we pay, but about fundamentally restructuring the modern economic landscape. The transition to a cashless economy is more than just a change in how we pay; it represents a structural overhaul of the global financial system. This shift is powered by digital payment ecosystems ranging from mobile wallets and QR codes to instant bank transfers that replace physical banknotes with encrypted electronic data.

Historically, economies relied on the physical exchange of currency, which involved high costs for printing, transporting, and securing cash. Today, the rise of the "Digital Leap" has flipped this model. Driven by the ubiquity of smartphones and high-speed internet, digital payments have moved from being a luxury to a baseline utility. This movement is often accelerated by government policies such as India's Digital India initiative or Sweden's move toward a cash-free society designed to bring "shadow" transactions into the light of the formal economy.

Impact of Digital tools on Cash-less Economy

To understand the impact of digital tools, think of them as the "engine" that makes a cashless economy possible.

Without these tools, "cashless" is just a concept; with them, it becomes a daily reality.

1. The Tools of Transformation: The tools of transformation is discussed as below;

a. Mobile Wallets & UPI: These are the most visible tools. They remove the "friction" of physical distance, allowing instant peer-to-peer and merchant payments using just a smartphone.

b. QR Code Technology: This low-cost tool revolutionized small-scale retail. It allowed even the smallest street vendor to accept digital payments without expensive card machines (PoS terminals).

c. NFC (Near-Field Communication): This enables "Tap-to-Pay" on cards and phones, making high-volume transactions (like metro gates or grocery checkouts) significantly faster than cash.

d. Biometric Systems (Aadhaar-based): In India, tools like AEPS (Aadhaar Enabled Payment System) allow people in rural areas to withdraw or transfer money using only a fingerprint, bridging the gap for those without smartphones.

2. Primary Impacts: The primary impact of digitalization is discussed as below;

a. Increased Velocity of Money: Digital tools allow money to circulate faster. A payment made via UPI is settled instantly, allowing the receiver to reinvest that money immediately, which boosts overall economic activity.

b. Transaction Transparency: Every digital tool leaves a "footprint." This reduces the circulation of counterfeit currency and makes it harder for "black money" to stay hidden, leading to better tax collection for the government.

c. Operational Cost Savings: Managing physical cash is expensive (printing, security vans, ATM maintenance). Digital tools drastically reduce these "overhead" costs for banks and the state.

d. Data-Driven Credit: Because digital tools record every transaction, small businesses that previously had no financial history now have a "digital ledger." Banks use this data to provide loans to people who were once considered "unbankable."

3. The "Double-Edged Sword": While these tools offer efficiency, they also introduce new risks:

a. Cyber Vulnerability: As tools become more complex, so do scams (phishing, SIM swapping).

b. Exclusion: Those who cannot afford the "tools" (smartphones or data plans) risk being left out of the modern economy.

c. Privacy: Digital tools track where, when, and what you buy, leading to concerns about surveillance and data monetization.

Economic and Social Benefits of Digital tools on Cash-less Economy

The social and economic benefits of digital payments are deliberated as below:

1. Financial Inclusion: Over 500 million bank accounts opened under Pradhan Mantri Jan Dhan Yojana (PMJDY) have been activated through UPI, with 68% of these accounts now performing at least one digital transaction monthly.

2. Formalisation & Tax Compliance: Digital trails have improved tax visibility. GST collections rose to over ₹1.87 lakh crore in April 2024, partially attributed to the reduction in "shadow" cash transactions.

3. Direct Benefit Transfer (DBT): More than 500 government schemes now use digital rails to send subsidies directly to beneficiaries, ensuring 72% of recipients receive timely payments.

4. Reduced Cost of Cash: Transitioning to digital is estimated to save the exchequer over ₹75,000 crore annually by reducing the costs associated with printing, transporting, and securing physical currency.

Economic and Social Impact of Digital tools on Cash-less Economy

The Economic and social impact of digital payments are considered as below:

1. GDP Growth: Studies indicate that digital payment adoption contributes 0.5% to 1.0% to India's GDP growth by reducing transaction costs and expanding financial access.

2. Financial Inclusion: Over 500 million bank accounts opened under Pradhan Mantri Jan Dhan Yojana (PMJDY) serve as the foundation for digital transactions, with 68% of these accounts now performing at least one UPI transaction monthly.

3. MSME Empowerment: Approximately 72% of payments in Micro, Small, and Medium Enterprises (MSMEs) are now conducted digitally.

a. Revenue Increase: 58% of small merchants using UPI reported a 15–25% increase in monthly revenue due to easier payment collections.

b. Credit Access: Digital trails allow lenders to offer MSME loans based on verified cash flows rather than just physical collateral.

4. Government Efficiency: More than 500 government schemes use digital rails for Direct Benefit Transfer (DBT), ensuring 72% of beneficiaries receive subsidies timely and without leakages.

5. Cost Savings: India saves over ₹75,000 crore annually by reducing the costs associated with printing, transporting, and securing physical currency.

Impact of Digital Payments on Rural Retail & Small Vendors

Digital payments have fundamentally changed how small businesses in Tier 2, 3, and rural areas operate:

1. MSME Revenue Growth: Approximately 58% of small merchants reported a 15–25% increase in monthly revenue after adopting UPI, primarily due to faster checkouts and fewer "no-change" issues.

2. Credit Digitisation

a. By accepting digital payments, small vendors create a "digital trail" that helps them qualify for formal bank loans without needing traditional collateral.

b. The PM SVANidhi scheme has already onboarded over 6.8 million street vendors into this digital credit ecosystem.

3. Offline Solutions for the "Last Mile"

a. UPI Lite: now allows small, frequent payments (up to ₹500) directly from an on-device wallet, working even in areas with intermittent internet.

b. Micro ATMs: Users can now withdraw cash at local shops by scanning a QR code, turning village retailers into mini-banks.

4. Challenges in the Field:

a. Reliability: Poor internet remains the top hurdle, causing transaction failure rates of up to 25–30% in remote areas.

b. Literacy Gap: Only about 25% of small retailers have received formal digital training, leading to a continued reliance on family members for troubleshooting.

Current Challenges of Digital Payments

Current Challenges of Digital Payments in India are discussed as below:

Challenges of digital payments

Key Challenges of Digital Payment in India

1. Cybersecurity and fraud: As digital transactions increase, so do phishing scams, data breaches, and social engineering frauds, which undermine user trust.

2. **Infrastructure and connectivity:** Inconsistent internet connectivity and poor power supply, particularly in rural and remote regions, severely limit the adoption and usability of digital payment tools. Infrastructure and Connectivity
3. **Digital and Financial illiteracy:** A significant portion of the population lacks the technical knowledge to navigate payment apps securely, making them vulnerable to fraud.
4. **Transaction failures and technical glitches:** Platforms, especially UPI, experience high volumes of traffic, leading to transaction failures, payment delays, and app crashes.
5. **Low adoption by small merchants:** Many small vendors still prefer cash transactions due to a lack of awareness, fear of digital systems, or high transaction costs.
6. **Regulatory and inter-operability:** Navigating complex regulations and the lack of seamless interoperability between different payment systems can cause confusion.
7. **Transaction limits:** Daily and per-transaction limits, particularly on UPI, can restrict users needing to make larger, high-value payments.
8. **Digital Divide:** Approximately 300 million Indians still lack smartphones, and nearly 400 million remain without internet access, particularly in remote rural areas.
9. **Infrastructure Reliability:** Network connectivity issues cause failure rates to spike to 25-30% in some rural regions, discouraging consistent use.
10. **Future Volume:** Digital payments are projected to grow to 617 billion transactions by FY30, a 3x increase from FY25.
11. **Offline Payments:** UPI Lite and NFC-based solutions are being scaled to allow transactions without active internet connectivity.
12. **CBDC (e-Rupee):** The RBI's Central Bank Digital Currency pilot has reached 5 million users and 400,000 merchants, offering a government-backed digital alternative to cash.
13. **Global UPI:** UPI is expanding internationally, with operational links in countries like the UAE, Singapore, France, and Mauritius.

Conclusion

India has transitioned into a "digital-first" economy, driven by UPI adoption and the JAM trinity, which have enhanced formalization, financial inclusion, and cost efficiency. While digital payments contribute significantly to GDP growth and rural adoption is rising, achieving a fully cashless state requires overcoming challenges in digital infrastructure, security, and the continued reliance on cash. The transition

of the Indian economy toward a "cashless" or "digital-first" state is no longer a future goal but a present reality. By early 2026, digital payments have become a daily habit for millions, fundamentally altering how commerce, financial inclusion, and governance operate in India.

Reference

1. <https://www.google.com/search?q=challenges+of+digital+payments+in+india>
2. https://www.google.com/search?q=digital+payments+in+india&sca_esv
3. <https://www.google.com/search?q=history+of+digital+payments>
4. Giridhar K. V., Banking Theory and Practice, United Agencies, pp-201-206
5. B. S. Raman, Law and Practice of Banking, United Publications, pp-81-23
6. Keshav, Digital Payments, College Book-house Publications, pp-98-99