

UPI in India: A Trend Analysis of Transaction Volume and Value

Manjula R¹, Dhamayanthi P T²

¹Associate Professor in Commerce, Government First Grade College, Vijayanagar, Bangalore – 560104, Karnataka, India

²Associate Professor, Department of Commerce, Government First Grade College, Virajpet, Kodagu, Karnataka, India

Abstract:

Unified Payments Interface (UPI) has become the backbone of retail digital payments in India. This paper analyses the trend in monthly UPI transaction volume and value over 13 months, from June 2025 to June 2026, using secondary data published by the National Payments Corporation of India (NPCI). Descriptive statistics, month-on-month and year-on-year growth rates, linear and log-linear trend models, compound monthly growth rate (CMGR), the Mann–Kendall trend test and Pearson correlation were applied.

Monthly volume rose from 18,395.01 million to 22,716.08 million transactions (+23.49 per cent), a CMGR of 1.77 per cent. Monthly value rose from ₹24.04 lakh crore to ₹28.92 lakh crore (+20.31 per cent), a CMGR of 1.55 per cent. Both trends are statistically significant ($p < 0.001$; $R^2 = 0.858$ for volume and 0.846 for value). Average daily volume increased in every one of the 12 months observed, from 613 million to 757 million, so the apparent monthly dips arise from shorter months rather than falling usage. Over the full period, volume and value moved almost in proportion ($r = 0.976$; elasticity 1.02), and average ticket size showed no significant trend, staying near ₹1,291. Since February 2026, however, average daily volume rose 4.0 per cent while average daily value rose only 0.6 per cent, and ticket size fell for four consecutive months to ₹1,273 in June 2026. The results show that UPI growth remains strong and broad-based at its present scale, with early signs of a shift toward more frequent, smaller-value payments.

Keywords: Unified Payments Interface, digital payments, trend analysis, compound growth rate, Mann–Kendall test, NPCI, India

1. Introduction

India's payment landscape has shifted from cash to real-time digital transfers within a decade. The Unified Payments Interface, launched by NPCI in 2016 under the guidance of the Reserve Bank of India (RBI), lets a user link several bank accounts to one mobile application and transfer money instantly through a virtual payment address or a QR code. It runs on the Immediate Payment Service (IMPS) rails and works around the clock, including on bank holidays.

UPI's design lowered the cost of a digital payment for both the payer and the merchant. Zero merchant discount rate on person-to-merchant UPI transactions, interoperable QR codes, and the spread of low-cost smartphones and mobile data extended digital payments to small traders, street vendors and rural users. Demonetisation in November 2016 and the COVID-19 pandemic in 2020 further accelerated adoption.

By 2025–26, UPI was processing more than 20 billion transactions a month. For micro and small enterprises, which form the bulk of India's retail merchants, UPI now functions as the default mode of collection. Tracking the direction and pace of UPI growth therefore matters to policymakers, banks, payment service providers and the merchants who depend on it.

Most published trend studies on UPI cover the early adoption phase up to 2022. Few examine the mature phase, when monthly volume already exceeds 18 billion transactions. This paper fills that gap by analysing 13 months of recent NPCI data, from June 2025 to June 2026. It asks whether UPI growth is still significant at this scale, whether volume and value grow at the same pace, and what the movement in average ticket size reveals about how UPI is being used.

The paper is organised as follows. Section 2 reviews the literature. Section 3 states the objectives and hypotheses, and Section 4 the methodology. Section 5 presents the analysis, Section 6 the findings, Section 7 the suggestions, Section 8 the limitations, and Section 9 concludes.

2. Review of Literature

The three studies below were selected because each addresses a different layer of UPI: its design, its adoption by users, and its aggregate growth trend.

2.1 Gochhwal (2017)

Gochhwal (2017) examined UPI as a technological advancement over earlier payment systems in India. Published in the *American Journal of Industrial and Business Management*, the paper traced the evolution of Indian payment infrastructure from cheques and card networks to IMPS and then UPI. It described UPI's architecture, including the single mobile identifier, the virtual payment address and two-factor authentication on a mobile device. The study argued that interoperability and low transaction cost would make UPI a major driver of the move toward a less-cash economy. Being conceptual and written within a year of launch, it offered no empirical test of growth.

2.2 Patil, Tamilmani, Rana and Raghavan (2020)

Patil et al. (2020) studied consumer adoption of mobile payments in India in the *International Journal of Information Management*. They extended the meta-UTAUT model with personal innovativeness, anxiety, trust and grievance redressal, and surveyed 491 Indian consumers. Performance expectancy, intention to use and grievance redressal significantly predicted actual usage. Attitude, social influence and facilitating conditions shaped behavioural intention. The study is notable for measuring actual use rather than intention alone, and it shows that adoption depends on trust and dispute resolution as well as convenience.

2.3 Kuriakose and Sajoy (2023)

Kuriakose and Sajoy (2023) analysed the strategies and challenges of UPI in the *Journal of Telecommunications and the Digital Economy*. Using RBI and NPCI data for 2016–17 to 2021–22, they fitted a third-degree polynomial trendline ($R^2 = 0.9951$) to annual UPI volume. Their projection placed UPI at about 441.8 billion transactions in 2026–27, or roughly 1.21 billion a day, and they concluded that the one-billion-a-day target was achievable. They also flagged dispute resolution, customer protection, transaction limits, internet access and financial inclusion as constraints on further growth.

2.4 Research Gap

The review reveals three gaps. First, Gochhwal (2017) is conceptual, and Patil et al. (2020) work at the level of individual users; neither measures aggregate transaction trends. Second, the only trend study, Kuriakose and Sajoy (2023), uses annual data that ends in 2021–22, before UPI reached its present scale. Third, earlier work studies volume alone and does not compare the growth of volume with value or examine average ticket size. The present study addresses these gaps with monthly data for June 2025 to June 2026, testing trends in volume, value and ticket size separately and checking the 2023 projection against observed figures.

3. Objectives and Hypotheses

3.1 Objectives

1. To examine the trend in monthly UPI transaction volume from June 2025 to June 2026.
2. To examine the trend in monthly UPI transaction value over the same period.
3. To estimate the compound growth rate of volume and value and compare the two.
4. To analyse the movement in average ticket size per UPI transaction.
5. To offer suggestions to policymakers, payment providers and merchants based on the findings.

3.2 Hypotheses

- **H01:** There is no significant trend in monthly UPI transaction volume.
- **H02:** There is no significant trend in monthly UPI transaction value.
- **H03:** There is no significant trend in the average ticket size of UPI transactions.
- **H04:** There is no significant relationship between monthly UPI transaction volume and value.

4. Research Methodology

Research design. The study is descriptive and analytical, based entirely on secondary data.

Data source and period. Monthly UPI statistics were taken from NPCI's *UPI Product Statistics* for 13 consecutive months, June 2025 to June 2026 ($n = 13$). Four variables are used: monthly volume (million transactions), average daily volume (million), monthly value (₹ crore) and average daily value (₹ crore). Average ticket size (ATS) is derived as value divided by volume; since value is in crore (10^7) and volume in million (10^6), ATS in rupees equals $10 \times \text{value} \div \text{volume}$.

Tools of analysis. Data were processed in Python (NumPy, SciPy). The following tools were applied:

1. Descriptive statistics: mean, standard deviation, coefficient of variation (CV), skewness and kurtosis.
2. Month-on-month (MoM) and year-on-year (YoY) growth rates.
3. Linear trend model, fitted by ordinary least squares, with $t = 1$ for June 2025 through $t = 13$ for June 2026:

$$Y_t = a + bt + e_t$$

4. Compound growth rate (CGR) from the log-linear model, and compound monthly growth rate (CMGR) from the end points:

$$\ln Y_t = \ln A + t \ln B; \quad \text{CGR} = (B - 1) \times 100$$

$$\text{CMGR} = [(Y_{\text{Jun 2026}} / Y_{\text{Jun 2025}})^{1/12} - 1] \times 100$$

5. Mann–Kendall test, a non-parametric test for a monotonic trend that does not assume normality:

$$S = \sum_{i=1}^{n-1} \sum_{j=i+1}^n \text{sgn}(Y_j - Y_i)$$

6. Pearson and Spearman correlation between volume and value, and the elasticity of value with respect to volume from a log–log regression.

All hypotheses are tested at the 5 per cent level of significance.

Table 1: Monthly UPI Transactions, June 2025 – June 2026

Month	Volume (Mn)	MoM Growth (%)	Value (₹ Cr)	MoM Growth (%)	Avg. Ticket Size (₹)
Jun 2025	18,395.01	–	24,03,930.69	–	1,306.84
Jul 2025	19,467.95	5.83	25,08,498.10	4.35	1,288.53
Aug 2025	20,008.31	2.78	24,85,472.90	–0.92	1,242.22
Sep 2025	19,633.43	–1.87	24,89,736.52	0.17	1,268.11
Oct 2025	20,700.92	5.44	27,27,790.71	9.56	1,317.71
Nov 2025	20,466.98	–1.13	26,31,632.64	–3.53	1,285.79
Dec 2025	21,634.67	5.71	27,96,712.71	6.27	1,292.70
Jan 2026	21,703.46	0.32	28,33,481.26	1.31	1,305.54
Feb 2026	20,394.20	–6.03	26,84,229.30	–5.27	1,316.17
Mar 2026	22,641.14	11.02	29,52,542.03	10.00	1,304.06
Apr 2026	22,346.80	–1.30	29,02,988.05	–1.68	1,299.06
May 2026	23,201.95	3.83	29,90,424.18	3.01	1,288.87
Jun 2026	22,716.08	–2.09	28,92,138.66	–3.29	1,273.17

Source: NPCI, UPI Product Statistics; growth rates and ticket size computed by the author.

5. Data Analysis and Interpretation

5.1 Descriptive Statistics

Table 2: Descriptive Statistics (n = 13)

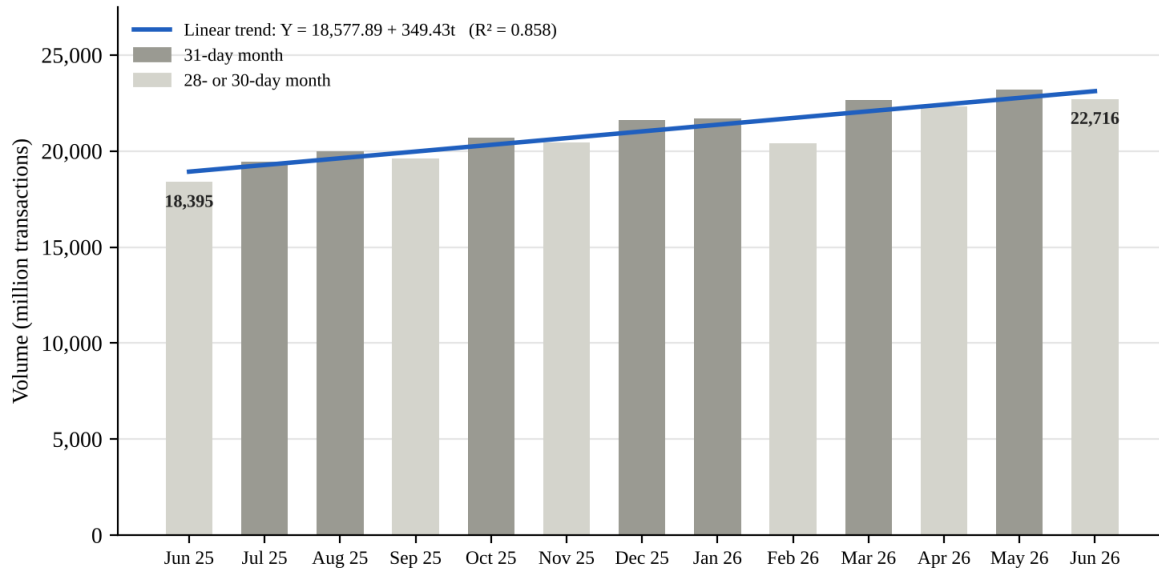
Variable	Mean	SD	Minimum	Maximum	CV (%)	Skewness	Kurtosis
Volume (Mn)	21,023.92	1,469.57	18,395.01	23,201.95	6.99	−0.12	−0.98
Avg. daily volume (Mn)	692.18	48.05	613.17	757.20	6.94	−0.20	−1.27
Value (₹ Cr)	27,15,352.13	1,98,033.98	24,03,930.69	29,90,424.18	7.29	−0.19	−1.42
Avg. daily value (₹ Cr)	89,407.41	6,599.52	80,131.02	96,766.27	7.38	−0.31	−1.58
Avg. ticket size (₹)	1,291.44	21.03	1,242.22	1,317.71	1.63	−1.02	1.19

Source: Computed from NPCI data.

Over the 13 months UPI processed 2,73,310.90 million transactions worth ₹3,52,99,577.75 crore. Volume and value show similar dispersion (CV 6.99 and 7.29 per cent), which is consistent with the two growing at a similar pace. Average ticket size is by far the most stable series (CV 1.63 per cent). Its slight negative skew (−1.02) comes from the single low value of ₹1,242.22 in August 2025; all other series have skewness well within ± 1 .

5.2 Trend in Transaction Volume

Figure 1: Monthly UPI Transaction Volume with Linear Trend

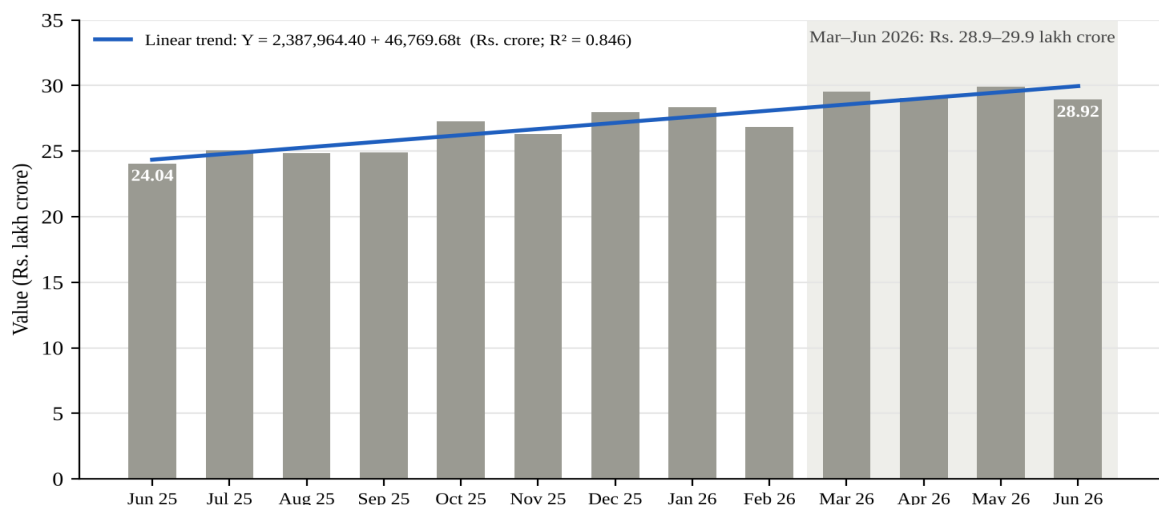


Source: NPCI, UPI Product Statistics; trend fitted by the author.

Monthly volume rose from 18,395.01 million in June 2025 to a peak of 23,201.95 million in May 2026, ending at 22,716.08 million in June 2026. The fitted trend adds about 349 million transactions each month. Five months recorded a fall in volume (September and November 2025; February, April and June 2026), all of them 30- or 28-day months following a 31-day month. Average daily volume, which removes this calendar effect, rose in every one of the 12 months, from 613 million to 757 million.

5.3 Trend in Transaction Value

Figure 2: Monthly UPI Transaction Value with Linear Trend



Source: NPCI, UPI Product Statistics; values converted to ₹ lakh crore (₹ crore ÷ 1,00,000); trend fitted by the author.

Monthly value rose from ₹24.04 lakh crore to ₹28.92 lakh crore, with a peak of ₹29.90 lakh crore in May 2026. The trend adds about ₹46,770 crore a month, and the fit is close to that for volume (R^2 0.846 against 0.858). Since March 2026, value has moved within a narrow band of ₹28.9 to ₹29.9 lakh crore. Average daily value rose only 0.6 per cent from February to June 2026, while average daily volume rose 4.0 per cent over the same months.

5.4 Trend Equations and Growth Rates

Table 3: Linear Trend and Compound Growth Estimates

Variable	a	b	t-value	p-value	R^2	CGR (%)	CMGR (%)	Annualised (%)
Volume (Mn)	18,577.89	349.43	8.14	< 0.001	0.858	1.69	1.77	23.49
Avg. daily volume (Mn)	606.37	12.26	29.29	< 0.001	0.987	1.80	1.77	23.49
Value (₹ Cr)	23,87,964.40	46,769.68	7.77	< 0.001	0.846	1.75	1.55	20.31
Avg. daily value (₹ Cr)	77,949.24	1,636.88	12.38	< 0.001	0.933	1.87	1.55	20.31
Avg. ticket size (₹)	1,285.62	0.83	0.52	0.615	0.024	0.07	-0.22	-2.58

Note: a = intercept, b = slope. CGR (% per month) from the log-linear model; CMGR from June 2025 and June 2026 end points; annualised = $(1 + \text{CMGR})^{12} - 1$. Source: Computed.

The slope is positive and significant for volume and value ($p < 0.001$), so H_{01} and H_{02} are rejected. The daily series give the best fits (R^2 0.987 for volume and 0.933 for value), confirming that the underlying growth is smooth once day counts are removed. The log-linear CGR is almost the same for volume and value (1.69 and 1.75 per cent), but the end-point CMGR is lower for value (1.55 against 1.77 per cent) because value dipped in June 2026. The ticket-size slope is close to zero and not significant ($p = 0.615$). Residual diagnostics support the models: Shapiro–Wilk p-values are 0.109 (volume) and 0.522 (value), and Durbin–Watson statistics are 2.82 and 2.77.

5.5 Mann–Kendall Trend Test

Table 4: Mann–Kendall Test Results

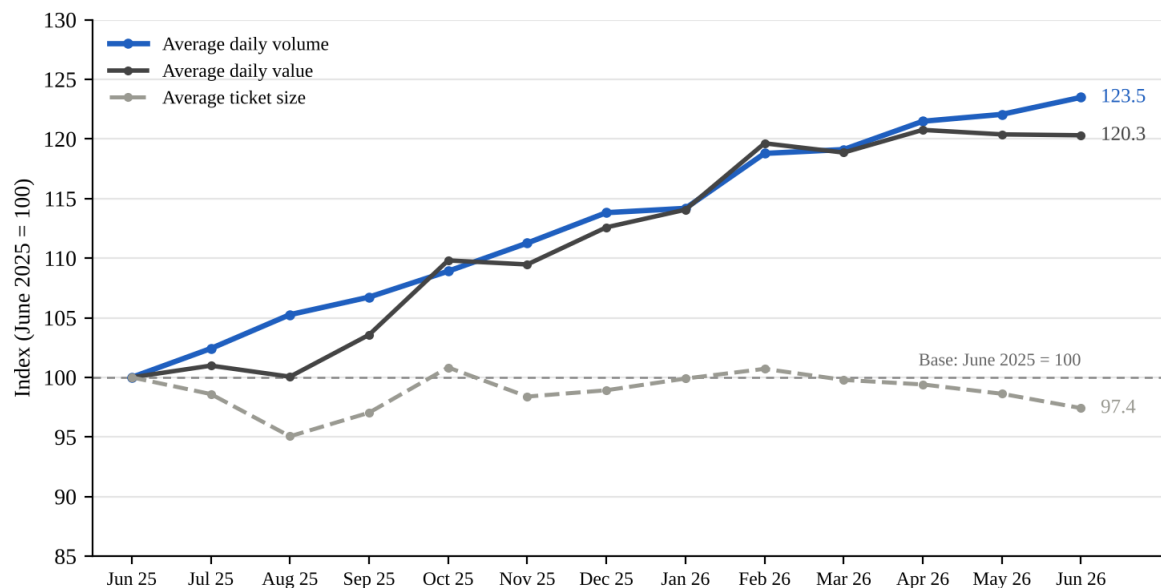
Variable	S	Z	p-value	Kendall's τ	Result
Volume	62	3.72	< 0.001	0.795	Significant increasing trend
Value	58	3.48	< 0.001	0.744	Significant increasing trend
Avg. ticket size	0	0.00	1.000	0.000	No trend

Source: Computed.

The non-parametric test confirms the regression results without relying on normality. Volume shows the strongest monotonic rise ($\tau = 0.795$), followed by value ($\tau = 0.744$). For ticket size, rises and falls exactly balance ($S = 0$), so H_0 is not rejected.

5.6 Volume, Value and Average Ticket Size

Figure 3: Indexed Average Daily Volume, Average Daily Value and Average Ticket Size (June 2025 = 100)



Source: NPCI, UPI Product Statistics; indices and ticket size computed by the author.

Volume and value are strongly correlated: Pearson $r = 0.976$ and Spearman $\rho = 0.956$ (both $p < 0.001$), so H_0 is rejected. The log–log elasticity of value with respect to volume is 1.02 ($R^2 = 0.951$); over the full period, value rose almost exactly in proportion to volume, which is why ticket size shows no trend. It ranged from ₹1,242.22 in August 2025 to ₹1,317.71 in October 2025.

The two series have separated only recently. From February to June 2026 the daily volume index rose from 118.8 to 123.5, while the daily value index stayed near 120. As a result, ticket size fell for four consecutive months, from ₹1,316.17 in February to ₹1,273.17 in June 2026. Four months are too few to establish a new trend, but the pattern deserves monitoring.

5.7 Year-on-Year Comparison

Table 5: June 2026 Compared with June 2025

Indicator	June 2025	June 2026	Change (%)
Volume (Mn)	18,395.01	22,716.08	23.49
Avg. daily volume (Mn)	613.17	757.20	23.49
Value (₹ Cr)	24,03,930.69	28,92,138.66	20.31
Avg. daily value (₹ Cr)	80,131.02	96,404.62	20.31
Avg. ticket size (₹)	1,306.84	1,273.17	-2.58

Source: Computed.

June is the only month available in both years, so it gives the one seasonality-free comparison. Volume grew 23.49 per cent and value 20.31 per cent year on year. The gap of about three percentage points means that the June 2026 ticket size was 2.58 per cent lower than a year earlier, consistent with the recent decline noted above.

5.8 Short-Term Projection and Comparison with Earlier Forecast

Table 6: Day-Adjusted Projection, July–September 2026

Month	Days	Projected Volume (Mn)	Projected Value (₹ Cr)
July 2026	31	24,117.72	31,26,833.11
August 2026	31	24,497.75	31,77,576.44
September 2026	30	24,075.27	31,24,180.42

Note: Projected = average-daily trend value × days in month. Source: Computed.

The projection is indicative only. Because average daily value has levelled off since February 2026, the value figures are likely to overstate the outcome. Against the earlier forecast, UPI processed 68,264.83 million transactions in April–June 2026, the first quarter of 2026–27, or about 750 million a day. That is 62 per cent of the 1.21 billion a day that Kuriakose and Sajoy (2023) projected for 2026–27, so growth has continued but at a slower pace than the polynomial model implied.

6. Findings

- UPI volume shows a strong and significant upward trend. Monthly volume rose 23.49 per cent in 12 months, a CMGR of 1.77 per cent, with $R^2 = 0.858$ and Mann–Kendall $\tau = 0.795$ ($p < 0.001$).
- UPI value also rose significantly, by 20.31 per cent, a CMGR of 1.55 per cent, with $R^2 = 0.846$ and $\tau = 0.744$ ($p < 0.001$).
- Month-to-month dips in volume are calendar effects. All five declines occurred in 30- or 28-day months, while average daily volume rose in every month, from 613 million to 757 million.
- Over the full period, volume and value moved almost in proportion ($r = 0.976$; elasticity 1.02). Average ticket size showed no significant trend ($p = 0.615$; Mann–Kendall $S = 0$) and averaged ₹1,291.

5. Since February 2026, average daily volume rose 4.0 per cent but average daily value only 0.6 per cent. Ticket size fell for four consecutive months to ₹1,273, and was 2.58 per cent lower in June 2026 than in June 2025.
6. Observed volume in April–June 2026 (about 750 million a day) reached 62 per cent of the 1.21 billion a day projected for 2026–27 by Kuriakose and Sajoy (2023).

Table 7: Summary of Hypothesis Testing

Hypothesis	Test	Statistic	p-value	Decision
H01: No trend in volume	Linear trend; Mann–Kendall	$t = 8.14$; $Z = 3.72$	< 0.001	Rejected
H02: No trend in value	Linear trend; Mann–Kendall	$t = 7.77$; $Z = 3.48$	< 0.001	Rejected
H03: No trend in ticket size	Linear trend; Mann–Kendall	$t = 0.52$; $Z = 0.00$	0.615; 1.000	Not rejected
H04: No relation between volume and value	Pearson correlation	$r = 0.976$	< 0.001	Rejected

Source: Computed.

7. Suggestions and Implications

1. **Build capacity for high-frequency traffic.** With volume growing about 23 per cent a year, NPCI, banks and payment apps should plan system capacity around transaction counts as well as rupee value. Wider use of UPI Lite for small payments would ease load on core banking systems.
2. **Address the cost of zero-MDR scale.** If the recent fall in ticket size continues, processing cost per rupee will rise for banks and third-party apps. Policymakers should review the incentive scheme for low-value person-to-merchant transactions so that the ecosystem remains financially viable.
3. **Strengthen grievance redressal.** Patil et al. (2020) found grievance redressal a significant driver of actual use. Faster resolution of failed and disputed transactions is essential as more small users depend on UPI.
4. **Encourage higher-value use cases.** The levelling of average daily value since February 2026 suggests that higher-value payments are not shifting to UPI as fast as transaction counts are growing. Credit on UPI, RuPay credit card linking and UPI for business-to-business payments can widen its value base.
5. **Equip micro-merchants.** As UPI becomes the default for everyday retail purchases, banks and local bodies should train micro and small merchants in digital record-keeping, sound-box confirmation and fraud awareness.
6. **Use daily averages for monitoring.** Analysts and the media should read average daily figures alongside monthly totals, since monthly dips in short months can be misread as a slowdown.

8. Limitations and Scope for Further Research

Limitations. The study covers only 13 months, which is too short to model seasonality formally or to apply ARIMA forecasting; only one month (June) can be compared year on year. It uses aggregate data and cannot separate person-to-person from person-to-merchant transactions, or app-wise and bank-wise shares. Ticket size is an average and may hide shifts in the distribution of payment amounts. The projection in Table 6 assumes the recent linear trend continues and ignores policy changes such as transaction limits or charges.

Further research. Future studies may use the full series since 2016 with ARIMA or exponential smoothing models, test whether the post-February 2026 decline in ticket size persists, compare P2P and P2M segments, test for structural breaks around policy events, and examine UPI adoption and its effect on sales among micro enterprises through primary surveys.

9. Conclusion

UPI continues to grow significantly even at its present scale of more than 22 billion transactions a month. Between June 2025 and June 2026, volume grew 23.5 per cent and value 20.3 per cent, and both trends are confirmed by parametric and non-parametric tests. Average daily volume rose without a single monthly break, from 613 million to 757 million transactions a day.

Over the year as a whole, volume and value moved together and the average ticket size held steady near ₹1,291. Since February 2026, however, daily value has levelled near ₹96,000 crore while daily volume kept rising, pulling ticket size down for four straight months. If this continues, UPI's expansion will be driven increasingly by more frequent, smaller payments in everyday retail. That would deepen financial inclusion, but it also raises questions of cost, capacity and grievance handling that policymakers and providers must address to sustain the system's growth.

REFERENCES:

1. Gochhwal, R. (2017). Unified payment interface—An advancement in payment systems. *American Journal of Industrial and Business Management*, 7(10), 1174–1191. <https://doi.org/10.4236/ajibm.2017.710084>
2. Kendall, M. G. (1975). *Rank correlation methods* (4th ed.). Charles Griffin.
3. Kuriakose, A., & Sajoy, P. B. (2023). Strategies and challenges of Unified Payment Interface: Towards facilitating a digital payments system in India. *Journal of Telecommunications and the Digital Economy*, 11(4), 33–47. <https://doi.org/10.18080/jtde.v11n4.651>
4. Mann, H. B. (1945). Nonparametric tests against trend. *Econometrica*, 13(3), 245–259. <https://doi.org/10.2307/1907187>
5. National Payments Corporation of India. (2026). *UPI product statistics*. Retrieved October 1, 2026, from <https://www.npci.org.in/what-we-do/upi/product-statistics>
6. Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending Meta-UTAUT model with personal innovativeness, anxiety, trust, and grievance redressal. *International Journal of Information Management*, 54, 102144. <https://doi.org/10.1016/j.ijinfomgt.2020.102144>