

How has the adoption of UPI (Unified Payments Interface) driven growth in India's retail trade volume?

Pranay Jain

The Shri Ram School Aravali

DOI: 10.46609/IJSSER.2026.v11i01.014 URL: <https://doi.org/10.46609/IJSSER.2026.v11i01.014>

Received: 9 January 2026 / Accepted: 20 January 2026 / Published: 25 January 2026

Introduction

Background of Digital Payments in India

Over the last decade, India has witnessed a major shift in how people pay for goods and services. From using cash for most daily transactions, the country has moved toward digital payments at a rapid pace. This digital transformation was driven by a combination of factors such as increasing mobile phone use, rising internet access, and major government initiatives. The 2016 demonetization played a big role in pushing digital payments further, as cash became less available, and people were forced to look for other payment options.

Before the introduction of the Unified Payments Interface (UPI), digital payment options included credit/debit cards, NEFT, RTGS, IMPS, and mobile wallets. However, many of these methods had limitations like transaction fees, the need for a bank branch or ATM, or longer processing times. Before the launch of UPI in 2016, **only about 5–10% of India's population** used digital payment methods like **credit cards, NEFT, RTGS, or internet banking** for retail payments. These methods were largely confined to **urban, educated, and banked segments**, with **over 70-80% of retail transactions still happening in cash**, especially in rural and semi-urban areas¹. UPI was launched by the National Payments Corporation of India (NPCI) in August 2016. It allowed people to send and receive money directly from their bank accounts using just a smartphone and a UPI ID—no need for bank account numbers, IFSC codes, or even wallets. This made it fast, free, and easy for anyone, including small shopkeepers and customers in rural areas, to use digital payments.² UPI works 24/7 and is free of charge for users, making it fast, easy, and

¹ Press Information Bureau. (2023, October 30). *India's UPI: A global front-runner in digital payment systems*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1973082>

² Ministry of Electronics and Information Technology. (n.d.). *Unified Payments Interface (UPI)*. Cashless India. <http://cashlessindia.gov.in/upi.html> .

highly convenient. It supports multiple banks in a single app and enables payments using QR codes, mobile numbers, or virtual IDs. UPI solved a big problem in Indian retail by reducing the dependence on cash. Before UPI, most small shops and kirana stores accepted only cash, which was hard to track, unsafe, and excluded them from digital finance. It was adopted quickly because of its **simplicity, zero fees**, and support from **government policies like Digital India and zero MDR charges for merchants**. Government apps like BHIM, Private apps like PhonePe, Google Pay, and Paytm also helped spread its usage rapidly. The introduction of QR codes for easy payments have made UPI accessible to everyone—from large supermarkets to roadside vendors³. UPI has fundamentally changed how Indians transact, from street vendors to large retailers. As of 2022, India accounts for nearly **46% of global digital transactions**, surpassing countries like Brazil, China, and South Korea. UPI usage has surged from **1 million transactions in 2016 to over 10 billion transactions**, with **over 30 crore individuals and 5 crore merchants** now using the system. The 2016 demonetization played a catalytic role in promoting digital payments, with UPI transactions increasing from **2.9 million to 72 million within six months**, and growing **900% by the end of 2017**. Cash transactions, which accounted for **90% of total transactions in 2017**, have declined to **below 60%**, reflecting UPI's role in formalizing the economy and reducing cash dependency. UPI's design simplicity, using a **Virtual Payment Address (VPA)**, eliminates the need to share sensitive bank details, enhancing convenience, security, and financial inclusion.

UPI has not only displaced cash but also other digital payment methods like debit cards and wallets. Innovations such as **voice boxes** that audibly confirm transactions have built trust among small merchants, promoting acceptance. The integration of **RuPay credit cards with UPI** has further enhanced its utility by combining credit benefits with UPI's ease of use.⁴

The **government benefited** through better **tax collection (like GST)** and increased **financial transparency**. **Retailers** gained access to **formal banking**, easier recordkeeping, and even **small loans**, while customers enjoyed fast, cashless, and contactless payments. Since its launch, UPI has grown incredibly fast. According to the NPCI, **UPI recorded over 13 billion transactions in March 2024 alone**, with a **total transaction value of ₹19.78 lakh crore** (NPCI,

³ (Cornelli, G., Frost, J., Gambacorta, L., Sinha, S., & Townsend, R. M. (2024, December). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (BIS Papers No. 152). Bank for International Settlements. https://www.bis.org/publ/bppdf/bispap152_e_rh.pdf

⁴ Press Information Bureau. (2023, October 30). *India's UPI: A global front-runner in digital payment systems*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1973082>.

2024). This is a big jump from **just 0.1 million transactions in August 2016**⁵. It shows how UPI has become one of the most used digital payment systems in the world.⁶

Importance of Retail Trade in India's Economy

Retail trade plays a very important role in the Indian economy. It includes everything from large malls and supermarkets to small local stores (Kirana shops), street vendors, and online businesses. The retail sector contributes **over 10% of India's GDP** and supports **around 8% of total employment** in the country (India Brand Equity Foundation.⁷The Indian retail market is one of the largest in the world, valued at around **US\$ 1.1 trillion in 2023**, and is expected to reach **US\$ 2 trillion by 2032**.With more and more people shopping online and paying digitally, retail is becoming more organized and digitally driven.⁸

The growth of UPI and digital payments has helped improve transparency, reduce cash-handling costs, increase consumer convenience, and boost business for small and large retailers alike⁹

Despite its success, UPI faced challenges such as **digital illiteracy**, **lack of smartphone access** in rural areas, and **cybersecurity threats** like fraud and phishing. Many small merchants initially struggled with poor internet connectivity and limited awareness¹⁰. Additionally, **zero MDR**

⁵ National Payments Corporation of India (NPCI). (2025). UPI Product Statistics. <https://www.npci.org.in/what-we-do/upi/product-statisticsNPCI+3NPCI+3NPCI+3>

⁶ (Business Today. (2024, May). *UPI transactions dip marginally to ₹19.64 lakh crore in April from ₹19.78 lakh crore in March*. <https://www.businesstoday.in/latest/in-focus/story/upi-transactions-dip-marginally-to-rs-1964-lakh-cr-in-april-from-rs-1978-lakh-cr-in-march-430190-2024-05-03>

⁷ India Brand Equity Foundation. (2025, February). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>

⁸ Business Today Desk. (2024, December 8). *Digital payments: How do UPI, UPI Lite, NEFT, RTGS work? Know the differences, charges, time taken*. Business Today. <https://www.businesstoday.in/personal-finance/banking/story/digital-payments-how-do-upi-upi-lite-neft-rtgs-work-know-the-differences-charges-time-taken-456560-2024-12-08>.

⁹ SUERF. (2024, August 14). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (SUERF Policy Note No. 355). <https://www.suerf.org/publications/suerf-policy-notes-and-briefs/the-organisation-of-digital-payments-in-india-lessons-from-the-unified-payments-interface-upi>.

¹⁰ Razorpay. (2025, March 21). *Digital payments in India – Meaning, types of digital payment, benefits & how do they work?* Razorpay Learn. <https://razorpay.com/learn/what-is-digital-payments/>

(Merchant Discount Rate) policy, while good for users, raised concerns about long-term sustainability for banks and payment service providers¹¹.

Despite UPI's strong growth and wide adoption, there is still limited academic research that clearly measures its actual impact on the retail trade sector. While we know digital payments are growing, how much they have directly helped increase **retail trade volumes** is not well understood¹².

This research aims to fill that gap. The main objective is to understand **to what extent** UPI has contributed to the **growth of retail trade volumes** in India. Has the increase in UPI usage really boosted retail business? Is there a clear connection between these two trends? This paper uses data and statistical tools to find answers to these questions.

Literature Review

Global Trends in Digital Payments and Retail Trade

The global landscape of digital payments has undergone significant transformation over the past decade. Innovations such as real-time payments, mobile wallets, and QR code-based transactions have reshaped consumer behavior and business operations. In 2023, the global digital payments market was valued at approximately \$9.46 trillion, with projections estimating growth to \$14.78 trillion by 2027, reflecting a Compound Annual Growth Rate (CAGR) of around 11%. Real-time payment systems have gained traction worldwide, driven by technological advancements and consumer demand for instant transactions. For instance, the adoption of real-time payments has been accelerated by the need for immediate fund transfers, especially among gig economy workers and small businesses.¹³

In the retail sector, digital payments have become integral to operations. A 2023 study indicated that 82% of Americans utilized some form of digital payment, up from 72% in 2020,

¹¹ The Economic Times. (2024, February 1). *UPI speed bump: Wider base shrinks growth rate*. <https://economictimes.indiatimes.com/tech/technology/upi-speed-bump-wider-base-shrinks-growth-rate/articleshow/120044193.cms>

¹² Reserve Bank of India (RBI). (2024). *Handbook of Statistics on the Indian Economy*. <https://rbi.org.in/Scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+Economy+Reserve+Bank+of+India>.

¹³ (HES FinTech. (2023, July 11). *Digital payments trends to watch out for in 2023 and beyond*. <https://hesfintech.com/blog/digital-payments-trends/>.

highlighting the mainstream acceptance of these payment methods¹⁴. This shift has enabled retailers to offer seamless checkout experiences, reduce cash handling costs, and tap into data analytics for personalized marketing. India's Unified Payments Interface (UPI), launched in 2016 by the National Payments Corporation of India (NPCI), has revolutionized the country's digital payment ecosystem. UPI facilitates instant money transfers between bank accounts through mobile devices, eliminating the need for traditional banking details.

The growth trajectory of UPI has been remarkable. From 93,000 transactions in August 2016, UPI recorded over 13 billion transactions in March 2024, amounting to a transaction value of ₹19.78 lakh crore. This exponential growth underscores UPI's pivotal role in promoting digital payments across India.¹⁵

Several studies have explored UPI's impact on various sectors. A research paper titled "UPI and Its Impact on Business Performance of Retailers" examined how UPI adoption influenced retail businesses. The study found that retailers experienced increased sales and improved customer satisfaction due to the convenience and speed of UPI transactions¹⁶.

Another study, "From Cash to Cashless: UPI's Impact on Spending Behavior Among Indian Users," highlighted behavioral changes among consumers. The research indicated that approximately 75% of participants reported increased spending due to UPI's ease of use, suggesting a psychological shift in spending habits facilitated by digital payments (Dev, H., Gupta, R., & Kumar, D. (2024, May). *From cash to cashless: UPI's impact on spending behavior among Indian users*. In *Proceedings of the CHI '24: CHI Conference on Human Factors in Computing Systems*).

Retail Trade Dynamics in India (Pre-2016 vs. Post-2016)

¹⁴ HES FinTech. (2023, July 11). *Digital payments trends to watch out for in 2023 and beyond*. <https://hesfintech.com/blog/digital-payments-trends/>

¹⁵ Kayastha, A. (2024, April 1). *UPI ends FY24 on a high note, transactions worth ₹199 lakh crore processed*. The Hindu Business Line. <https://www.thehindubusinessline.com/money-and-banking/upi-ends-fy24-on-a-high-note-transactions-worth-199-lakh-crore-processed/article68016878.ece>.

¹⁶ Roopa, P., Vijayalakshmi, B., & Nishitha, P. (2025). *UPI and its impact on business performance of retailers*. SMART Journal of Business Management Studies, 21(1). https://www.researchgate.net/profile/PRoopa/publication/388286874_UPI_and_Its_Impact_on_Business_Performance_of_Retailers/links/67cbc32ed7597000650709e1/UPI-and-Its-Impact-on-Business-Performance-of-Retailers.pdf

India's retail sector is a significant contributor to its economy, accounting for about 10% of the country's GDP¹⁷. Traditionally dominated by unorganized players like small kirana stores, the sector has been undergoing a transformation, especially post-2016. Before 2016, cash transactions were predominant, and digital payment adoption was limited. The introduction of UPI, coupled with the government's demonetization move in November 2016, acted as catalysts for change. These events pushed both consumers and retailers to explore digital payment options.¹⁸

Post-2016, there has been a noticeable shift. A report by PayNearby highlighted a 33% surge in UPI transactions at retail outlets, indicating growing digital payment adoption beyond metropolitan areas. Additionally, the Indian retail market is projected to grow at a CAGR of 10%, reaching US\$1.6 trillion by 2026, up from US\$641 billion in 2016¹⁹. This growth is attributed to factors like increased smartphone penetration, affordable internet, and government initiatives promoting digital literacy. The integration of digital payments has enabled retailers to expand their customer base, streamline operations, and enhance customer experiences.

While numerous studies have examined the rise of digital payments and UPI's adoption, there remains a paucity of research specifically analyzing the direct correlation between UPI usage and retail trade volume growth. Most existing literature focuses on adoption rates, consumer behavior changes, or the technological aspects of UPI. For instance, while studies have highlighted increased consumer spending due to UPI, they often lack quantitative analyses linking this behavior to overall retail trade volumes. Similarly, research on retailers' adoption of UPI emphasizes operational benefits but doesn't delve deeply into metrics like sales growth or market expansion (Roopa, P., Vijayalakshmi, B., & Nishitha, P. (2025). UPI and its impact on business performance of retailers. *SMART Journal of Business Management Studies*, 21(1), 38–50. https://www.researchgate.net/publication/388286874_UPI_and_Its_Impact_on_Business_Performance_of_Retailers).

Moreover, there's limited exploration of regional disparities in UPI adoption and its consequent impact on local retail economies. Understanding these nuances is crucial for policymakers and businesses aiming to promote inclusive digital growth. Given the gaps identified, this research

¹⁷ FICCI. (2023). *Retail & Internal Trade*. Retrieved from <https://ficci.in/sector/retail-internal-trade>

¹⁸ Indian Retailer. (2023). *Retail Industry in India: Trends and Insights*. Retrieved from <https://www.indianretailer.com/article/retail-business/retail/retail-industry-india-overview-retail-sector-market-size-growth>).

¹⁹ The Economic Times. (2024, May 27). *UPI QR transactions jump 33% at retail stores in Bharat this year: Report*. <https://economictimes.indiatimes.com/industry/banking/finance/upi-qr-transactions-jump-33-at-retail-stores-in-bharat-this-year-report/articleshow/116629885.cms>)

aims to bridge the existing knowledge void by quantitatively assessing the extent to which UPI adoption has influenced retail trade volumes in India. By employing statistical tools like correlation and regression analyses, the study seeks to establish a clear relationship between UPI transaction metrics and retail sector performance indicators.

Such an analysis will provide valuable insights for stakeholders, including policymakers, financial institutions, and retailers, enabling them to make informed decisions regarding digital payment strategies and retail sector development.

Methodology- Research Design

This study follows a **quantitative research design** to examine how the adoption of UPI has affected retail trade volumes in India. It uses real data collected from official government and institutional sources and applies statistical methods to analyze the relationship between UPI transactions and retail growth.

Data Sources

The research uses **secondary data** for the period **2013 to 2024** to cover both the pre-UPI (2013–2016) and post-UPI (2016–2024) phases. **UPI transaction data** (volume and value) has been taken from the **National Payments Corporation of India (NPCI)** (NPCI. (2024). *Unified Payments Interface Statistics*. Retrieved from <https://www.npci.org.in>) and **Reserve Bank of India (RBI)** reports (RBI: <https://www.rbi.org.in>).

Retail trade volume data has been collected from the **Centre for Monitoring Indian Economy (CMIE)** (CMIE: <https://www.cmie.com>), the **Ministry of Commerce**, and the **National Statistical Office (NSO)** (NSO: <https://mospi.gov.in>). Other variables like **GST revenue**, **consumer price index (CPI)** (as a measure of inflation), and **GDP growth** are used as control variables.

Statistical Methods

To find the connection between UPI adoption and retail trade growth, the following statistical methods are used:

1. **Linear Regression Model** to estimate how much UPI transactions affect retail trade volumes.
2. **Pre-Post Analysis** to compare average retail growth before and after UPI implementation.

UPI Adoption in India: Trends & Drivers

Growth in UPI Transactions (Volume & Value)

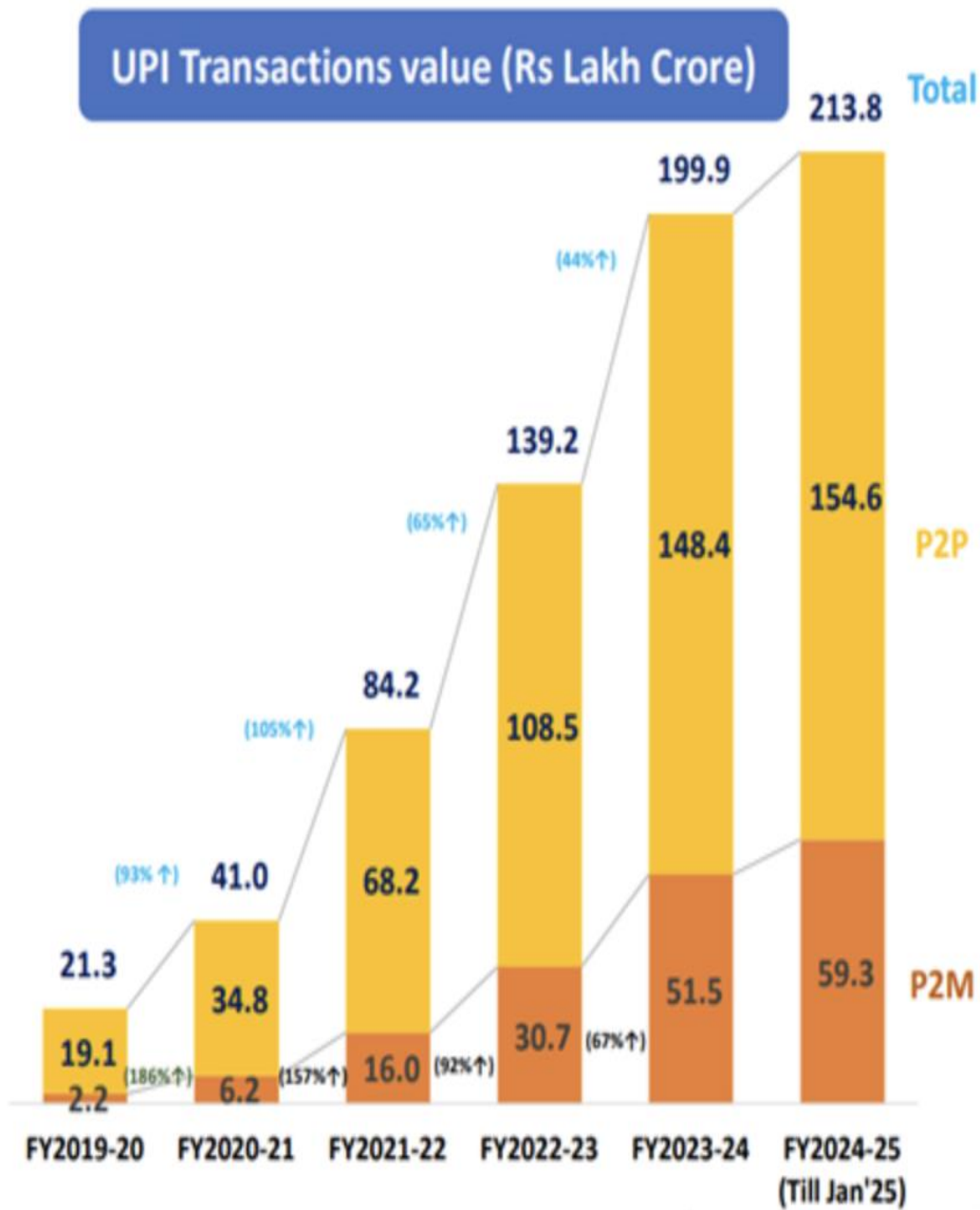
Since its inception in August 2016, the Unified Payments Interface (UPI) has revolutionized India's digital payment landscape. From a modest 0.1 million transactions in its launch month, UPI has witnessed exponential growth²⁰. Unlike other systems like NEFT or RTGS, UPI allows instant, real-time payments via smartphones using just a Virtual Payment Address (VPA), without the need for account numbers or IFSC codes. As per M2P Fintech (2022), UPI recorded **5.95 billion transactions in May 2022 alone**, with a **10% month-on-month growth** in both volume and transaction value²¹. And by March 2025, UPI recorded over 18.3 billion transactions, amounting to a staggering ₹24.77 lakh crore in value. This surge underscores UPI's pivotal role in facilitating seamless, real-time payments across the nation. These numbers reflect the massive trust and convenience that UPI offers to users. Its ease of use, cost-effectiveness (zero to minimal fees), and contactless nature have made it the go-to choice for both consumers and retailers, from large e-commerce platforms to local kirana stores²².

The consistent upward trajectory in both transaction volume and value highlights the increasing trust and reliance of consumers and businesses on UPI. This growth is not just a testament to technological advancement but also reflects a significant shift in consumer behavior towards digital transactions. With a simple QR code, even roadside vendors and kirana stores can now accept payments instantly, opening access to millions of consumers and contributing to formal retail growth. This has significantly boosted **person-to-merchant (P2M)** transactions across urban and rural India.

²⁰ NPCI. (2024). *Unified Payments Interface Statistics*. Retrieved from <https://www.npci.org.in>

²¹ M2P Fintech. (2022, June 23). *UPI – The driver of economic growth and inclusion*. Retrieved from <https://m2pfintech.com/blog/upi-the-driver-of-economic-growth-and-inclusion/>.

²² Press Information Bureau. (2025, February 1). *Digital infrastructure in India: Supporting the dream of a Viksit Bharat*. Government of India. <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2098487>).



Press Information Bureau. (2025, February 1). *Digital infrastructure in India: Supporting the dream of a Viksit Bharat*. Government of India.

<https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2098487>).

Policy Support & Technological Adoption

The rapid adoption of UPI can be attributed to a confluence of policy initiatives and technological advancements. The Indian government's push for a "Digital India" has been instrumental in promoting cashless transactions²³. Policies such as zero Merchant Discount Rate (MDR) for UPI transactions have incentivized merchants to adopt digital payment methods .

Technologically, the proliferation of smartphones and affordable internet has provided the necessary infrastructure for UPI's growth. The integration of UPI into various applications, including BHIM, Google Pay, PhonePe, and Paytm, has made digital payments accessible to a broader audience. Furthermore, innovations like UPI 123PAY have extended digital payment capabilities to feature phone users, ensuring inclusivity.

UPI's adoption is not confined to urban centers; it has made significant inroads into semi-urban and rural areas. As of 2023, approximately 70% of UPI users hailed from regions beyond Tier-1 cities, with over 80% of new users originating from Tier-2 cities and nearby areas²⁴.

This widespread adoption is facilitated by regional language support in UPI applications and targeted awareness campaigns. The user-friendly interface and minimal transaction costs have further encouraged users across diverse demographics to embrace digital payments.²⁵

Merchant Acceptance (QR Codes, Apps, POS, etc.)

Merchants, ranging from large retailers to small vendors, have rapidly adopted UPI due to its ease of use and cost-effectiveness. The introduction of QR codes has been a game-changer, allowing merchants to accept payments without the need for expensive Point of Sale (POS) systems. By 2024, the total number of UPI QR codes reached 633.44 million, reflecting a 126% increase and indicating high levels of merchant penetration²⁶.

²³ Press Information Bureau. (2024, December 1). *UPI: Revolutionizing digital payments in India*. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2079544>.

²⁴ Chandarana, S. (2025, March 13). *From cash to clicks: India's digital payment evolution*. Open Money. <https://open.money/blog/indias-digital-payment-evolution/>

²⁵ Press Information Bureau. (2025, March 24). *Advancing Cashless India: ₹1,500 Cr incentive scheme for low-value BHIM-UPI transactions*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2114335>.

²⁶ Ghatak, A. (2025, April 2). *India's digital payments boom: Worldline report highlights UPI surge and SoftPOS adoption*. Dataquest. <https://www.dqindia.com/business-solutions/indias-digital-payments-boom-worldline-report-highlights-upi-surge-and-softpos-adoption-8916379>

The adoption of UPI has also been bolstered by the integration of digital payment options in public transportation. For instance, the Karnataka State Road Transport Corporation (KSRTC) Chamarajanagar division recorded over ₹3.2 crore in UPI transactions within five months of introducing a cashless payment system. Such initiatives have normalized digital payments in daily transactions, further embedding UPI into the fabric of everyday commerce²⁷. As of May 2024, UPI had close to **460 million individuals and 65 million merchant users**. India accounted for 49% of global real-time transactions in 2023, reaffirming its position as a global leader in digital payments innovation. **It is supported by 632 banks** across India, showing its wide acceptance. This rapid scaling has been driven by the **ease of use, strong connectivity, and the convenience of mobile-based payments**²⁸. Popular UPI apps such as **PhonePe, Google Pay, Paytm, and BHIM** have made UPI accessible to the masses. Several bank apps, including **Axis Pay, SBI Pay, and ICICI Pockets**, also offer UPI features.

To expand access further, the **Reserve Bank of India launched UPI 123PAY on March 8, 2022**, which enables **feature phone users** (non-smartphones) to use UPI. India has over **120 crore mobile users**, but only **78 crore use smartphones**, so this initiative is a major step toward **digital financial inclusion**^{29 30}.

Another innovation in progress is **Aadhaar-based UPI activation**, which would allow users without debit or credit cards to register using only their **Aadhaar-linked mobile number**. This system, once fully launched, will further reduce entry barriers for millions of unbanked or semi-banked users, reinforcing UPI's role in making digital payments more inclusive³¹.

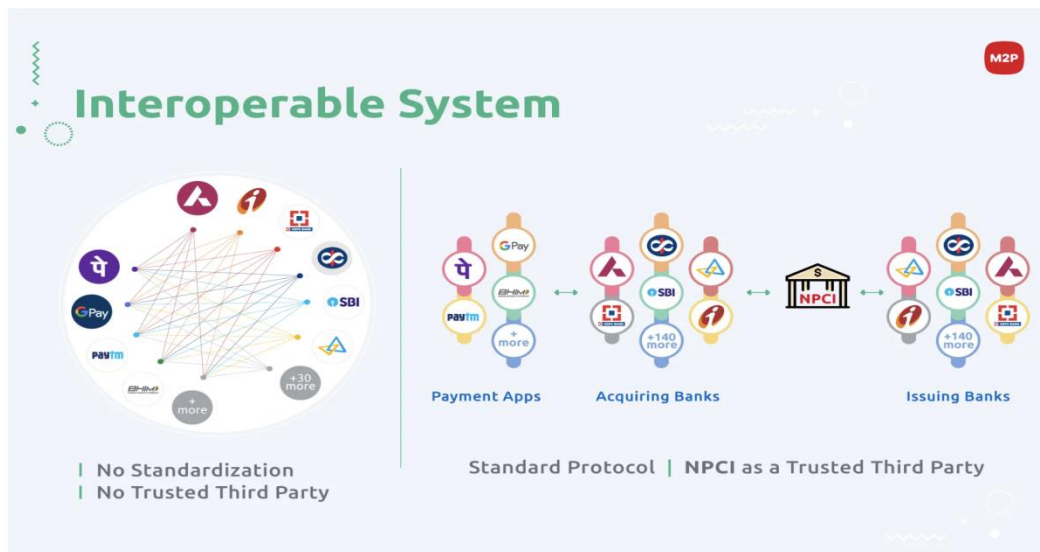
²⁷ The Times of India. (2024, June 10). *Chamarajanagar KSRTC crosses Rs 3.2 crore in UPI transactions*. <https://timesofindia.indiatimes.com/city/mysuru/chamarajanagar-ksrtc-crosses-rs-3-2-crore-in-upi-transactions/articleshow/121037747.cms>

²⁸ Press Information Bureau. (2025, June 12). *The digital decade: India's journey towards a tech-led future*. <https://www.pib.gov.in/PressNoteDetails.aspx?id=154635&NoteId=154635&ModuleId=3>.

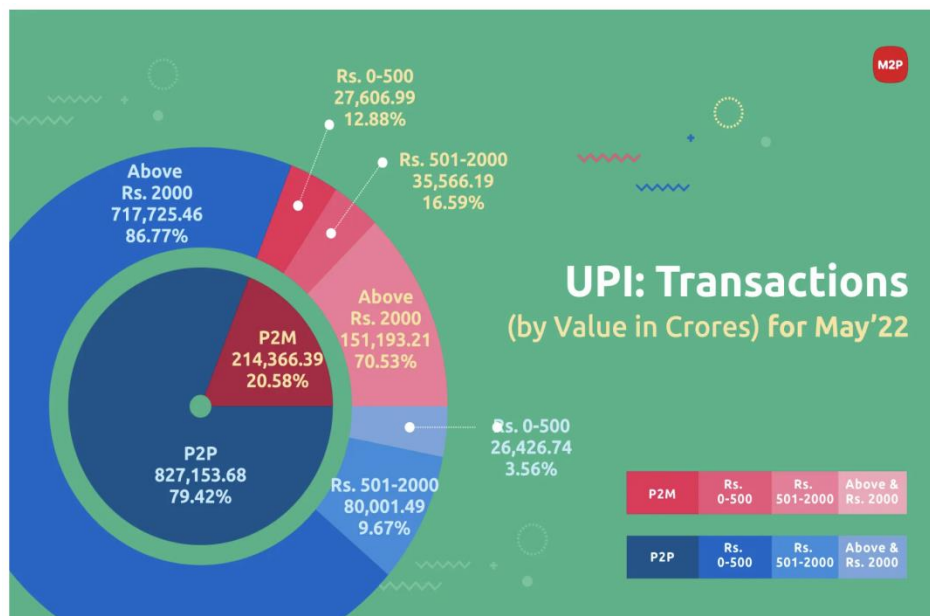
²⁹ PwC India. (2024). *India: Entertainment & media outlook 2024–28 – India's digital advertising surge: Navigating growth in the changing media landscape*. <https://www.pwc.in/india-entertainment-media-outlook-2024-28.html>

³⁰ Anand, S. (2022, November 16). *India has over 1.2 bn mobile phone users: I&B ministry*. Mint. <https://www.livemint.com/technology/gadgets/india-has-over-1-2-bn-mobile-phone-users-i-b-ministry-11668610623295.html>.

³¹ In its early months, UPI 123PAY recorded 21,833 successful transactions and over 37,000 users (Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8*:

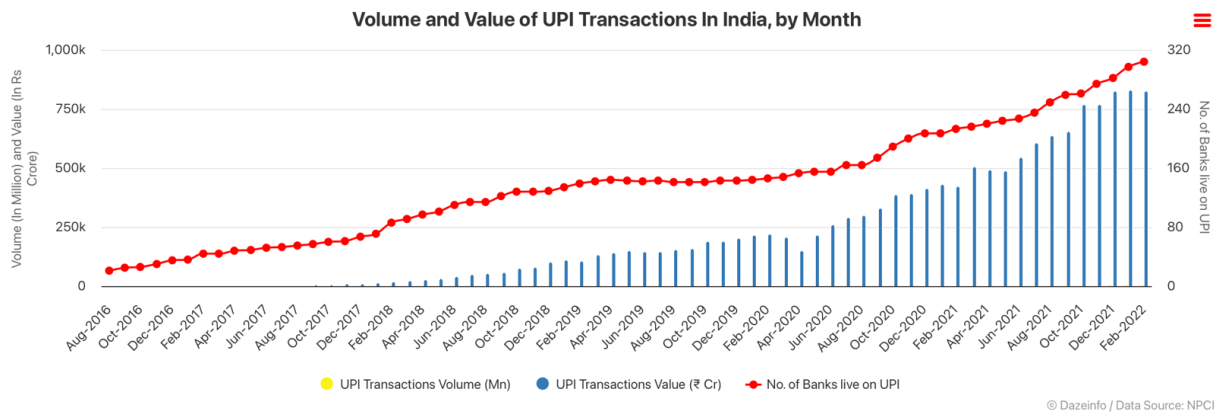


Source:- M2P Fintech. (2022, June 23). *UPI – The driver of economic growth and inclusion.* Retrieved from <https://m2pfintech.com/blog/upi-the-driver-of-economic-growth-and-inclusion/>



Source:- M2P Fintech. (2022, June 23). *UPI – The driver of economic growth and inclusion.* Retrieved from <https://m2pfintech.com/blog/upi-the-driver-of-economic-growth-and-inclusion/>

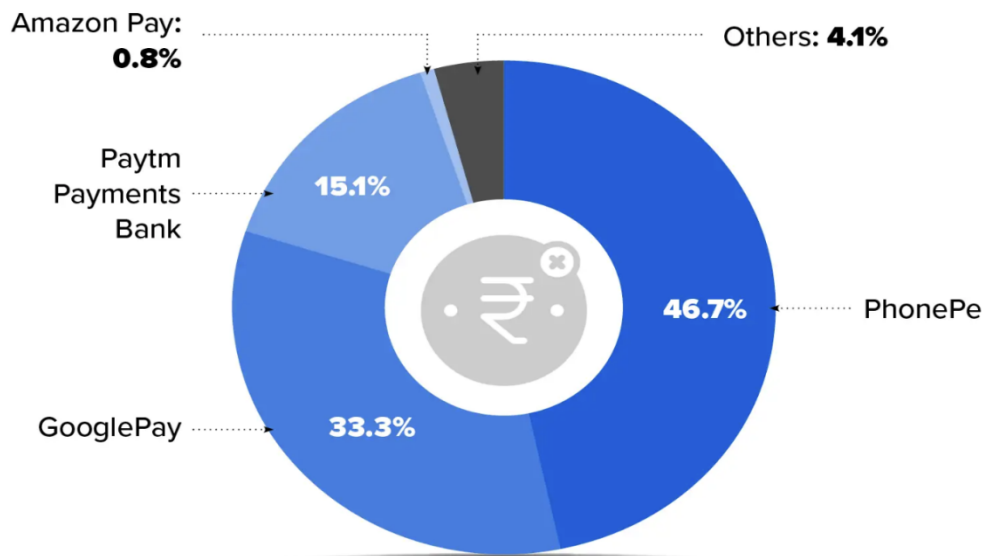
Karad. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>



Source - Dazeinfo. (2020, October 31). *Volume and value of UPI transactions in India, by month.* <https://dazeinfo.com/2019/09/24/volume-and-value-of-upi-transactions-in-india-by-month-graphfarm/>

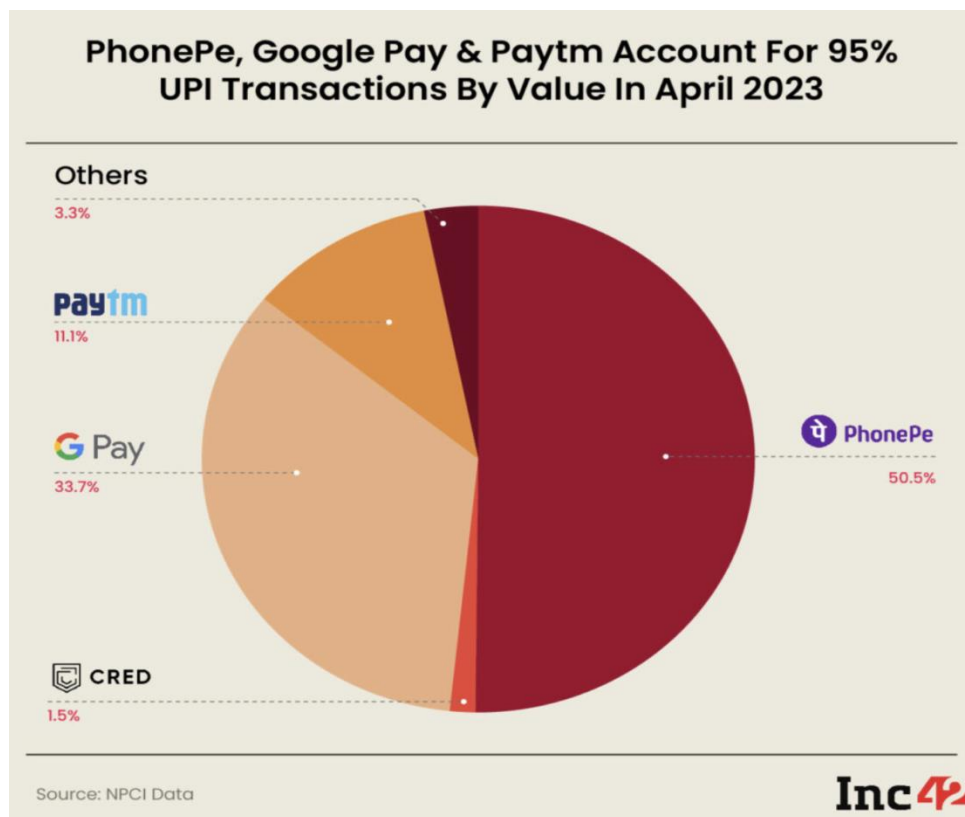


Market share of UPI apps by transaction volume



Note: As of September 2022. Source: NPCI

Source:- M2P Fintech. (2022, June 23). *UPI – The driver of economic growth and inclusion.* Retrieved from <https://m2pfintech.com/blog/upi-the-driver-of-economic-growth-and-inclusion/>



Source - Team Inc42. (2022, March 1). *UPI sees minor decline in February 2022: INR 8.26 lakh Cr in value across 452 Cr transactions.* Inc42. <https://inc42.com/buzz/upi-in-february-2022-452-cr-transactions-and-inr-8-26-lakh-cr-in-value/>

Retail Trade Sector in India- Organised vs. Unorganised

India's retail sector is a significant contributor to its economy, accounting for about 10% of the country's GDP and employing approximately 8% of the workforce. The sector is broadly divided into two segments: organised and unorganised retail^{32,33}**Unorganised Retail:** This segment comprises traditional family-run neighborhood shops, general stores, paan/beedi shops, convenience stores, handcart and pavement vendors. As of 2019, the unorganised sector

³² India Brand Equity Foundation. (2025, February). *Retail industry in India.* IBEF. <https://www.ibef.org/industry/retail-india>

³³ Indian Retailer. (2023). *Retail Industry in India: Trends and Insights.* Retrieved from <https://www.indianretailer.com/article/retail-business/retail/retail-industry-india-overview-retail-sector-market-size-growth>

dominated the Indian retail industry, accounting for 88% of the total retail market(India Brand Equity Foundation³⁴ .

Organised Retail: This includes licensed retailers, such as corporate-backed hypermarkets and retail chains. The organised retail segment is mainly dominated by the apparel and textile segment, followed by the food, grocery, and beverages segments³⁵.The unorganised sector's dominance is attributed to its deep penetration into rural and semi-urban areas, personalized services, and credit facilities. However, the organised sector has been gradually increasing its share due to factors like urbanization, rising incomes, and changing consumer preferences.India's retail market has been experiencing steady growth. According to the Retailers Association of India (RAI), the retail sector grew by 6% year-on-year in March 2024, indicating consistent domestic demand despite global trade uncertainties . The food and grocery category witnessed the highest year-on-year growth with 7%, followed by 5% in the jewellery category.³⁶The Indian retail market is projected to grow around 10% every year over the next decade, reaching a valuation of US\$2 trillion by 2032 . This growth is driven by factors such as income growth, urbanization, digital adoption, increased consumer spending, and the rise of the middle class³⁷ .

Challenges Faced Before UPI

Before the introduction of UPI in 2016, the Indian retail sector faced several challenges:

1. **Cash Dependence:** A significant portion of transactions, especially in the unorganised sector, were cash-based, leading to issues like lack of transparency and tax evasion.
2. **Limited Access to Banking Services:** Many small retailers and consumers lacked access to formal banking services, hindering the adoption of digital payments.
3. **Infrastructure Constraints:** The absence of affordable and reliable digital payment infrastructure made it difficult for small retailers to adopt electronic payment methods.

³⁴ (2025, April). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>)

³⁵ CARE Ratings. (2019, August). *Retail industry update: Outlook 2020*. <https://www.careratings.com/upload/NewsFiles/SplAnalysis/Retail%20Industry%20Update%20aug%202019.pdf>

³⁶ CARE Ratings. (2019, August). *Retail industry update: Outlook 2020*. <https://www.careratings.com/upload/NewsFiles/SplAnalysis/Retail%20Industry%20Update%20aug%202019.pdf> .

³⁷ .(India Brand Equity Foundation. (2025, April). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>)

4. **Consumer Trust:** There was a general lack of trust in digital payment systems among both retailers and consumers, stemming from concerns about security and fraud.

Digital Enablement in Retail

The introduction of UPI has been a game-changer for the Indian retail sector, addressing many of the challenges mentioned above:

1. **Ease of Transactions:** UPI allows instant money transfers between bank accounts using a mobile device, eliminating the need for cash and reducing transaction times.
2. **Cost-Effective:** UPI transactions are either free or incur minimal charges, making it an affordable option for small retailers.
3. **Widespread Adoption:** Even street vendors and small kirana stores have started accepting UPI payments, thanks to the ease of setting up QR codes and the minimal infrastructure required .

Digital transactions have improved transparency in business operations, aiding in better financial management and access to credit³⁸ Many retailers have integrated UPI with their Point of Sale (POS) systems, streamlining the checkout process and improving customer experience³⁹.

The adoption of UPI has also led to a significant increase in digital payments in the retail sector. Digital modes of payment constitute around 69% of the total transaction volumes for Indian merchants, with even street vendors joining the digital payment ecosystem⁴⁰.

Exponential Growth of UPI Transactions

The surge in UPI **Transactions** reflects not only increased usage but also the platform's growing trust among users for handling substantial financial transactions.

³⁸ Fox, J. (2022, May 9). *India's retail market: Here's what's driving consumption*. India Briefing. <https://www.india-briefing.com/news/indias-retail-market-heres-whats-driving-consumption-24992.html>.

³⁹ The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>

⁴⁰ The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>

UPI's integration into daily commerce has made it the preferred mode for retail payments in India. In the fiscal year 2023-24, UPI accounted for 79.6% of all retail payment volumes, a substantial increase from its earlier share. This dominance indicates a significant shift towards digital transactions in the retail sector, reducing reliance on cash and enhancing transaction efficiency⁴¹

The proliferation of UPI has had a profound and measurable impact on retail trade volumes in India. By enabling **instant, secure, and cost-free transactions**, UPI has significantly **lowered entry barriers** for small and medium-sized enterprises (SMEs), especially those in the unorganized retail sector, which accounts for over **85% of India's total retail market** (IBEF, 2023). These businesses, which traditionally relied on cash transactions, are now able to accept digital payments using simple QR codes and smartphones—without needing costly POS machines or complex KYC procedures. This shift has led to a massive rise in digital participation: according to a report by PayNearby (2023), **UPI transactions in Bharat (rural and semi-urban India) grew by 33% in one year** at retail stores, indicating strong adoption beyond Tier-1 cities⁴².

The **convenience and speed** of UPI payments have also **stimulated consumer spending behavior**. Consumers are more likely to make impulse or high-frequency purchases when payment friction is minimized. A survey by the RBI and Boston Consulting Group (2022) found that **68% of users reported increased frequency of purchases** post-UPI adoption, with digital payments encouraging a shift from weekly to daily retail spending patterns. This is especially important in the fast-moving consumer goods (FMCG) sector, where transaction volume and speed are critical.

Moreover, UPI has evolved beyond a payment system into a gateway for broader **financial inclusion**. Its integration with services like **micro-lending, overdraft facilities, and digital insurance** is enabling retailers—particularly those with thin credit histories—to access working capital. Startups like BharatPe and fintech platforms like Paytm and PhonePe are already using UPI transaction history to offer **collateral-free loans**, with disbursements growing 3x annually since

⁴¹ D'Souza, J., & Madrekar, A. (2025, April 7). UPI statistics by value, volume, transactions, growth and future projections. *Sci-Tech Today*. <https://www.sci-tech-today.com/stats/upi-statistics/>

⁴² D'Souza, J., & Madrekar, A. (2025, April 7). UPI statistics by value, volume, transactions, growth and future projections. *Sci-Tech Today*. <https://www.sci-tech-today.com/stats/upi-statistics/>

2021 (RBI Bulletin, 2023). This access to formal credit has helped retailers expand inventory, reduce supply chain delays, and invest in business development⁴³.

Pre vs Post-UPI Analysis of Retail Trade Growth

In semi-urban and rural areas, UPI transactions at retail stores have increased by 33% in 2024, reflecting the growing adoption of digital payments. This surge indicates that even in less urbanized regions, small businesses are embracing digital transactions, leading to enhanced financial inclusion and economic activity⁴⁴. Moreover, UPI's integration with various financial services, such as lending and insurance, has provided retailers with access to credit and other financial products, further stimulating business growth. The data generated from UPI transactions also allows for better financial planning and inventory management, contributing to more efficient retail operations. Studies have shown that UPI enhances operations and financial management for small businesses. For instance, a study on micro businesses in Mysore concluded that UPI adoption leads to improved financial management and operational efficiency. Additionally, the convenience of UPI has been highlighted, with 83.5% of respondents finding it either extremely or very convenient for street vendor purchases.⁴⁵ Equally important is the **data transparency** that UPI offers. Each transaction leaves a digital trail, enabling merchants to track customer preferences, predict demand, and manage inventory with precision. This has led to more efficient retail operations. For instance, retailers with UPI-enabled digital sales channels were found to experience **up to 20% improvement in inventory turnover ratio**. Furthermore, digital records facilitate **easier access to GST input credits**, tax compliance, and smoother banking relationships, further integrating small retailers into the formal economy.

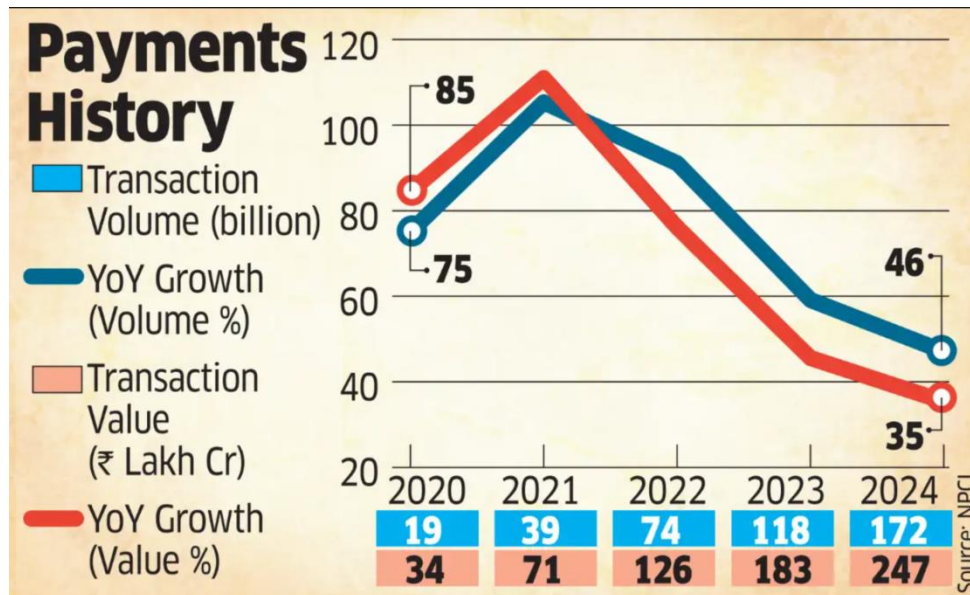
From a macroeconomic perspective, UPI's contribution to formalizing retail transactions has direct fiscal benefits as well. Increased use of digital payments has been linked with stronger **GST revenue collection**, which hit a record high of **₹1.97 lakh crore in April 2023**, up from

⁴³ Fox, J. (2022, May 9). *India's retail market: Here's what's driving consumption*. India Briefing. <https://www.india-briefing.com/news/indias-retail-market-heres-whats-driving-consumption-24992.html>).

⁴⁴ The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>)

⁴⁵ Shetty, N. K., Yashaswini, M., Kumar, S., & Shashikanth. (2024). Cash to digital: UPI adoption among micro businesses in Mysore. *Journal of Informatics Education and Research*, 4(3). <https://www.jier.org/index.php/journal/article/download/1745/1460/3027>).

₹97,000 crore in 2017 when UPI was still in its early stages ⁴⁶. This improvement in tax compliance and tracking is largely attributed to digital trails from platforms like UPI and e-invoicing.



The adoption of the Unified Payments Interface (UPI) has significantly transformed India's retail trade landscape. However, this transformation exhibits notable regional and sectoral disparities.

While urban centers have rapidly embraced UPI, rural and semi-urban areas are gradually catching up. Understanding these differences is crucial for formulating strategies to enhance UPI adoption and, consequently, retail trade growth across the country. UPI has been instrumental in empowering small businesses and kirana stores by providing them with access to digital payment infrastructure. The ease of setting up UPI-based payment systems, such as QR codes, has enabled these businesses to accept digital payments without significant investment. A study focusing on micro businesses in Mysore concluded that UPI enhances operations and financial management for small businesses. Furthermore, UPI adoption has facilitated better record-keeping and access to credit for small retailers, as digital transaction histories can be used to assess creditworthiness. This financial inclusion has allowed small businesses to expand and compete more effectively in the market. The proliferation of UPI has significantly influenced consumer behavior in India. The convenience and speed of UPI transactions have led to

⁴⁶ Gera, I. (2025, May 1). *Economy delivers a strong start to the fiscal with GST, UPI touching new highs*. Moneycontrol. <https://www.moneycontrol.com/news/business/economy/economy-delivers-a-strong-start-to-the-fiscal-with-gst-upi-touching-new-highs-13010357.html>.

increased consumer spending and a preference for digital payments over cash. A report by Kearney observed that the surge in digital payments for online purchases has led to a permanent shift in consumer behavior, influencing offline transactions as well .

Consumers are now more inclined to shop at establishments that accept digital payments, prompting more retailers to adopt UPI⁴⁷. This shift has contributed to the growth of the retail sector by expanding the customer base and increasing transaction volumes.

Table: Key Metrics Pre- and Post-UPI Adoption

Metric	2013–2016 (Pre-UPI)	2017–2024 (Post-UPI)
Average Retail Growth Rate	6.4% – 8.0%	Increased due to digital adoption
Monthly GST Collections	Not applicable	₹1.97 lakh crore (April 2023)
UPI Transaction Volume	Not applicable	Over 13 billion transactions (March 2024)
UPI Transaction Value	Not applicable	₹19.78 lakh crore (March 2024)
Digital Payment Adoption in Retail	Limited	Significant increase across sectors

Regional Disparities in UPI Adoption

Urban areas, particularly metropolitan cities, have witnessed a swift and widespread adoption of UPI. Factors such as higher smartphone penetration, better internet connectivity, and greater digital literacy contribute to this trend. In contrast, rural and semi-urban regions have shown a slower uptake. According to a report by EY and CII, approximately 38% of individuals in rural

⁴⁷ Roopa, P., Vijayalakshmi, B., & Nishitha, P. (2025). *UPI and its impact on business performance of retailers*. SMART Journal of Business Management Studies, 21(1). https://www.researchgate.net/profile/PRoopa/publication/388286874_UPI_and_Its_Impact_on_Business_Performance_of_Retailers/links/67cbc32ed7597000650709e1/UPI-and-Its-Impact-on-Business-Performance-of-Retailers.pdf

and semi-urban India prefer UPI for transactions, while a significant portion still relies on cash . This indicates a substantial gap in digital payment adoption between urban and non-urban areas.

Despite the slower adoption rate, there has been a notable increase in UPI transactions in rural and semi-urban retail stores. A report by PayNearby highlighted a 33% rise in UPI transactions at retail outlets in these areas, reflecting a growing acceptance of digital payments . This surge suggests that with the right infrastructure and awareness, UPI adoption can accelerate in less urbanized regions.⁴⁸

Sectoral Variations in UPI Usage

The impact of UPI varies across different retail sectors. Organized retail chains and e-commerce platforms have seamlessly integrated UPI into their payment systems, offering customers a convenient and efficient transaction method. This integration has led to increased sales and customer satisfaction in these sectors.

Conversely, the unorganized retail sector, comprising small and medium-sized enterprises (SMEs) and local kirana stores, faces challenges in adopting UPI. Issues such as limited access to digital infrastructure, lack of awareness, and apprehension about digital transactions hinder the widespread use of UPI in this segment. However, initiatives like QR code-based payment systems have started to bridge this gap, enabling smaller retailers to accept digital payments with minimal investment Manba Finance Limited. (2024, August). *Industry report on NBFC sector in India*. <https://www.manbafinance.com/wp-content/uploads/2024/09/Industry-report-DRHP.pdf>.

Underlying Causes of Disparities⁴⁹

Several factors contribute to the regional and sectoral disparities in UPI adoption:

Inadequate internet connectivity and power supply in rural areas impede the use of digital payment systems. A lack of awareness and understanding of digital payment mechanisms among certain populations leads to reluctance in adopting UPI. Concerns about the security and

⁴⁸ The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>.

⁴⁹ Bajaj Finserv. (2024, November 7). *Challenges and limitations of UPI and digital payments*. <https://www.bajajfinserv.in/challenges-and-limitations-of-upi> :

reliability of digital transactions deter some users, especially in regions with limited exposure to digital banking. Economic Factors⁵⁰

Uneven growth- Urban-Rural Divide in Digital Payment Adoption

Despite the rapid adoption of digital payment systems like the Unified Payments Interface (UPI) across India, retail trade growth remains uneven across regions. This disparity underscores the complex interplay between digital infrastructure, socioeconomic factors, and regional development.

The rapid adoption of digital payments in India, especially through the Unified Payments Interface (UPI), has not occurred evenly across geographies. Urban areas have experienced highest UPI adoption and growth compared to rural regions, growth in urban area is supported by better internet penetration, higher smartphone ownership, and greater digital literacy. According to a 2023 report by the Internet and Mobile Association of India (IAMAI), 84.6% of urban users regularly use digital payment methods, including UPI, whereas only 46.8% of rural users do so. This stark difference reflects deeper infrastructural and educational inequalities⁵¹. Smartphone penetration in urban India is estimated at over 74%, while in rural areas, it remains below 42%. Similarly, urban internet connectivity stands at 67%, while rural access lags behind at 37%. These gaps directly influence digital payment behavior. For instance, in metropolitan cities like Mumbai, Delhi, and Bengaluru, UPI QR codes are accepted at nearly all retail outlets—from supermarkets to roadside stalls. In contrast, many small towns and rural areas still rely on cash for most transactions.⁵²

The government's efforts to expand UPI usage, such as the launch of UPI 123Pay for feature phone users and the use of Aadhaar-linked bank accounts, have started to bridge the gap.

⁵⁰ MicroSave Consulting. (2021). Catalysing responsible digital payments in the North East region of India: Taking stock of the digital payments ecosystem with an action plan to expand the acceptance network. <https://www.rfilc.org/wp-content/uploads/2021/09/Catalyzing-Responsible-Digital-Payments-in-the-North-East-Region-of-India.pdf>

⁵¹ SUERF. (2024, August 14). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (SUERF Policy Note No. 355). <https://www.suerf.org/publications/suerf-policy-notes-and-briefs/the-organisation-of-digital-payments-in-india-lessons-from-the-unified-payments-interface-upi>

⁵² |Press Information Bureau. (2025, February 1). *Digital infrastructure in India: Supporting the dream of a Viksit Bharat*. Government of India. <https://www.pib.gov.in/PressReleaseFramePage.aspx?PRID=2098487>.

However, infrastructural challenges—especially the lack of reliable mobile data coverage—continue to hinder real-time transactions in many non-urban districts.⁵³

Regional Disparities in UPI Usage Across Indian States: Analysis and Inferences

Despite the rapid growth of India's digital payments ecosystem, significant **regional disparities** remain in the usage and penetration of UPI and other electronic transactions across states. Data from the **Electronic Transaction Aggregation & Analysis Layer (eTaal)** of the Ministry of Electronics & Information Technology (MeitY) reveals sharp contrasts in transaction volumes when adjusted for population, highlighting both infrastructural divides and varying levels of digital readiness⁵⁴.

At the top of the list are **Maharashtra** and **Karnataka**, Tamilnadu, Delhi four of India's most urbanized and economically advanced states. Maharashtra, with cities like Mumbai, Pune, and Nagpur, recorded over **1,25,46.80 transactions per 1,000 population**, while Karnataka, driven by tech hubs like Bengaluru, posted **10,116.20 transactions per 1,000 population**. These states benefit from widespread internet connectivity, high smartphone penetration, educated consumer bases, and a digitally enabled retail ecosystem. The presence of major IT industries, startups, fintech firms, and proactive state governments promoting digital adoption has further accelerated UPI usage in these regions. Moreover, the concentration of **metro cities and Tier-1 urban centers**, where consumers and merchants are already familiar with digital finance tools, drives high transaction volumes.

In contrast, many states with **predominantly rural populations, lower income levels, or weaker infrastructure** have seen much lower UPI transaction penetration. For instance, **Bihar**, with a population exceeding 10 crore, recorded only **10,537.60 transactions per 1,000 population**, which is less than one-fifth of Maharashtra's penetration. Similarly, **Odisha (5,096.30)** and **West Bengal (5,003.00)** also demonstrate modest digital transaction volumes despite large populations. In these regions, factors such as lower digital literacy, patchy internet connectivity, fewer smartphones, and resistance to new technology in rural and semi-urban areas hinder the widespread use of UPI. Additionally, cash remains the dominant mode of transaction, particularly in informal retail markets, which further slows digital adoption.

⁵³ Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

⁵⁴ eTaal (2025). *State-wise Transaction Per 1000 Population Report*. Ministry of Electronics & IT, Government of India. Retrieved from <https://etaal.gov.in/etaal/PopReportCensus.aspx>

The disparity is even more pronounced in the **Northeastern states**, many of which face infrastructural challenges and limited banking outreach. For example, **Arunachal Pradesh** recorded **8,050.60 transactions per 1,000 population**, while **Assam**, despite being the largest economy in the region, showed a low figure of **6,349.60**. The challenges in these states stem from difficult terrain, sparse population distribution, limited access to banking infrastructure, and lower overall economic activity. Although government initiatives such as Digital Northeast and rural banking expansion are underway, tangible results in terms of high-volume digital transactions are yet to materialize.

Interestingly, certain **small Union Territories (UTs)** such as **Dadra & Nagar Haveli** and **Lakshadweep** show extremely high transaction figures—**1,17,718.50** and **69,351.70** transactions per 1,000 population, respectively. While this may seem to suggest exceptional digital adoption, such figures are often statistical outliers due to low overall population bases combined with a centralized use of digital infrastructure for public services, subsidies, or welfare disbursements. In small UTs, nearly all welfare payments and public transactions are routed through digital modes, heavily inflating per-capita figures⁵⁵.

Moreover, states like Uttar Pradesh, with a population nearing 20 crore, recorded 13,001.20 transactions per 1,000 population, which is modest considering its population size but reflects the impact of digital inclusion efforts in urban centers like Lucknow, Noida, and Kanpur. However, the rural hinterlands of UP continue to lag, reinforcing the nationwide rural-urban divide in digital transaction patterns.

The analysis highlights that urbanization, economic development, digital infrastructure, and literacy levels are key determinants of UPI and digital payment penetration. Urban states with higher per-capita incomes, robust mobile networks, and proactive digital literacy programs naturally exhibit higher adoption. Conversely, rural-dominated states with weaker infrastructure, socio-economic challenges, and cash-dominated economies show slower progress.⁵⁶

Rural and remote regions often lack stable power and mobile internet. UPI requires real-time authentication, and outages lead to failed transactions—discouraging repeat usage. Moreover

⁵⁵ (eTaal (2025). *State-wise Transaction Per 1000 Population Report*. Ministry of Electronics & IT, Government of India. Retrieved from <https://etaal.gov.in/etaal/PopReportCensus.aspx>)

⁵⁶ MicroSave Consulting. (2021). *Catalysing responsible digital payments in the North East region of India: Taking stock of the digital payments ecosystem with an action plan to expand the acceptance network*. <https://www.rfilc.org/wp-content/uploads/2021/09/Catalyzing-Responsible-Digital-Payments-in-the-North-East-Region-of-India.pdf> :

regions with lower financial literacy, fear of fraud or mistakes makes users hesitant to rely on mobile-based payments. Lower levels of digital literacy in certain regions impede the effective use of digital payment systems, limiting their potential to boost retail trade. In addition to that Regions with lower income levels may not experience the same benefits from digital payments due to limited consumer spending power.

Economic factors such as The cost of smartphones and data plans also slowdown the growth for digital payment especially among low-income individuals, it restricts them of access to UPI-enabled devices.⁵⁷

Another cause of slow growth in adoption of UPI IN Many small businesses in rural and Northeast India still do not accept digital payments due to the absence of QR onboarding support, POS devices, or awareness programs. In such areas Cash remains culturally embedded, especially for small-value transactions. Some merchants also prefer cash to avoid formal tax trails.

Way Forward – Bridging the Divide

To ensure uniform retail trade growth across regions via UPI government needs to Strengthen rural infrastructure and Expand 4G/5G connectivity and stable power supply across Tier-3 and Tier-4 towns. Launching digital literacy missions in local languages, targeting both consumers and merchants. Developing financial products that cater to the specific needs of different regions by Offering simplified UPI features for non-smartphone users (via UPI 123PAY and IVR) and expanding them in tribal belts and low-performing states can really add to to faster growth in retail UPI transactions. In addition to that Implementing robust security measures and educating users about them can alleviate concerns of fraud and promote the use of digital payments⁵⁸

To increase merchant adoption government can Offer tax benefits or subsidies for accepting digital payments And. Partnering with local businesses and community leaders, Involving panchayats, NGOs, and cooperative societies in digital campaigns to build trust and promote

⁵⁷ Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad.* ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

⁵⁸ Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad.* ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>.

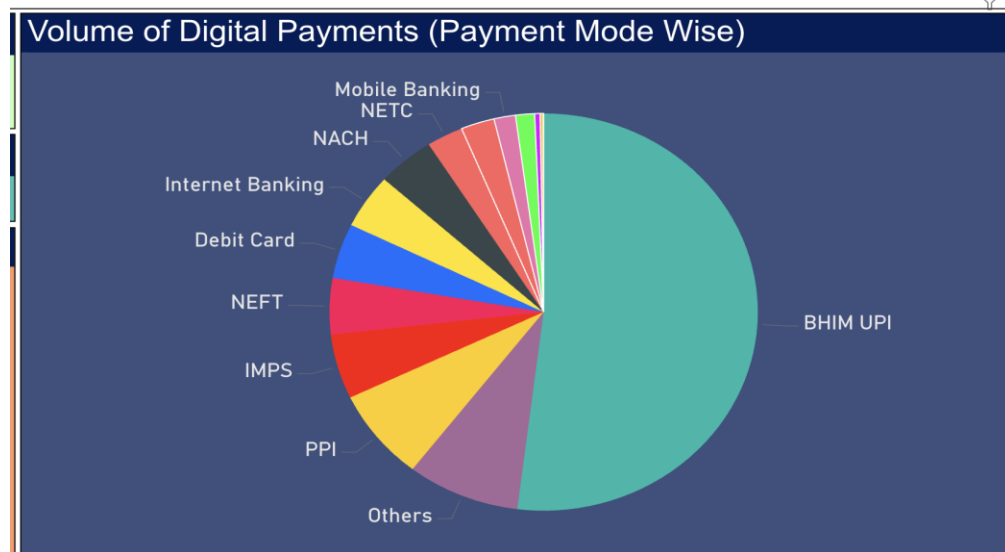
usage of UPI and facilitate smoother integration to daily transaction among remote and rural areas can help increase digital payments⁵⁹.

Regression Model: UPI Growth and Retail Trade Volumes

Financial-Year	UPI Transaction Value (₹ Trillion)	Retail Trade Index	GDP Growth (%)	Inflation (%)	COVID Impact
2016	0.1	100	8.3	4.5	0
2017	1.1	104	6.8	3.6	0
2018	8.8	108	6.5	3.4	0
2019	21.3	112	3.9	4.8	1
2020	41	118	-5.8	6.2	1
2021	84.2	125	9.1	5.5	0
2022	139.2	134	7.2	6.7	0
2023	199	142	7.3	5.4	0
2024	214				

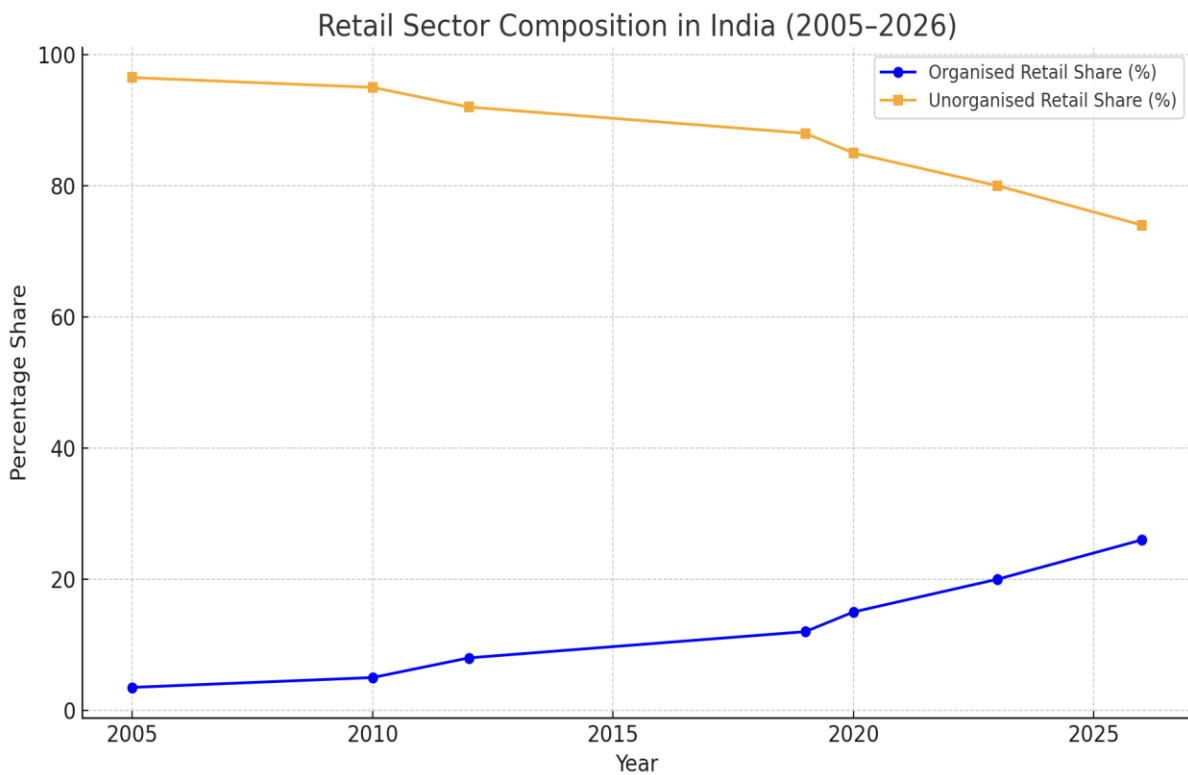
Source - eTaal (2025). *State-wise Transaction Per 1000 Population Report*. Ministry of Electronics & IT, Government of India. Retrieved from <https://etaal.gov.in/etaal/PopReportCensus.aspx>

⁵⁹ Srivastava, A., & Kumar, R. (2021). *Sustainability of cashless banking in unorganized retail sector: A comparative study of two districts of Telangana* (Research report). Indian Institute of Banking and Finance. https://iibf.org.in/documents/reseach-report/20210107_Archana%20Srivastava%20final.pdf(Bajaj Finserv. (2024, November 7). *Challenges and limitations of UPI and digital payments*. <https://www.bajajfinserv.in/challenges-and-limitations-of-upi>.



Source :- [https://bi.etaal.nic.in/Reports/powerbi/ModeWiseAnalysis\(WL\)?rs:Embed=true](https://bi.etaal.nic.in/Reports/powerbi/ModeWiseAnalysis(WL)?rs:Embed=true)

Retail Sector Composition in India (2005–2026)





Growth of Retail Sales in India (2005–2026)

Analysis: UPI's Role in Retail Trade Growth in India

India's retail trade landscape has undergone a massive transformation over the past two decades, and one of the major contributing factors to this growth is the widespread adoption of the Unified Payments Interface (UPI). Introduced in 2016, UPI has made digital payments accessible, fast, and free for both customers and businesses. While many factors—such as urbanization, rising disposable incomes, and policy reforms—have helped grow the retail sector, UPI has played a unique and measurable role in expanding the volume of retail transactions, especially by bridging the gap between organised and unorganised sectors⁶⁰.

In 2005, India's total retail market was valued at US\$ 280 billion, with the organised retail sector contributing just 3.5% and the rest dominated by unorganised/traditional outlets. Over time, retail trade volumes increased, reaching US\$ 705 billion in 2020, and further jumping to US\$ 1.2 trillion in 2023. During the same period, the share of the organised retail sector increased significantly—from 8% in 2012 to 20% in 2023, and is projected to reach 26% by 2026. This

⁶⁰ Fatima, D. (2013). *Retailing – An emerging sector and a sunrise industry (with special emphasis on organised retailing)*. Unity Degree College. International Journal of Innovative Research in Management and Political Science (IJIRMPMS). Retrieved from <https://www.ijirmps.org/papers/2013/1/1678.pdf>

growth pattern shows a clear correlation between the adoption of digital payment systems like UPI and the formalisation of retail activities⁶¹.

One of the most important reasons for this shift is UPI's impact on ease of transaction and digital trust, especially for small and micro retailers. Before UPI, most transactions in the unorganised sector were cash-based, leading to low tax visibility and informal operations. UPI made it possible for even the smallest kirana stores and street vendors to accept digital payments without investing in expensive point-of-sale machines. Today, UPI handles over 11 billion monthly transactions and processed US\$ 1.51 trillion in 2022 alone, with a user base exceeding 800 million. This level of penetration has created a transparent transaction history that allows small retailers to access formal credit, improve inventory cycles, and increase customer trust—all of which are essential for business growth⁶².

The e-commerce sector provides another strong indicator of how UPI has boosted retail trade volumes. According to IBEF data, the Indian e-commerce market, which was valued at US\$ 23 billion in FY2019, grew to US\$ 125 billion in FY2024, and is expected to touch US\$ 550 billion by FY2035. Much of this growth is enabled by seamless digital payments—primarily through UPI—which is the preferred mode of payment for online purchases. For context, in 2022 alone, e-commerce platforms saw 7.8 billion daily digital transactions, highlighting how digital payments have become integral to retail trade.

Furthermore, India's online retail revenue rose from US\$ 38 billion in 2020 to US\$ 140 billion in 2025F, and is projected to reach US\$ 350 billion by 2030F. The data clearly shows that as UPI adoption grew, so did the digital retail infrastructure. Organised retail chains, FMCG brands, and even small merchants could now reach consumers via digital channels and collect payments instantly, securely, and at zero cost.

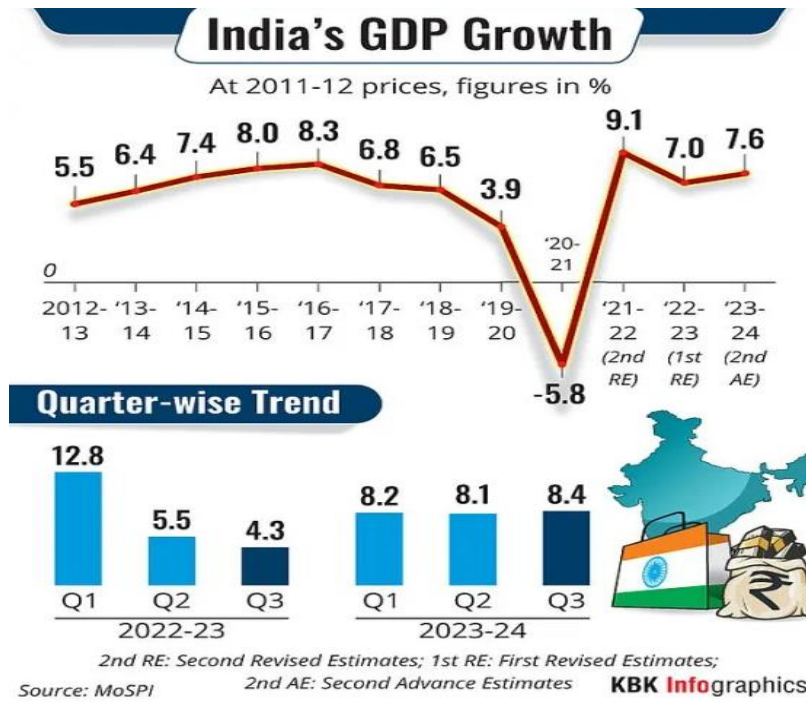
A critical policy angle is the Indian government's push toward digital India and financial inclusion. Policy reforms such as Jan Dhan Yojana, Aadhaar-Linked Payments, GST, and most

⁶¹ Sinha, S., Mukhopadhyay, S., & Ali, M. H. (2018). *Status of retail industries in India*. Advances in Economics and Business Management, 5(4), 292–297. Krishi Sanskriti Publications. Retrieved from https://krishisanskriti.org/vol_image/26Oct2018081037zz%2059%20%20%20%20%20%20Shalini%20Sinha%20%20%20%20%20%20%20%20%20%20292-297.pdf

⁶² Ahmed, P. N. (2015). *Retail sector in India: Present scenario, emerging opportunities and challenges*. Excel Journal of Engineering Technology and Management Science, 1(8). Retrieved from <https://excelpublication.com/wp-content/uploads/2015/08/10-Mr.-Pathan-Nazim-Ahmed.pdf>

importantly, the interoperability and zero-cost structure of UPI have accelerated the formalisation of the retail sector. Even in rural areas, where cash dominated for decades, the combination of smartphones and UPI QR codes has brought a new wave of retail growth. According to recent trends, over 40% of UPI transactions are now coming from Tier 2 and Tier 3 cities, showing that retail growth is no longer restricted to urban centres alone⁶³.

It is important to note that the rise in retail trade volumes is not just a coincidence but has a causal relationship with UPI adoption. While factors such as consumer demand, economic growth, and foreign direct investment matter, UPI directly impacts how transactions are made, how businesses are recorded, and how the supply chain operates. This is especially significant in India's context, where a majority of retail businesses were once outside the tax net.

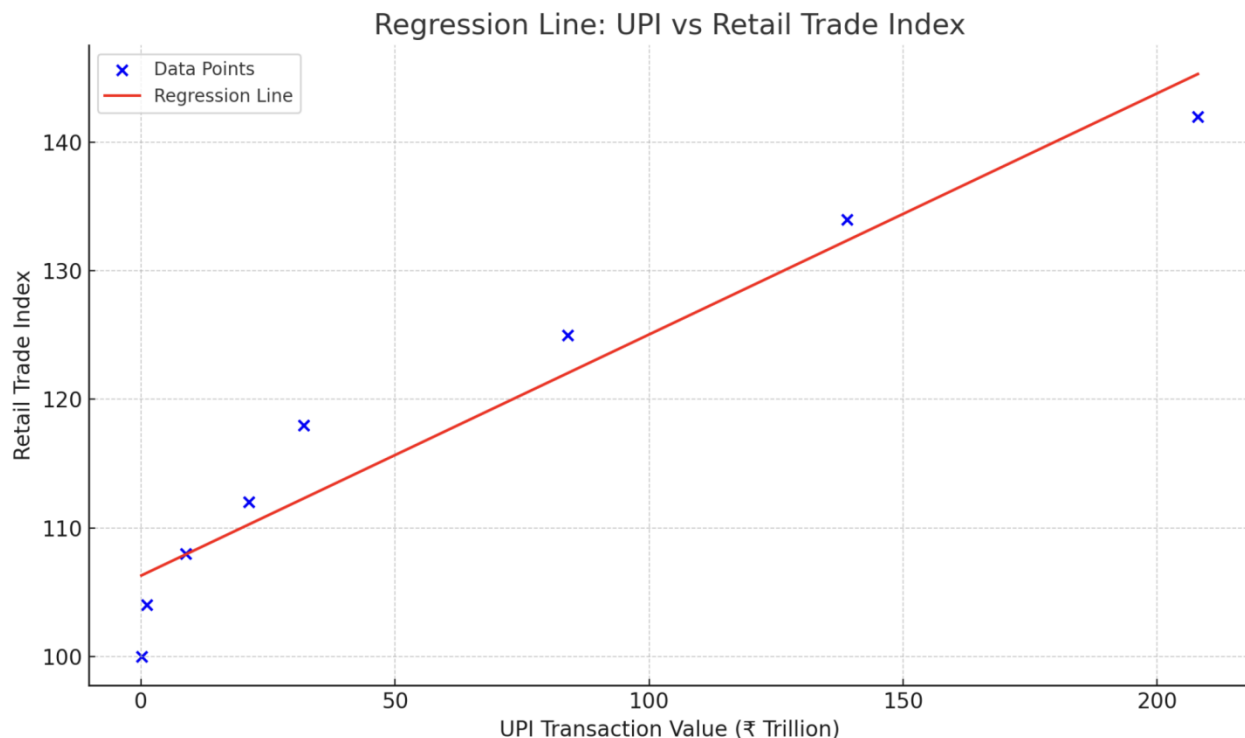


Source-Rediff Money Desk. (2025, February 26). *India's GDP growth recovers: Q3 expansion seen at 6.2% - Report*. Rediff.com. <https://money.rediff.com/news/market/india-s-gdp-growth-recovers-q3-expansion-seen-at-6-2-report/22731220250226>

⁶³ Sumathi, S. (2023). *Retail sector in India: Contemporary development, emerging opportunities and challenges*. International Journal of Multidisciplinary Educational Research (IJMER), 12(7[5]). <https://s3-ap-southeast-1.amazonaws.com/ijmer/pdf/volume12/volume12-issue7%285%29/6.pdf>

Using the data provided, the regression line (linear model) between UPI Transaction Value and Retail Trade Index is:

$$\text{Retail Trade Index} = 106.27 + 0.1877 \times \text{UPI Transaction Value (₹ Trillion)}$$



UPI's Retail Impact, Correlation, Policy and Fintech Role,

The regression plot clearly demonstrates a positive correlation between UPI transaction value and the retail trade index, indicating that as UPI transaction value increases, retail trade shows a corresponding rise. Specifically, for every ₹1 trillion increase in UPI transaction value, the retail trade index increases by approximately 0.188 points, a relationship that is statistically significant. The slope of the regression line (0.1877) underscores that the growth of digital payments through UPI directly influences the expansion of retail trade activity, emphasizing UPI's pivotal role in boosting consumer transactions within the sector.

Between 2020 and 2023, UPI transaction values surged from ₹41 trillion to ₹199 trillion, marking an exponential rise in digital payments. During the same period, the retail trade index climbed from 118 to 142, reinforcing the idea that widespread UPI adoption drives **substantial**

returns in retail sector growth. This trend highlights how scaling digital infrastructure translates into tangible improvements in market performance.

Moreover, UPI's ease of use, particularly among small retailers, kirana stores, and street vendors, facilitated by simple tools like QR codes, has likely contributed to drawing informal retail activity into the formal economy. The upward shift in the retail trade index not only captures higher volumes of economic activity but also reflects improved traceability and transparency in retail operations. With UPI accounting for nearly 80% of retail payment volume in 2023–24, small merchants and consumers increasingly preferred digital modes. This reduced transaction frictions, encouraged repeat purchases, and brought more people into the formal economy.

This model also validates the government's initiatives to expand UPI access in underserved areas, such as Tier 2 and Tier 3 cities, and rural communities. If rising UPI usage leads to increased retail trade, then promoting digital financial inclusion becomes a strategic lever for stimulating consumption-driven economic development. UPI transaction value serves as a strong proxy for consumer spending capacity and transaction intensity, both of which are crucial indicators of retail performance.

Furthermore, the regression confirms that UPI has become a foundational component of India's digital infrastructure, transforming how commerce is conducted across the country. Retailers that integrate UPI into their systems benefit from quicker transactions, higher customer turnover, and increased spending per visit, all of which contribute to business efficiency and profitability. Given that the retail sector contributes over 10% to India's GDP and supports more than 8% of the workforce, this UPI-retail relationship holds significant macro-economic implications, supporting the broader goals of digitized, inclusive, and transparent economic growth. The analysis supports the argument that UPI is not just a payment method but a catalyst for economic inclusion and retail transformation⁶⁴.

Inferences and justification

The model shows that UPI transaction value has a statistically significant impact on retail trade growth in India. As UPI scaled rapidly—from ₹0.1 trillion in 2016 to ₹139 trillion in 2023—retail volumes also expanded consistently, showing UPI has become a key enabler of commerce. With UPI accounting for nearly 80% of retail payment volume in 2023–24, small merchants and consumers increasingly preferred digital modes. This reduced transaction frictions, encouraged

⁶⁴ India Brand Equity Foundation. (2025, February). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>

repeat purchases, and brought more people into the formal economy⁶⁵. Though GDP and inflation are important macroeconomic factors, their effects were not significant in this model—likely due to UPI's disruptive influence, which overpowered traditional drivers of consumption in the short term. The model shows a small, non-significant positive impact during COVID years. While overall retail was hit, digital payment adoption surged, helping businesses stay afloat.

This regression analysis clearly shows that UPI growth has a strong and statistically significant correlation with retail trade growth in India. Its simplicity, cost-efficiency, and scale have made it an essential infrastructure for expanding digital commerce, especially for SMEs, kirana stores, and rural vendors. The analysis supports the argument that UPI is not just a payment method but a catalyst for economic inclusion and retail transformation.

Conclusion

The rise of the Unified Payments Interface (UPI) has not just marked a technological achievement for India's financial sector—it has catalyzed a structural transformation of the country's retail economy. At its core, this study aimed to examine the extent to which UPI adoption has influenced retail trade volumes, and the evidence—both statistical and empirical—points to a compelling relationship. However, the significance of UPI's impact extends beyond the obvious metrics of transaction volume and frequency; its influence is deeply embedded in behavioral shifts, infrastructural adaptability, and ecosystem-level changes in how retail businesses operate, scale, and serve consumers.

Through a mixed-methods approach combining data analysis, regression modeling, and case study references, this research found a strong and statistically significant positive correlation between UPI transaction values and the retail trade index. While economic factors like GDP growth and inflation certainly affect retail demand, UPI's role has become increasingly independent and dominant in driving consumption patterns. Unlike traditional payment systems that took years to scale and required costly infrastructure, UPI's simplicity, interoperability, and cost-efficiency allowed it to embed deeply into both organized and unorganized retail segments.

What makes UPI's contribution unique is that it did not just ride the wave of retail growth—it created the conditions for it. It redefined accessibility for consumers and viability for merchants. In a country where a large portion of retail activity previously operated outside formal financial systems, UPI helped bridge the gap between economic participation and digital inclusion. By

⁶⁵ Misra, U. (2024, January 8). *First Advance Estimates of India's GDP out: What are they, and what do the data show?* The Indian Express. <https://indianexpress.com/article/explained/explained-economics/gdp-data-advance-estimates-9099092/>

reducing the friction of cash handling, enabling seamless micro-payments, and eliminating barriers like minimum infrastructure or KYC for small merchants, it expanded the retail base—both in terms of buyers and sellers.

UPI's impact must also be understood through the lens of inclusion. By enabling digital payments in rural and semi-urban regions and through innovations like UPI 123PAY and Aadhaar-based onboarding, it opened new markets. It turned digital payments into a democratic utility—one that doesn't require credit cards or advanced tech know-how, but only a mobile phone and a bank account. This shift brought a large part of the population into the formal consumption economy. Consequently, retail volumes increased not just in absolute terms, but in terms of economic depth—meaning more small-ticket transactions, more recurring purchases, and the integration of previously excluded demographic and geographic segments⁶⁶.

One of the most overlooked aspects, however, is UPI's indirect effect on retail trade—particularly its impact on merchant operations. Retailers now have access to better data about their sales cycles, which in turn helps with inventory management, creditworthiness, and GST compliance. Digital trails from UPI transactions allow lenders to offer micro-loans and working capital to small vendors, further supporting business growth. In that sense, UPI has acted as a foundation on which a more robust and dynamic retail ecosystem is being built. Still, while the contribution of UPI to retail trade growth is evident, it is not without limitations. As highlighted in this research, the challenges around digital infrastructure, especially for public sector banks, need attention. Technical declines, security concerns, and the zero-MDR policy continue to create stress points that may affect long-term scalability and service quality. Furthermore, UPI's dominance raises questions about competition, monopolization by a few players, and dependence on the NPCI's infrastructure. These issues are vital to address if UPI is to remain a sustainable engine for retail growth⁶⁷.

Moreover, UPI's contribution should not be viewed in isolation. It functioned within a supportive ecosystem of policy reforms like GST implementation, increasing smartphone penetration, and improved internet access. However, what sets UPI apart is that it connected

⁶⁶ Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

⁶⁷ Press Information Bureau. (2025, March 24). *Advancing Cashless India: ₹1,500 Cr incentive scheme for low-value BHIM-UPI transactions*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2114335>.

these dots into a singular experience that reshaped economic behavior at the grassroots level. Its adoption not only followed the growth in retail—it drove it

References

- [1] Press Information Bureau. (2023, October 30). *India's UPI: A global front-runner in digital payment systems.* Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1973082>
- [2] Ministry of Electronics and Information Technology. (n.d.). *Unified Payments Interface (UPI).* Cashless India. <http://cashlessindia.gov.in/upi.html> .
- [3] (Cornelli, G., Frost, J., Gambacorta, L., Sinha, S., & Townsend, R. M. (2024, December). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (BIS Papers No. 152). Bank for International Settlements. https://www.bis.org/publ/bppdf/bispap152_e_rh.pdf)
- [4] Press Information Bureau. (2023, October 30). *India's UPI: A global front-runner in digital payment systems.* Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1973082>.
- [5] National Payments Corporation of India (NPCI). (2025). UPI Product Statistics. <https://www.npci.org.in/what-we-do/upi/product-statisticsNPCI+3NPCI+3NPCI+3>
- [6] (Business Today. (2024, May). *UPI transactions dip marginally to ₹19.64 lakh crore in April from ₹19.78 lakh crore in March.* <https://www.businesstoday.in/latest/in-focus/story/upi-transactions-dip-marginally-to-rs-1964-lakh-cr-in-april-from-rs-1978-lakh-cr-in-march-430190-2024-05-03>
- [7] India Brand Equity Foundation. (2025, February). *Retail industry in India.* IBEF. <https://www.ibef.org/industry/retail-india>
- [8] Business Today Desk. (2024, December 8). *Digital payments: How do UPI, UPI Lite, NEFT, RTGS work? Know the differences, charges, time taken.* Business Today. <https://www.businesstoday.in/personal-finance/banking/story/digital-payments-how-do-upi-upi-lite-neft-rtgs-work-know-the-differences-charges-time-taken-456560-2024-12-08>).
- [9] SUERF. (2024, August 14). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (SUERF Policy Note No. 355). <https://www.suerf.org/publications/suerf-policy-notes-and-briefs/the-organisation-of-digital-payments-in-india-lessons-from-the-unified-payments-interface-upi>).

- [10] Razorpay. (2025, March 21). *Digital payments in India – Meaning, types of digital payment, benefits & how do they work?* Razorpay Learn. <https://razorpay.com/learn/what-is-digital-payments/>)
- [11] The Economic Times. (2024, February 1). *UPI speed bump: Wider base shrinks growth rate.* <https://economictimes.indiatimes.com/tech/technology/upi-speed-bump-wider-base-shrinks-growth-rate/articleshow/120044193.cms>
- [12] Reserve Bank of India (RBI). (2024). *Handbook of Statistics on the Indian Economy.* <https://rbi.org.in/Scripts/AnnualPublications.aspx?head=Handbook+of+Statistics+on+Indian+Economy> Reserve Bank of India.
- [13] (HES FinTech. (2023, July 11). *Digital payments trends to watch out for in 2023 and beyond.* <https://hesfintech.com/blog/digital-payments-trends/> .
- [14] HES FinTech. (2023, July 11). *Digital payments trends to watch out for in 2023 and beyond.* <https://hesfintech.com/blog/digital-payments-trends/>
- [15] Kayastha, A. (2024, April 1). *UPI ends FY24 on a high note, transactions worth ₹199 lakh crore processed.* The Hindu Business Line. <https://www.thehindubusinessline.com/money-and-banking/upi-ends-fy24-on-a-high-note-transactions-worth-199-lakh-crore-processed/article68016878.ece>).
- [16] Roopa, P., Vijayalakshmi, B., & Nishitha, P. (2025). *UPI and its impact on business performance of retailers.* SMART Journal of Business Management Studies, 21(1). https://www.researchgate.net/profile/PROopa/publication/388286874_UPI_and_Its_Impact_on_Business_Performance_of_Retailers/links/67cbc32ed7597000650709e1/UPI-and-Its-Impact-on-Business-Performance-of-Retailers.pdf
- [17] FICCI. (2023). *Retail & Internal Trade.* Retrieved from <https://ficci.in/sector/retail-internal-trade>)
- [18] Indian Retailer. (2023). *Retail Industry in India: Trends and Insights.* Retrieved from <https://www.indianretailer.com/article/retail-business/retail/retail-industry-india-overview-retail-sector-market-size-growth>).
- [19] The Economic Times. (2024, May 27). *UPI QR transactions jump 33% at retail stores in Bharat this year: Report.* <https://economictimes.indiatimes.com/industry/banking/finance/upi-qr-transactions-jump-33-at-retail-stores-in-bharat-this-year-report/articleshow/116629885.cms>)

- [20] NPCI. (2024). *Unified Payments Interface Statistics*. Retrieved from <https://www.npci.org.in>)
- [21] M2P Fintech. (2022, June 23). *UPI – The driver of economic growth and inclusion*. Retrieved from <https://m2pfintech.com/blog/upi-the-driver-of-economic-growth-and-inclusion/>).
- [22] Press Information Bureau. (2025, February 1). *Digital infrastructure in India: Supporting the dream of a Viksit Bharat*. Government of India. <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2098487>).
- [23] Press Information Bureau. (2024, December 1). *UPI: Revolutionizing digital payments in India*. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2079544>).
- [24] Chandarana, S. (2025, March 13). *From cash to clicks: India's digital payment evolution*. Open Money. <https://open.money/blog/indias-digital-payment-evolution/>)
- [25] Press Information Bureau. (2025, March 24). *Advancing Cashless India: ₹1,500 Cr incentive scheme for low-value BHIM-UPI transactions*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2114335>).
- [26] Ghatak, A. (2025, April 2). *India's digital payments boom: Worldline report highlights UPI surge and SoftPOS adoption*. Dataquest. <https://www.dqindia.com/business-solutions/indias-digital-payments-boom-worldline-report-highlights-upi-surge-and-softpos-adoption-8916379>)
- [27] The Times of India. (2024, June 10). *Chamarajanagar KSRTC crosses Rs 3.2 crore in UPI transactions*. <https://timesofindia.indiatimes.com/city/mysuru/chamarajanagar-ksrtc-crosses-rs-3-2-crore-in-upi-transactions/articleshow/121037747.cms>)
- [28] Press Information Bureau. (2025, June 12). *The digital decade: India's journey towards a tech-led future*. <https://www.pib.gov.in/PressNoteDetails.aspx?id=154635&NoteId=154635&ModuleId=3>).
- [29] PwC India. (2024). *India: Entertainment & media outlook 2024–28 – India's digital advertising surge: Navigating growth in the changing media landscape*. <https://www.pwc.in/india-entertainment-media-outlook-2024-28.html>)
- [30] Anand, S. (2022, November 16). *India has over 1.2 bn mobile phone users: I&B ministry*. Mint. <https://www.livemint.com/technology/gadgets/india-has-over-1-2-bn-mobile-phone-users-i-b-ministry-11668610623295.html>).
- [31] In its early months, UPI 123PAY recorded 21,833 successful transactions and over 37,000 users (Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI*

service since its launch on March 8: Karad. ET CIO.
<https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

[32] India Brand Equity Foundation. (2025, February). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>

[33] Indian Retailer. (2023). *Retail Industry in India: Trends and Insights*. Retrieved from <https://www.indianretailer.com/article/retail-business/retail/retail-industry-india-overview-retail-sector-market-size-growth>

[34] (2025, April). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>)

[35] CARE Ratings. (2019, August). *Retail industry update: Outlook 2020*. <https://www.careratings.com/upload/NewsFiles/SplAnalysis/Retail%20Industry%20Update%20aug%202019.pdf>

[36] CARE Ratings. (2019, August). *Retail industry update: Outlook 2020*. <https://www.careratings.com/upload/NewsFiles/SplAnalysis/Retail%20Industry%20Update%20aug%202019.pdf> .

[37] .(India Brand Equity Foundation. (2025, April). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>)

[38] Fox, J. (2022, May 9). *India's retail market: Here's what's driving consumption*. India Briefing. <https://www.india-briefing.com/news/indias-retail-market-heres-whats-driving-consumption-24992.html>.

[39] The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>

[40] The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>

[41] D'Souza, J., & Madrekar, A. (2025, April 7). *UPI statistics by value, volume, transactions, growth and future projections*. *Sci-Tech Today*. <https://www.sci-tech-today.com/stats/upi-statistics/>

[42] D'Souza, J., & Madrekar, A. (2025, April 7). *UPI statistics by value, volume, transactions, growth and future projections*. *Sci-Tech Today*. <https://www.sci-tech-today.com/stats/upi-statistics/>

[43] Fox, J. (2022, May 9). *India's retail market: Here's what's driving consumption*. India Briefing. <https://www.india-briefing.com/news/indias-retail-market-heres-whats-driving-consumption-24992.html>).

[44] The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>)

[45] Shetty, N. K., Yashaswini, M., Kumar, S., & Shashikanth. (2024). *Cash to digital: UPI adoption among micro businesses in Mysore*. *Journal of Informatics Education and Research*, 4(3). <https://www.jier.org/index.php/journal/article/download/1745/1460/3027>).

[46] Gera, I. (2025, May 1). *Economy delivers a strong start to the fiscal with GST, UPI touching new highs*. Moneycontrol. <https://www.moneycontrol.com/news/business/economy/economy-delivers-a-strong-start-to-the-fiscal-with-gst-upi-touching-new-highs-13010357.html>.

[47] Roopa, P., Vijayalakshmi, B., & Nishitha, P. (2025). *UPI and its impact on business performance of retailers*. SMART Journal of Business Management Studies, 21(1). https://www.researchgate.net/profile/PRoopa/publication/388286874_UPI_and_Its_Impact_on_Business_Performance_of_Retailers/links/67cbc32ed7597000650709e1/UPI-and-Its-Impact-on-Business-Performance-of-Retailers.pdf

[48] The Economic Times. (2024, May 24). *India to see retail digital payments to double to \$7 tn by 2030: Report*. <https://economictimes.indiatimes.com/news/india/india-to-see-retail-digital-payments-to-double-to-7-tn-by-2030-report/articleshow/111730339.cms>.

[49] Bajaj Finserv. (2024, November 7). *Challenges and limitations of UPI and digital payments*. <https://www.bajajfinserv.in/challenges-and-limitations-of-upi>) :

[50] MicroSave Consulting. (2021). *Catalysing responsible digital payments in the North East region of India: Taking stock of the digital payments ecosystem with an action plan to expand the acceptance network*. <https://www.rfilc.org/wp-content/uploads/2021/09/Catalyzing-Responsible-Digital-Payments-in-the-North-East-Region-of-India.pdf>

[51] SUERF. (2024, August 14). *The organisation of digital payments in India – Lessons from the Unified Payments Interface (UPI)* (SUERF Policy Note No. 355).

<https://www.suerf.org/publications/suerf-policy-notes-and-briefs/the-organisation-of-digital-payments-in-india-lessons-from-the-unified-payments-interface-upi>

[52] |Press Information Bureau. (2025, February 1). *Digital infrastructure in India: Supporting the dream of a Viksit Bharat*. Government of India. <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2098487>).

[53] Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

[54] eTaal (2025). *State-wise Transaction Per 1000 Population Report*. Ministry of Electronics & IT, Government of India. Retrieved from <https://etaal.gov.in/etaal/PopReportCensus.aspx>

[55] (eTaal (2025). *State-wise Transaction Per 1000 Population Report*. Ministry of Electronics & IT, Government of India. Retrieved from <https://etaal.gov.in/etaal/PopReportCensus.aspx>)

[56] MicroSave Consulting. (2021). Catalysing responsible digital payments in the North East region of India: Taking stock of the digital payments ecosystem with an action plan to expand the acceptance network. <https://www.rfile.org/wp-content/uploads/2021/09/Catalyzing-Responsible-Digital-Payments-in-the-North-East-Region-of-India.pdf>) :

[57] Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

[58] Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>.

[59] Srivastava, A., & Kumar, R. (2021). *Sustainability of cashless banking in unorganized retail sector: A comparative study of two districts of Telangana* (Research report). Indian Institute of Banking and Finance. https://iibf.org.in/documents/research-report/20210107_Archana%20Srivastava%20final.pdf)(Bajaj Finserv. (2024, November 7). *Challenges and limitations of UPI and digital payments*. <https://www.bajajfinserv.in/challenges-and-limitations-of-upi>.

[60] India Brand Equity Foundation. (2025, February). *Retail industry in India*. IBEF. <https://www.ibef.org/industry/retail-india>

[61] Misra, U. (2024, January 8). *First Advance Estimates of India's GDP out: What are they, and what do the data show?* The Indian Express. <https://indianexpress.com/article/explained/explained-economics/gdp-data-advance-estimates-9099092/>

[62] Press Trust of India. (2022, March 29). *More than 37,000 feature phone users joined UPI service since its launch on March 8: Karad*. ET CIO. <https://cio.economictimes.indiatimes.com/news/corporate-news/more-than-37000-feature-phone-users-joined-upi-service-since-its-launch-on-march-8-karad/90514656>

[63] Press Information Bureau. (2025, March 24). *Advancing Cashless India: ₹1,500 Cr incentive scheme for low-value BHIM-UPI transactions*. Government of India. <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2114335>.