

An Evaluation of Volume and Value of UPI Transactions across Merchant Category Codes: A Comparative Analysis of Q1 2025 and Q1 2026

Dr. Kongalappa H. S¹, Arpitha K²

¹Principal & Research Supervisor, JSS College for Women, Kollegal

²Research Scholar, Department of Commerce, JSS Research Centre, JSS College for Women (Autonomous), Saraswathipuram, Mysuru

Abstract

The Unified Payments Interface (UPI) has emerged as the backbone of India's digital payment ecosystem, transforming the manner in which consumers transact with merchants across the country. This study evaluates the volume and value of UPI transactions across Merchant Category Codes (MCCs) during Q1 (January–March) of 2025 and Q1 of 2026, using secondary data sourced from the National Payments Corporation of India (NPCI). The analysis employs percentage growth analysis, comparative analysis, and trend examination across 29 active MCC segments classified into High, Medium, and Other transacting categories. Findings reveal that the total UPI transaction volume grew by 32.7%, from 30,580.21 million in Q1 2025 to 40,584.34 million in Q1 2026, while the total transaction value expanded by 37.2%, from ₹18,24,871.58 crore to ₹25,03,724.82 crore. Groceries and Supermarkets (MCC 5411) consistently dominated by volume, recording the highest growth of 47.3%, while Service Stations and Utilities demonstrated strong value growth. The study identifies sector-specific trends, highlights the dominance of food, fuel, and telecom merchants, and provides actionable insights for policymakers, financial institutions, and fintech stakeholders seeking to deepen UPI's merchant adoption in India.

Keywords: UPI, Merchant Category Codes, Digital Payments, NPCI, FinTech, Transaction Volume, Transaction Value, Financial Inclusion, India

1. Introduction

India's digital payment revolution, catalyzed by demonetization in November 2016 and the concurrent launch of the Unified Payments Interface (UPI) by the National Payments Corporation of India (NPCI), has achieved global recognition. UPI is an interoperable real-time payment system that enables instant fund transfers and merchant payments via mobile applications. As of May 2025, UPI accounted for more than 75% of India's retail digital transactions, facilitating over 14.5 billion monthly transactions worth over ₹20 lakh crore (JETIR, 2025).

A critical but underexplored dimension of UPI's growth is its merchant-segment performance, analyzed through Merchant Category Codes (MCCs). MCCs are four-digit codes standardized under ISO 18245, adopted internationally by Visa and Mastercard, and now embedded in India's UPI infrastructure through NPCI. Each MCC identifies the primary business activity of a merchant — from grocery stores and restaurants to telecom service providers and government agencies. Studying UPI transaction patterns at

the MCC level offers a granular view of where digital payments are gaining traction, which sectors are accelerating, and where adoption remains nascent.

When P2M transactions (4,260.10 crore) surpassed P2P transactions (4,115.00 crore) for the first time in UPI's history in FY2022–2023, it marked a significant structural shift from a person-centric to a commerce-driven digital payment platform. This merchant-centric evolution makes MCC-level analysis more important than ever. The period under study — Q1 (January to March) of 2025 compared with Q1 of 2026 — provides a timely snapshot of India's merchant digital payment ecosystem and ensures seasonal comparability by eliminating festival-driven spikes common in Q2–Q4.

This research is significant for multiple stakeholders: banks and payment service providers can use findings to design targeted merchant acquisition strategies; policymakers can identify lagging sectors for targeted digital inclusion programs; and academic researchers gain a nuanced understanding of merchant payment behavior in one of the world's largest digital payment markets.

2. Review of Literature

Sreenu (2020) conducted a foundational study titled 'Cashless Payment Policy and Its Effects on Economic Growth of India: An Exploratory Study,' published in *ACM Transactions on Management Information Systems* Using panel vector error correction modelling on data from 2010–2018, Sreenu found that tele-transfer and e-money transactions positively impacted India's economic growth, and that both customers and merchants broadly accepted cashless system policies. This study laid the macro-level empirical foundation for UPI's economic role.

Rastogi, Panse, Sharma, and Bhimavarapu (2021) published 'Unified Payment Interface (UPI): A Digital Innovation and Its Impact on Financial Inclusion and Economic Development' in the *Universal Journal of Accounting and Finance* Using structural equation modelling on primary survey data, the authors demonstrated that UPI positively impacts financial literacy, which in turn drives financial inclusion and economic development — with financial stability and trust acting as partial mediators. Their work remains one of the most-cited UPI studies in the Indian commerce literature.

Vashistha, Anderson, and Mare (2019) examined merchant-side adoption in 'Examining the Use and Non-Use of Mobile Payment Systems for Merchant Payments in India,' published in the *Proceedings of the 2nd ACM SIGCAS Conference on Computing and Sustainable Societies* Through qualitative fieldwork with small merchants, the study found that while consumers were willing to adopt digital payments for referral incentives, many merchants viewed them as an unnecessary burden — a finding that underscores the continued importance of merchant-targeted adoption programs. Their work is directly relevant to understanding MCC-level adoption barriers.

Dev, Gupta, and Kumar (2024) contributed 'From Cash to Cashless: UPI's Impact on Spending Behavior among Indian Users,' presented at the CHI Conference on Human Factors in Computing Systems. Their mixed-methods study of 235 respondents found that approximately 75% reported increased spending due to UPI usage, and 95.2% found making payments via UPI convenient. The study provides behavioral-level evidence of UPI's influence on consumer expenditure patterns — a key driver of growing MCC-wise transaction volumes observed in the present study.

Mehta and Banerjee (2023), in a working paper published by ISB, found that recurring P2M payments through UPI Autopay — such as bill payments and subscriptions — increased by 40% within the first year of its implementation, directly affecting volume in MCCs such as Telecom (4814) and Utilities (4900).

The Federal Reserve Bank of Kansas City (2024) published a briefing on 'The Role of Nonbanks and Fintechs in Boosting India's UPI Person-to-Merchant Transactions,' noting that the 0% Merchant Discount Rate (MDR) policy for UPI and the government's PM SVANidhi scheme for street vendors were instrumental in driving P2M transaction growth. The briefing also highlighted that India's demonetization in 2016 and the COVID-19 pandemic in 2020 together acted as structural accelerators of merchant digital payment adoption.

Existing literature, while rich in documenting overall UPI growth, adoption determinants, and aggregate sector trends, does not address a granular MCC-level comparative analysis across consecutive quarters for 2025–2026. This study addresses that gap by providing a detailed Q1 2025 versus Q1 2026 comparison across 29 MCC segments using actual NPCI monthly data.

3. Research Gap

Despite a growing body of literature on UPI adoption, financial inclusion, and digital payment behavior in India, a significant gap exists in the domain of merchant-category-level analysis for recent periods. Most academic studies rely on aggregate NPCI data or focus on broad sectoral categories without distinguishing between specific MCC segments. Furthermore, studies covering post-2024 transaction data remain scarce, limiting their utility for contemporary policy and business strategy formulation.

This study addresses three specific gaps: (i) the absence of a rigorous MCC-level comparative study for Q1 2025 and Q1 2026 using actual NPCI monthly data; (ii) the lack of disaggregated volume and value analysis across the full spectrum of 29 active MCCs in India's UPI ecosystem; and (iii) limited understanding of which merchant categories are driving — and which are lagging — in the current phase of India's digital payments maturity.

4. Objectives of the Study

1. To analyze UPI transaction volume across Merchant Category Codes (MCCs) in Q1 2025 and Q1 2026.
2. To evaluate UPI transaction value across MCC categories and identify high-value merchant segments.
3. To compare quarterly trends in UPI merchant transactions between Q1 2025 and Q1 2026.
4. To identify dominant merchant sectors and emerging growth categories within India's UPI ecosystem.

5. Research Methodology

5.1 Data Source and Period

This study relies on secondary data sourced from the official NPCI monthly UPI statistics portal. The data covers monthly transaction volumes (in millions) and transaction values (in Indian Rupees, crore) classified by Merchant Category Code for each of the six months constituting Q1 2025 (January–March 2025) and Q1 2026 (January–March 2026). The choice of Q1 for both years ensures seasonal comparability and eliminates festival-driven spikes common in Q2–Q4.

5.2 Tools of Analysis

The study employs the following analytical methods:

- Descriptive Statistics: Mean, aggregate totals, and distribution of volumes and values across MCCs.
- Percentage Growth Analysis: Year-on-year growth in transaction volume and value for each MCC.
- Comparative Analysis: Side-by-side comparison of Q1 2025 and Q1 2026 across all MCC segments.
- Trend Analysis: Monthly variation within each quarter to identify intra-quarter patterns.

- Graphical Representation: Bar charts comparing MCC-wise transaction volumes, a dual-axis line graph depicting monthly volume and value trends, a pie chart showing category-share of Q1 2026 transactions, and a horizontal bar chart ranking MCC segments by year-on-year growth rate.

5.3 Classification of MCCs

Following the NPCI classification framework, the 29 active MCC segments are grouped into three categories: (i) High Transacting Categories (10 MCCs with consistently high monthly volumes), (ii) Medium Transacting Categories (10 MCCs with moderate transaction activity), and (iii) Other Categories (9 remaining MCCs and an aggregated 'Others' group).

6. Data Analysis and Interpretation

6.1 Monthly Trend Analysis (Q1 2025 vs. Q1 2026)

Table 1 presents the aggregate monthly transaction volumes and values for all MCC segments combined across both quarters. A consistent seasonal pattern is observable: January records the highest monthly volumes within each quarter, followed by a moderate decline in February and a recovery in March. This pattern holds for both 2025 and 2026, reflecting structural consumer behavior tied to post-New-Year spending adjustments.

Table 1: Monthly UPI Transaction Trends — Q1 2025 and Q1 2026

Month	Total Volume (Mn)	Total Value (₹ Cr.)	Vol. MoM Change	Val. MoM Change
January 2025	10,569.75	6,44,704.10	—	—
February 2025	10,066.74	5,90,083.74	-4.8%	-8.5%
March 2025	9,943.72	5,90,083.74	-1.2%	0.0%
January 2026	13,608.10	8,40,825.83	+36.9%	+42.5%
February 2026	12,795.78	7,72,416.94	-6.0%	-8.1%
March 2026	14,180.46	8,90,481.05	+10.8%	+15.3%

Source: NPCI Monthly UPI Statistics. Values in Mn (Volume) and ₹ Crore (Value). Bold rows = Q1 2026.

January 2026 registered a remarkable 36.9% increase in total volume and 42.5% increase in total value compared to January 2025, underscoring sustained momentum in UPI merchant adoption. March 2026 marked the peak monthly performance, with 14,180.46 million transactions. Figure 2 below visualizes this monthly trend.

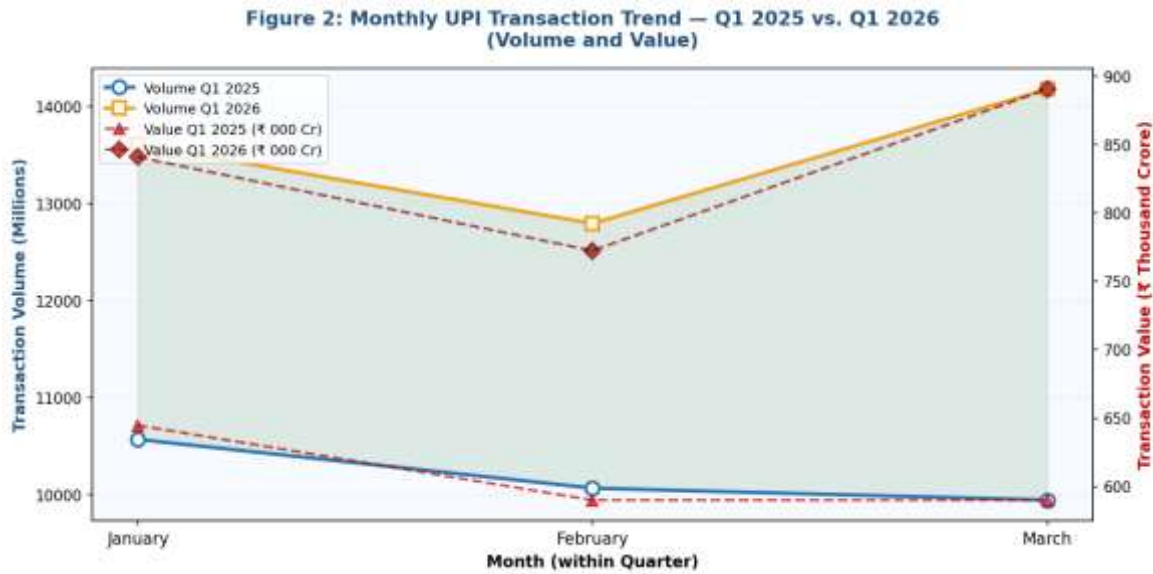


Figure 2: Monthly UPI Transaction Trend — Q1 2025 vs. Q1 2026 (Volume and Value) Source: Computed from NPCI Monthly UPI Statistics

6.2 MCC-wise Volume Comparison: Q1 2025 vs. Q1 2026

Table 2 presents the aggregated quarterly transaction volumes for the 14 most active MCC segments, along with year-on-year growth rates. Figure 1 provides a visual comparison of the top eight MCCs. The data reveals pronounced growth across nearly all categories, underscoring the broadening of merchant digital payment adoption.

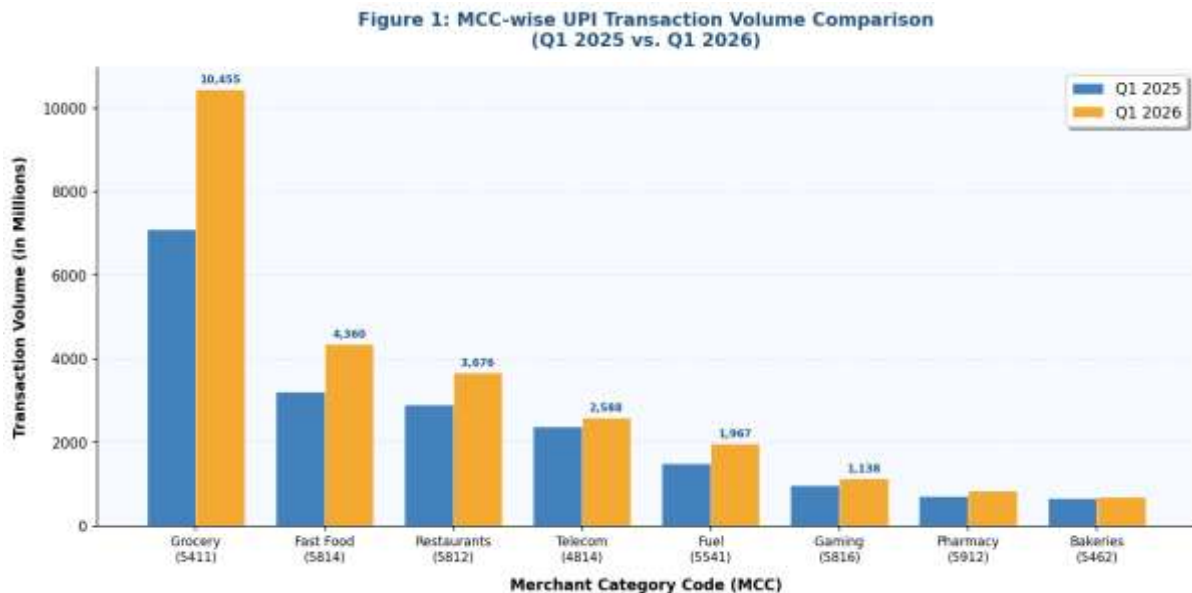


Figure 1: MCC-wise UPI Transaction Volume Comparison — Q1 2025 vs. Q1 2026 Source: Computed from NPCI Monthly UPI Statistics

Table 2: MCC-wise Transaction Volume Comparison — Q1 2025 vs. Q1 2026 (in Mn)

S.No.	MCC	Description	Q1 2025 Vol (Mn)	Q1 2026 Vol (Mn)	Growth (%)	Category
1	5411	Groceries & Supermarkets	7096.34	10454.75	47.3%	High
2	5814	Fast Food Restaurants	3213.67	4360.12	35.7%	High
3	5812	Eating Places & Restaurants	2904.21	3675.53	26.6%	High
4	4814	Telecommunication Services	2377.08	2587.89	8.9%	High
5	5541	Service Stations	1499.72	1967.29	31.2%	High
6	5816	Digital Goods: Games	980.00	1138.16	16.1%	High
7	5912	Drug Stores & Pharmacies	716.65	846.46	18.1%	High
8	5462	Bakeries	670.07	697.00	4.0%	High
9	4900	Utilities (Electric, Gas, Water)	468.18	579.75	23.8%	High
10	5451	Dairies	415.25	539.11	29.8%	Medium
11	5422	Meat Provisioners	276.22	471.25	70.6%	Medium
12	5921	Package Shops (Liquor)	261.95	390.80	49.2%	Medium
13	9399	Government Services	228.42	362.85	58.9%	Medium
14	4112	Passenger Railways	198.02	258.84	30.7%	Medium

Source: NPCI Monthly UPI Statistics. Green % = positive growth; Red % = decline.

Groceries and Supermarkets (MCC 5411) retained their position as the highest-volume MCC, recording 10,454.75 million transactions in Q1 2026 compared to 7,096.34 million in Q1 2025 — a growth of 47.3%. This category alone accounted for approximately 25.7% of total UPI merchant transaction volume in Q1 2026. Fast Food Restaurants (MCC 5814) emerged as the second highest-volume category at 4,360.12 million transactions (growth: 35.7%), followed by Eating Places and Restaurants (MCC 5812) at 3,675.53 million (growth: 26.6%). Together, the food service sector accounted for over 19.7% of Q1 2026 UPI merchant volumes.

Government Services (MCC 9399) recorded 58.9% volume growth — second-highest among medium-transacting categories — reflecting the success of government digital payment mandates. Meat Provisioners (MCC 5422) demonstrated the strongest volume growth at 70.6%. Figure 4 below ranks all major MCC segments by their growth rates.

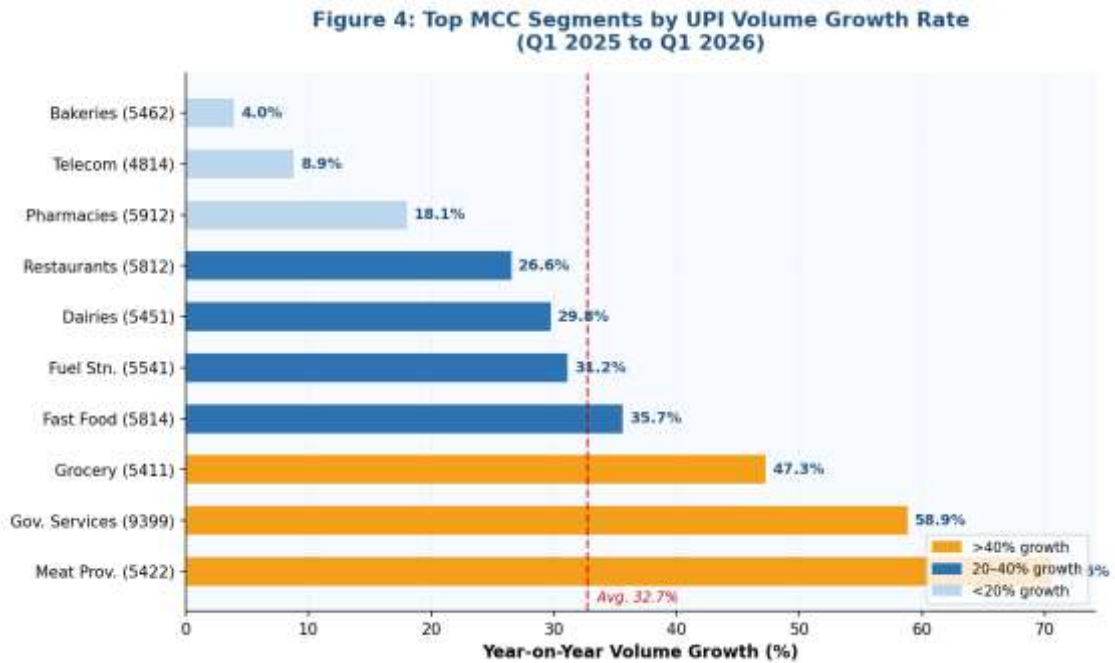


Figure 4: Top MCC Segments Ranked by UPI Volume Growth Rate (Q1 2025 to Q1 2026) Source: Computed from NPCI Monthly UPI Statistics. Dashed line = aggregate average growth (32.7%)

6.3 MCC-wise Value Comparison: Q1 2025 vs. Q1 2026

Table 3 compares transaction values across MCC segments. While volume growth was broadly positive, value growth patterns were more varied, reflecting differences in average transaction sizes and potential changes in merchant base composition.

Table 3: MCC-wise Transaction Value Comparison — Q1 2025 vs. Q1 2026 (₹ Crore)

S.No.	MCC	Description	Q1 2025 Value (₹ Cr.)	Q1 2026 Value (₹ Cr.)	Growth (%)	Category
1	5411	Groceries & Supermarkets	162424.22	232840.89	43.4%	High
2	5814	Fast Food Restaurants	38738.05	50360.71	30.0%	High
3	5812	Eating Places & Restaurants	45895.08	61040.16	33.0%	High
4	4814	Telecommunication Services	55413.66	67279.53	21.4%	High
5	5541	Service Stations	90396.03	123045.04	36.1%	High
6	5816	Digital Goods: Games	29777.90	7086.02	-76.2%	High
7	5912	Drug Stores & Pharmacies	27910.13	12591.28	-54.9%	High

S.No.	MCC	Description	Q1 2025 Value (₹ Cr.)	Q1 2026 Value (₹ Cr.)	Growth (%)	Category
8	5462	Bakeries	9805.50	10130.84	3.3%	High
9	4900	Utilities (Electric, Gas, Water)	50459.28	70448.90	39.6%	High
10	5451	Dairies	10849.46	72095.35	564.5%	Medium
11	5422	Meat Provisioners	10801.34	58847.04	444.8%	Medium
12	5921	Package Shops (Liquor)	10373.77	21973.84	111.8%	Medium
13	9399	Government Services	24120.90	24382.94	1.1%	Medium
14	4112	Passenger Railways	12510.39	15068.19	20.4%	Medium

Source: NPCI Monthly UPI Statistics. Green % = positive growth; Red % = decline.

Service Stations (MCC 5541) demonstrated the highest absolute value among consistently growing categories, rising from ₹90,396.03 crore to ₹1,23,045.04 crore in Q1 2026 (growth: 36.1%). Telecommunication Services (MCC 4814) recorded a 21.4% increase in transaction value, reaching ₹67,279.53 crore. Dairies (MCC 5451) recorded a 564.5% increase in transaction value, and Meat Provisioners (MCC 5422) showed a 444.8% value increase, likely reflecting merchant base expansion and onboarding of organized supply chains.

Digital Goods: Games (MCC 5816) experienced a significant value decline of 76.2% despite a 16.1% volume growth, consistent with a shift toward micro-transactions and the impact of real-money gaming tax reforms introduced in India in late 2023. Figure 3 below shows the category-share distribution of Q1 2026 transaction volumes.

Figure 3: Share of UPI Transaction Volume by MCC Category (Q1 2026)

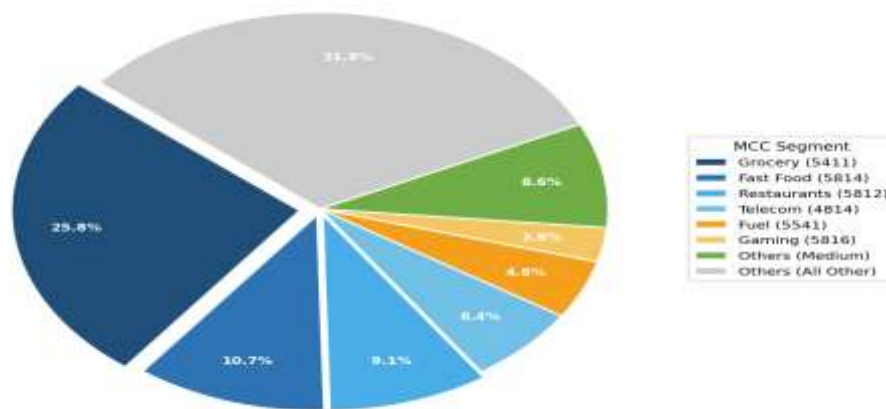


Figure 3: Share of UPI Transaction Volume by MCC Category — Q1 2026 Source: Computed from NPCI Monthly UPI Statistics

6.4 Aggregate Quarterly Summary

Table 4: Aggregate Q1 2025 vs. Q1 2026 — Key Summary Metrics

Parameter	Q1 2025	Q1 2026	Growth (%)
Total Volume (Mn)	30,580.21	40,584.34	32.7%
Total Value (₹ Cr.)	18,24,871.58	25,03,724.82	37.2%
Top MCC by Volume	5411 (Grocery)	5411 (Grocery)	47.3%
Avg. Txn Value (₹)	~₹596	~₹617	+3.5%
No. of Active MCCs	29	29	—

Source: Computed from NPCI Monthly UPI Statistics.

The aggregate data confirms that India's UPI merchant ecosystem expanded substantially in Q1 2026. The 32.7% volume growth and the 37.2% value growth demonstrate that digital payment adoption is broadening across merchant types, regions, and transaction sizes. The fact that value growth outpaced volume growth indicates a marginal rise in average transaction value — from approximately ₹596 per transaction in Q1 2025 to approximately ₹617 in Q1 2026.

7. Key Findings

- Total UPI merchant transaction volume grew by 32.7% from Q1 2025 to Q1 2026 (30,580.21 Mn to 40,584.34 Mn), and total transaction value expanded by 37.2% (₹18,24,871.58 crore to ₹25,03,724.82 crore).
- Groceries and Supermarkets (MCC 5411) remained the dominant segment by volume, contributing ~25.7% of all Q1 2026 UPI merchant transactions with a 47.3% year-on-year volume growth.
- The food service ecosystem (Fast Food + Restaurants, MCCs 5814 and 5812) collectively accounted for approximately 19.7% of total Q1 2026 UPI merchant volumes, confirming food as the second most digitally active merchant sector.
- Service Stations (MCC 5541) registered ₹1,23,045.04 crore in Q1 2026 — the highest absolute value growth in a consistently performing segment — reflecting rising fuel prices and deepened digital adoption at petrol outlets.
- Meat Provisioners (MCC 5422) and Dairies (MCC 5451) demonstrated extraordinary growth rates in both volume (70.6% and 29.8%) and value (444.8% and 564.5%), indicating rapid merchant formalization in India's food supply chains.
- Government Services (MCC 9399) recorded 58.9% volume growth, reflecting the success of public digital payment initiatives and UPI integration into government bill payment platforms.
- Digital Goods: Games (MCC 5816) showed a pronounced divergence between volume growth (+16.1%) and value decline (-76.2%), consistent with regulatory-driven reduction in high-value gaming transactions following real-money gaming tax reforms.
- Average UPI merchant transaction value marginally increased from ~₹596 in Q1 2025 to ~₹617 in Q1 2026, signaling gradual uptake for larger-value purchases alongside persistently high volumes of small-ticket daily transactions.

8. Suggestions

- Digital Awareness for Micro-Merchants: NPCI and payment banks should accelerate digital literacy and UPI onboarding programs for micro and small merchants in under-represented categories, especially rural utilities, bakeries, and handicrafts.
- Sector-Specific Incentive Structures: A tiered cashback and zero-MDR incentive model should be designed for categories with low digital penetration — such as traditional commodity traders, unorganized food vendors, and rural passenger transport operators.
- Regulatory Clarity for Digital Gaming Transactions: Given the value collapse in MCC 5816, NPCI and MeitY should provide clear guidelines on UPI transaction classification for online gaming platforms to ensure sustainable digital payment flows in the sector.
- Merchant Infrastructure Strengthening: Investment in QR code density, soundbox adoption, and POS infrastructure in Tier-2 and Tier-3 cities is critical to sustaining the high volume growth observed in grocery and food service categories.
- Cross-Sector Analytics: Financial institutions should develop MCC-level merchant analytics dashboards to help businesses benchmark their digital payment adoption rates against sector averages.

9. Conclusion

This study presents a comprehensive merchant-category-level analysis of UPI transaction volumes and values for Q1 2025 and Q1 2026, employing NPCI's official monthly data across 29 MCC segments. The findings confirm that India's UPI ecosystem has entered a phase of broad-based merchant maturity, characterized by double-digit growth across almost all sectors and a meaningful rise in the average transaction value.

The dominance of everyday commerce categories — groceries, restaurants, fuel, and telecom — underscores that UPI has successfully embedded itself in the fabric of daily consumer life. At the same time, the extraordinary growth of organized food supply chains (dairies, meat provisioners) and government digital services points to the next frontier of UPI adoption. As Rastogi et al. (2021) argued, UPI's financial literacy impact is now translating into measurable financial inclusion outcomes at the merchant level.

India's progress toward a less-cash economy is measured not merely in aggregate payment volumes, but in the depth of merchant participation across sectors. This study demonstrates that such depth is broadening, and that with continued policy support, infrastructure investment, and merchant education, India is on a sustained trajectory toward comprehensive digital commerce. Future research should examine Q2 and Q3 trends to capture festival-season dynamics and evaluate the longer-term impact of regulatory changes on specific MCC categories.

References

1. Dev, H., Gupta, R., & Kumar, D. (2024). From cash to cashless: UPI's impact on spending behavior among Indian users. Extended Abstracts of the CHI Conference on Human Factors in Computing Systems. <https://doi.org/10.1145/3613905.3651050>
2. Federal Reserve Bank of Kansas City. (2024, November). The role of nonbanks and fintechs in boosting India's UPI person-to-merchant transactions. Payments System Research Briefings. <https://www.kansascityfed.org/research/payments-system-research-briefings/>

3. Mehta, A., & Banerjee, S. (2023). UPI Autopay and recurring payments in India: Evidence from early adoption. Indian School of Business Working Paper. Hyderabad: ISB.
4. National Payments Corporation of India (NPCI). (2025). UPI Product Statistics — January 2025. <https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics>
5. National Payments Corporation of India (NPCI). (2026). UPI Product Statistics — March 2026. <https://www.npci.org.in/what-we-do/upi/upi-ecosystem-statistics>
6. Rastogi, S., Panse, C., Sharma, A., & Bhimavarapu, V. M. (2021). Unified Payment Interface (UPI): A digital innovation and its impact on financial inclusion and economic development. *Universal Journal of Accounting and Finance*, 9(3), 518–530. <https://doi.org/10.13189/ujaf.2021.090326>
7. Reserve Bank of India. (2025). Report on Currency and Finance 2024–25: India's Digital Payment Landscape. Reserve Bank of India. <https://www.rbi.org.in>
8. Sreenu, N. (2020). Cashless payment policy and its effects on economic growth of India: An exploratory study. *ACM Transactions on Management Information Systems*, 11(3), Article 15. <https://doi.org/10.1145/3391402>
9. Vashistha, A., Anderson, R., & Mare, S. (2019). Examining the use and non-use of mobile payment systems for merchant payments in India. In *Proceedings of the 2nd ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS '19)*. ACM. <https://doi.org/10.1145/3314344.3332499>