Comparative Evaluation of Customer Satisfaction across UPI Platforms: Evidence from South Gujarat

Mr. Manthan Bharatbhai Lunagariya
Assistant Professor
The Mandvi Education Society, Commerce College
Veer Narmad South Gujarat University

Dr. Navinchandra Tulsidas Dhimar
Research Guide
Vanraj Arts and Commerce College
Veer Narmad South Gujarat University

Abstract:

This paper presents a focused analysis of customer satisfaction across five major UPI platforms—PhonePe, Google Pay, Paytm, BHIM, and WhatsApp Pay—in the South Gujarat region. The study evaluates the research instrument's reliability, explores the distribution patterns of the collected data, and tests a hypothesis regarding differences in satisfaction levels across platforms. Results confirm the instrument's suitability for large-scale application and provide initial insights into satisfaction trends.

1. Introduction:

Unified Payments Interface (UPI) has significantly transformed India's digital payments ecosystem by enabling seamless, instant, and secure transactions through mobile applications. Since its launch, UPI has rapidly become one of the most widely used payment mechanisms, bridging urban and rural users alike with its simplicity and interoperability. With several competing platforms such as PhonePe, Google Pay, Paytm, BHIM, and WhatsApp Pay, customers today have multiple options to conduct their financial transactions. In such a competitive landscape, assessing differences in customer satisfaction across platforms becomes crucial, not only to enhance service quality but also to provide platforms with a strategic advantage in retaining users.

2. Literature Review

(Subhajit Bhadra et.al, February 2023) examined post-pandemic performance variations in e-payment usage by analysing RBI data for RTGS, NEFT, IMPS, AEPS, and UPI. The study concluded that RTGS, AEPS, and UPI gained more acceptance than NEFT and IMPS during the pandemic period. (Dr. Anand Gangadhar Naranje, 2023) provided an insightful overview of the future of India's digital payment systems, expressing optimism for continued growth based on prevailing trends. (Vijith Raghavendra & Pundikala Veeresha, 2023) used the predator-prey model to study competition between traditional e-banking services such as NEFT and RTGS, and modern payment platforms like UPI, concluding that UPI is poised to surpass conventional systems if growth continues at the current pace. (Prof. Satyajitsinh Gohil et.al., 2023) investigated the impact of mobile payments on youth, highlighting that besides factors like convenience and monetary benefits, education and awareness play a decisive role in driving adoption.

3. Objective

To examine whether there is a significant difference in customer satisfaction across various UPI platforms.

4. Methodology

Sample Size: 51 respondents (via Google Forms)

Sampling Technique: Non-probability convenience sampling

Instrument: Structured questionnaire with three sections:

1. **Demographic Information**
2. **UPI Usage Patterns**
3. **UPI App Rating** — A dynamic section with 14 items (10 service quality, 4 overall satisfaction) repeated for each app used.

5. Analysis

5.1 Reliability Analysis

Cronbach's Alpha indicated excellent reliability for PhonePe (0.919) and Google Pay (0.927), and good reliability for BHIM (0.888). Paytm and WhatsApp Pay results were statistically unreliable due to low responses.

UPI App	No. of Valid Responses	Cronbach's Alpha	Interpretation
PhonePe	12	0.919	Excellent reliability
Google Pay	46	0.927	Excellent reliability
Paytm	2	-21.538	Invalid due to insufficient data
BHIM	6	0.888	Good reliability, but based on small sample
WhatsApp Pay	2	0.993	High value but unreliable due to low sample

A pilot study was conducted on a sample of 51 respondents to assess the internal consistency and reliability of the 14-item satisfaction scale used for evaluating different UPI platforms. Cronbach's Alpha was computed separately for each UPI app, considering the platform-wise response structure of the questionnaire.

The results showed strong internal consistency for **PhonePe (α = 0.919)** and **Google Pay (α = 0.927)**, indicating excellent reliability. The reliability score for **BHIM (α = 0.888)** also suggests good internal consistency, though the limited sample size (n = 6) warrants cautious interpretation.

For **Paytm** and **WhatsApp Pay**, the number of valid responses was only 2 in each case. As a result, Cronbach's Alpha values for these platforms were either invalid (Paytm: –21.538) or statistically unreliable despite appearing high (WhatsApp Pay: 0.993). These results are not interpreted further due to the insufficiency of responses.

Based on the pilot study findings, no major modifications were required in the questionnaire's structure for PhonePe and Google Pay. The same instrument will be used for the final data collection, with further reliability testing to be repeated using the full sample size**.**

5.2 Descriptive Analysis

Table 1: Demographic Distribution of Respondents (N = 51)

Variable	Category	Frequency	Percentage (%)
Age	Under 20	1	2.0
	21–30	29	56.9
	31–40	9	17.6
	41–50	11	21.6
	Above 50	1	2.0
Gender	Female	20	39.2
	Male	31	60.8
Education	School	2	3.9
	Graduate	9	17.6
	Postgraduate	35	68.6
	Other	5	9.8
Occupation	Student	4	7.8
	Service	42	82.4
	Business	2	3.9
	Homemaker	1	2.0
	Other	2	3.9
District	Surat	45	88.2
	Navsari	1	2.0
	Bharuch	2	3.9
	Tapi	3	5.9
Residence Type	Rural	25	49.0
	Urban	26	51.0
Monthly Income (₹)	Below 10,000	4	7.8
	10,001–25,000	23	45.1
	25,001–50,000	18	35.3
	Above 50,000	6	11.8

The demographic profile of the respondents (N = 51) reveals that the majority belong to the age group of 21–30 years (56.9%), followed by 41–50 years (21.6%) and 31–40 years (17.6%), while respondents below 20 and above 50 constitute only 2% each. In terms of gender, 60.8% of participants are male and 39.2% are female. Educationally, most respondents are postgraduates (68.6%), with 17.6% graduates, 3.9% with school-level education, and 9.8% falling into other categories. The occupational distribution is highly skewed toward service holders (82.4%), with students (7.8%), business professionals (3.9%), homemakers (2%), and others (3.9%) making up the rest. District-wise, the study is dominated by participants from Surat (88.2%), with small representation from Navsari (2%), Bharuch (3.9%), and Tapi (5.9%). Residence type is almost evenly distributed, with 51% urban and 49% rural respondents.

Regarding income, 45.1% earn between ₹10,001–25,000, 35.3% fall in the ₹25,001–50,000 range, 11.8% earn above ₹50,000, while only 7.8% have incomes below ₹10,000.

Table 2: UPI App Usage Patterns (N = 51)

Variable	Category	Frequency	Percentage (%)
Usage Period	< 6 months	3	5.9
	6–12 months	3	5.9
	1–2 years	14	27.5
	> 2 years	31	60.8
Usage Frequency	Daily	29	56.9
	Weekly	10	19.6
	Monthly	2	3.9
	Occasionally	10	19.6
Usage Purpose	Utility Bill Payments	39	21.20
	Shopping Payments	46	25
	Peer Transfers	43	23.37
	Business Transactions	26	14.13
	Other Usage	30	16.30
Average Transaction Value (₹)	Below 500	13	25.5
	500–1,000	17	33.3
	1,001–5,000	13	25.5
	Above 5,000	8	15.7
UPI App Used	PhonePe	12	23.5
	Google Pay	46	90.2
	Paytm	2	3.9
	BHIM	6	11.8
	WhatsApp Pay	2	3.9

The UPI app usage patterns of respondents highlight that a majority (60.8%) have been using UPI services for more than two years, followed by 27.5% with 1–2 years of usage, while only 5.9% each reported less than six months and 6–12 months of experience. In terms of frequency, daily users dominate the sample (56.9%), with 19.6% using weekly, 19.6% occasionally, and just 3.9% monthly. Regarding usage purpose, the highest proportion of respondents reported using UPI for shopping payments (25%), closely followed by peer transfers (23.37%) and utility bill payments (21.20%), while business transactions (14.13%) and other purposes (16.30%) were relatively less frequent. The average transaction value shows that 33.3% of

respondents transact between ₹500–1,000, 25.5% below ₹500, 25.5% between ₹1,001–5,000, and 15.7% above ₹5,000. In terms of platform preference, Google Pay(90.2%) emerged as the most widely used UPI app, followed by PhonePe (23.5%) and Paytm (3.9%). BHIM (11.8%) and WhatsApp Pay (3.9%) had relatively fewer users.

5.3 Hypothesis Testing

H_0: No significant difference in customer satisfaction levels across UPI platforms.

Test Used: Kruskal-Wallis (non-parametric)

Result: p = 0.076 → Null hypothesis retained, indicating no statistically significant difference in satisfaction.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Overall Satisfaction Score for PhonePe, Gpay,Paytm,BHIM,WAPay is the same across categories of Phonepe, Gpay, Paytm, BHIM, WAPay.	Independent-Samples Kruskal-Wallis Test	.076	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

A Kruskal–Wallis H test was conducted to examine whether there were significant differences in overall customer satisfaction scores across five UPI platforms: PhonePe, Google Pay, Paytm, BHIM, and WAPay. The test result was not statistically significant, $\chi^2(4) = p = .076$, indicating that the satisfaction levels reported by users did not differ meaningfully across the platforms. Therefore, the null hypothesis was retained, and no post-hoc comparisons were necessary

6. Key Finding

- The research instrument is reliable and logically structured.
- Satisfaction levels are consistent across platforms.
- Low responses for Paytm and WhatsApp Pay highlight the need for targeted sampling in the main study.

7. Conclusion

The analysis indicates that the questionnaire is reliable and effective in capturing key aspects of customer satisfaction across UPI platforms. While satisfaction levels did not significantly differ among platforms, the findings suggest the need to ensure a more balanced representation of users across all apps in the main study. These insights strengthen the foundation for advancing to the full-scale research phase

Bibliography

Dr. Anand Gangadhar Naranje. (2023). Future Of Digital Payment System in India: An Overview. *International Conference on Multidisciplinary Research & Studies 2023* (pp. 1-4). Gatajni: International Journal for Multidisciplinary Research.

Prof. Satyajitsinh Gohil et.al. (2023). A STUDY ON IMPACT OF MOBILE PAYMENT WITH. *International Journal of Economic and Business Review* , 32-35.

Subhajit Bhadra et.al. (February 2023). The E-Payment Trajectory during the Pandemic – The Case of India. *Management Journal for Advanced Research* , 21-25.

Vijith Raghavendra & Pundikala Veeresha. (2023). Analysing the market for digital payments in India using the. *An International Journal of Optimization and Control: Theories & Applications* , 104-115.