
UNDERSTANDING THE FACTORS DETERMINING UPI ADOPTION AMONG LOW-INCOME PEOPLE IN COIMBATORE, ERODE, AND NILGIRIS

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ABSTRACT

This study focuses on examining the use of Unified Payments Interface among low-income individuals in selected districts. The study is based on primary data collected from the sample size of 117 respondents using a structured questionnaire. The research applies descriptive research design and simple percentage analysis to understand usage patterns, awareness levels, and user perceptions. The study also explores factors influencing adoption, security concerns, and difficulties faced while using UPI. The overall analysis provides insights that help understand digital payment behavior among low-income users.

KEYWORDS: UPI Adoption, Digital Payments, Low-Income People, User Awareness, Payment Applications, India.

1. INTRODUCTION

The Unified Payments Interface (UPI) is a real-time payment system introduced in India by the National Payments Corporation of India (NPCI) in 2016. It enables users to transfer funds instantly between bank accounts using a mobile device, eliminating the need for detailed bank information. UPI's simplified architecture allows users to make payments through mobile apps using a unique Virtual Payment Address (VPA), making digital transactions convenient and secure. Over the past few years, UPI has transformed India's digital payment ecosystem, becoming one of the most widely adopted cashless transaction systems in the world (GrabOn, 2025¹; LiveMint, 2025)².

UPI's growth demonstrates its role in encouraging financial inclusion, especially among populations that previously relied heavily on cash. By integrating multiple banks and payment platforms, UPI has enabled seamless interoperability, which boosted both consumer and merchant adoption. Monthly transaction figures have grown rapidly, with hundreds of millions of payments processed every month. Consequently, UPI has reshaped how individuals and businesses in India engage with digital finance, supporting a faster shift away from traditional payment methods (India Today NE, 2026)³.

2. Statement of the Problem

Despite its rapid adoption and widespread use, challenges remain in the implementation and accessibility of UPI across diverse demographics. While user numbers have surged, certain segments of the population still face barriers—such as limited digital literacy, network reliability issues, and concerns regarding security and fraud. These challenges can hinder the full potential of digital payments and may disproportionately affect rural and less-educated users. Therefore, this study seeks to investigate the adoption patterns and underlying obstacles related to UPI usage in India, aiming to identify factors that influence user experience and system efficiency.

3. Scope of the Study

This research focuses on examining the adoption and usage of UPI among different demographic groups across India. It includes an analysis of awareness levels, frequency of use, preferences for specific UPI applications, and perceived security. The study encompasses data from urban, semi-urban, and rural respondents to understand variations in digital payment behavior. Additionally, it assesses challenges faced by users, such as technological barriers and trust concerns. The scope extends to evaluating how these factors influence overall satisfaction and recommendation tendencies among UPI users.

4. Objectives of the Study

1. To examine the level of awareness and usage of UPI among respondents across different age and gender groups.
2. To analyze the preference for various UPI applications and payment modes among respondents from rural, semi-urban, and urban areas.
3. To study the frequency of UPI usage in relation to the income levels of the respondents.
4. To identify the security perceptions, difficulties faced, and willingness of respondents to recommend UPI for digital transactions.

5. Review of Literature

1. Ha and Nguyen (2025)⁴, they examined how e-commerce payment systems influence business performance using the UTAUT2 framework. Their study revealed that effort expectancy, facilitating conditions, and user satisfaction significantly affect payment adoption. The findings emphasize that efficient digital payment systems enhance customer experience and business outcomes. This study highlights the strategic role of digital payments in improving transaction efficiency.
2. Naik and Sridevi (2024)⁵, analyzed the issues and challenges associated with electronic payment systems. The study identified security risks, lack of awareness, and technical failures as major obstacles to adoption. Despite these challenges, electronic payments continue to grow due to convenience and speed. The authors stress the need for improved infrastructure and consumer education.
3. Deepa (2021)⁶, studied consumer awareness and satisfaction toward digital payments in Pollachi Taluk. The findings showed high awareness among younger users and preference for apps like PhonePe and Paytm. Convenience and transaction speed were key factors driving satisfaction. The study concludes that digital literacy strongly influences adoption levels.
4. Meghana (2024)⁷, conducted a systematic review of digital payment systems in India, focusing on government initiatives such as UPI and Digital India. The review highlights rapid growth due to ease of use and improved accessibility. However, challenges related to cybersecurity and digital literacy remain. The study recommends strengthening awareness and infrastructure.
5. Kesarwani, Dubey, and Vaish (2023)⁸, Their study examined the effect of online payment systems on consumers' willingness to purchase goods and services. The authors found that secure and easy payment options increase consumer confidence. However, fear of fraud and lack of trust still act as barriers. The study emphasizes enhancing security features to improve adoption.
6. Sanjai and Kalai Lakshmi (2021)⁹, analyzed customer usage of online payment applications such as Google Pay and PhonePe. Their results indicate higher adoption in urban areas compared to rural regions. Lack of awareness and security concerns were major challenges in rural areas. The study highlights the importance of digital education initiatives.
7. Khan and Etal (2017)¹⁰, provided a comprehensive review of online payment systems and their evolution. The study discussed security, privacy, and technological challenges affecting adoption. Despite advancements, security concerns remain a critical issue. The authors emphasize balancing usability with robust security frameworks.

8. Kou (2003)¹¹, presented an early analysis of electronic payment technologies in e-commerce. The study explained how digital payments address limitations of traditional transaction systems. Security and authentication were identified as core concerns. This work laid the foundation for modern digital payment research.

6. Research Methodology

The present study adopts a descriptive research design to analyze the awareness, usage, and perception of UPI among respondents. Primary data were collected through a structured online questionnaire using Google Forms. The survey was conducted in the districts of Coimbatore, Erode, and The Nilgiris in Tamil Nadu. A sample size of 117 respondents was selected using the convenience sampling method.

The data collection period spanned from June 2025 to November 2025. The collected data were coded, classified, and analyzed using appropriate statistical tools. The analytical techniques employed in the study include simple percentage analysis, cross-tabulation, and multivariate analysis to interpret relationships among demographic variables, usage patterns, and user perceptions. The results are shown in the form of tables and interpretations to know the meaningful conclusions.

Table – 1 Age group of the respondents.

Age	Number of Respondents	Percentage
21–30	33	28
31–40	3	3
41–50	1	1
Below 20	80	68
Grand Total	117	100

The majority of respondents fall under the below-20 age group, indicating strong participation from younger users. The 21–30 age group also shows notable representation. Very few respondents belong to higher age categories, suggesting limited participation from older users. Overall, the sample is youth-dominated.

Table – 2 Gender wise the respondents are you aware of UPI.

Gender	No	Yes	Number of Respondents	Percentage
Female		14	14	12
Male	16	87	103	88
Grand Total	16	101	117	100

Most male respondents are aware of UPI compared to female respondents. Awareness among females is relatively lower but still present. The results show that UPI awareness is generally high, especially among males. This reflects wider exposure of digital payments among men.

Table – 3 Age wise aware of UPI by the respondents.

Age	No	Yes	Number of Respondents	Percentage
21–30	2	31	33	28
31–40		3	3	3
41–50		1	1	1
Below 20	14	66	80	68
Grand Total	16	101	117	100

Respondents below 20 years show the highest level of UPI awareness. Awareness decreases as age increases, with very limited awareness among older age groups. This indicates that younger individuals are more informed about UPI services. Digital payment awareness is stronger among youth.

Table – 4 Age wise usage of UPI apps (e.g., Google Pay, PhonePe, Paytm, BHIM).

Age	No	Yes	Number of Respondents	Percentage
21–30	3	30	33	28
31–40		3	3	3
41–50		1	1	1
Below 20	11	69	80	68
Grand Total	14	103	117	100

Actual usage of UPI apps is highest among respondents below 20 years. The 21–30 age group also shows active usage, while older groups use UPI less frequently. This suggests that younger users are more comfortable adopting digital payment apps. Age plays a key role in UPI adoption.

Table – 5 Residential Area wise usage of Payment apps used by the respondents.

Using of APPs	Rural	Semi-urban	Urban	Number of Respondents	Percentage
Cash	8	1	3	12	10
Google Pay	39	9	22	70	60
Google Pay, Paytm	1	1		2	2
Google Pay, Paytm, BHIM			1	1	1
Google Pay, PhonePe	9	3	4	16	14
Google Pay, PhonePe, Paytm	2	2	2	6	5
Google Pay, PhonePe, Paytm, BHIM		1	1	2	2
Paytm, BHIM			1	1	1

PhonePe	7			7	5
Grand Total	66	17	34	117	100

Google Pay is the most commonly used app across rural, semi-urban, and urban areas. Cash usage is still noticeable, especially in rural regions. Urban users tend to use multiple UPI apps compared to rural users. This shows gradual digital adoption across all areas.

Table – 6 Incomes and frequency of UPIs usage.

Income	2–3 times a week	Never	Rarely	When required	Number of Respondents	Percentage
Above ₹20,000	15	5		2	22	19
Rs.10000 - Rs.20000	17	1		1	19	16
upto Rs.10000	13	1	4	2	20	17
Nil	33	7	14	2	56	48
Grand Total	78	14	18	7	117	100

Respondents with no income form the largest group of UPI users, mainly using it multiple times a week. Higher-income groups also use UPI regularly but with slightly varied frequency. This indicates that income level does not strongly limit UPI usage. UPI is used widely across income categories.

Table – 7 UPI apps, mostly used by the respondents.

UPI apps, mostly used	Number of the respondents	Percentage
Cash	12	10
Google Pay	70	60
Google Pay, Paytm	2	2
Google Pay, Paytm, BHIM	1	1
Google Pay, PhonePe	16	14
Google Pay, PhonePe, Paytm	6	5
Google Pay, PhonePe, Paytm, BHIM	2	2
Paytm, BHIM	1	1
PhonePe	7	5
Grand Total	117	100

Google Pay is the most preferred UPI app among respondents. A smaller number of users rely on multiple apps, while some still prefer cash. PhonePe also has moderate usage. Overall, users show a strong preference for Google Pay.

Table – 8 UPI security and their users recommendations.

UPI is secure for financial transactions	Recommendations of UPIs to others				Number of Respondents	Percent age
	Agree	Disagree	Neutral	Strongly Agree		
Agree	34	5	11	3	53	45
Disagree	1	2			3	2
Neutral	15	1	12	1	29	25
Strongly agree	9	6	6	9	30	26
Strongly disagree	1			1	2	2
Grand Total	60	14	29	13	117	110

Most respondents agree or strongly agree that UPI is secure for financial transactions. Those who feel secure are more likely to recommend UPI to others. Neutral responses indicate some uncertainty regarding security. Overall trust in UPI systems is fairly high.

Table – 9 Respondents Opinion about UPIs Usage in their daily routine.

Opinion about their UPIs Usage	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Number of Respondents
UPI is easy to use for day-to-day transactions	40	57	14	1	5	117
I feel safe and secure while using UPI for payments	20	59	30	4	4	117
I save time using UPI instead of cash payments	28	58	23	2	6	117
I trust the banks and apps that provide UPI services	23	56	31	1	2	117
I face frequent technical issues (e.g., failed transactions)	20	51	30	13	3	117
UPI has helped me manage money more effectively	18	58	30	10	1	117
I understand how to use all features of UPI apps	24	60	31	1	1	117
Cashback and offers motivate me to use UPI	16	48	39	8	6	117

frequently						
I worry about fraud or misuse when using UPI	23	51	31	11	1	117
Language and digital literacy are barriers in using UPI	18	47	39	12	1	117

Most respondents find UPI easy, time-saving, and suitable for daily transactions. A majority also trust banks and apps providing UPI services. However, some users express concerns about technical issues and fraud. Despite this, overall satisfaction with UPI usage is positive.

Table – 10 Respondents area wise opinion on UPIs security for the financial transactions.

Residential Area	Agree	Disagree	Neutral	Strongly agree	Strongly disagree	Number of the Respondents	Percentage
Rural	31	2	16	16	1	66	56
Semi-urban	8		4	5		17	15
Urban	14	1	9	9	1	34	29
Grand Total	53	3	29	30	2	117	100

Respondents from rural, semi-urban, and urban areas largely agree that UPI is secure. Rural users form the largest group expressing strong agreement. Very few respondents strongly disagree across all areas. This reflects widespread confidence in UPI security.

Table – 11 Gender and Age wise difficulties faced by the respondents while using UPI Apps.

Difficulties faced while using UPI	Female		Male				Number of the Respondents	Percentage
	21 – 30 yrs	Below 20 yrs	21 – 30 yrs	31 – 40 yrs	41 – 50 yrs	Below 20 yrs		
App not working properly		1					1	1
Fear of fraud	1		2	2	1	6	12	10
Fear of fraud, App not working properly		1					1	1
Fear of fraud, App not working properly, Language problems		1					1	1
Fear of fraud, Network issues	3	1				3	7	6
Fear of fraud, Network issues, App not working properly		1	1			1	3	3

Lack of knowledge						4	4	3
Lack of knowledge, Fear of fraud			1			2	3	3
Lack of knowledge, Fear of fraud, Network issues			1				1	1
Lack of knowledge, Fear of fraud, Network issues, App not working properly						2	2	2
Lack of knowledge, Fear of fraud, Network issues, App not working properly, Language problems						5	5	4
Lack of knowledge, Fear of fraud, Network issues, Language problems			1				1	1
Network issues	2	3	17	1		49	72	61
Network issues, App not working properly			4				4	3
Grand Total	6	8	27	3	1	72	117	100

Network issues and fear of fraud are the most common problems faced by users. Younger male respondents report more technical difficulties compared to females. Lack of knowledge and language issues also affect some users. These challenges indicate areas needing improvement in UPI services.

Table – 12 Gender wise recommendations to transact through UPIs.

Gender	Agree	Disagree	Neutral	Strongly Agree	Number of Respondents	Percentage
Female	9		5		14	12
Male	51	14	24	14	103	88
Grand Total	60	14	29	14	117	100

Most male respondents agree or strongly agree in recommending UPI to others. Female respondents also show positive recommendations, though in smaller numbers. Neutral and disagreement responses are limited. This suggests general satisfaction and willingness to promote UPI usage.

7. Findings and Suggestions

1. The majority of the respondents (68%) belong to the below 20 years age group, showing that younger people form the largest group participating in the study.
2. Most of the respondents are male (88%), and the majority of them are aware of UPI services, indicating higher awareness among male respondents.

3. A large majority of respondents below 20 years (68%) are aware of UPI, showing strong digital awareness among younger users.
4. The majority of respondents below 20 years (68%) actively use UPI apps such as Google Pay and PhonePe, indicating high adoption among young users.
5. Most respondents (60%) use Google Pay, and the majority of them belong to rural areas, showing that Google Pay is widely accepted even in rural regions.
6. The majority of respondents fall under the Nil income category (48%), and most of them use UPI 2–3 times a week, indicating frequent usage regardless of income.
7. The majority of respondents (60%) prefer Google Pay, making it the most commonly used UPI application.
8. Most respondents (45%) agree that UPI is secure for financial transactions and are willing to recommend it to others, showing positive trust in UPI services.
9. The majority of respondents agree or strongly agree that UPI is easy to use, saves time, and is reliable for daily transactions, reflecting a positive user experience.
10. More than half of the respondents from rural areas (56%) agree that UPI is secure for financial transactions, indicating confidence in digital payments.
11. The majority of respondents (61%) reported network issues as the main problem faced while using UPI apps.
12. Most respondents are male (88%), and the majority of them agree that they would recommend UPI to others for digital transactions.

Suggestions

1. Since network issues are the major problem faced by most users, banks and UPI service providers should work on improving network stability and transaction success rates.
2. Awareness programs and training sessions may be conducted to help users, especially young and rural users, better understand all the features of UPI apps.
3. UPI applications should strengthen security features and regularly educate users about fraud prevention to reduce fear related to online payments.
4. UPI apps must be made more user-friendly with simple language options to help users who face digital or language barriers.
5. Cashback offers and rewards motivate users to shift completely from cash transactions and it can increase the frequent usage of UPI.

CONCLUSION

The study shows that UPI usage is highest among young respondents, especially those below 20 years of age. Google Pay is the most preferred UPI application among the majority of users. Most respondents believe that UPI is secure and convenient for daily transactions. UPI has helped users save time and manage payments easily. However, network issues remain a major challenge for many users. Rural respondents also show strong acceptance of UPI services. Overall, the study concludes that UPI has become a widely trusted and commonly used digital payment system.

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