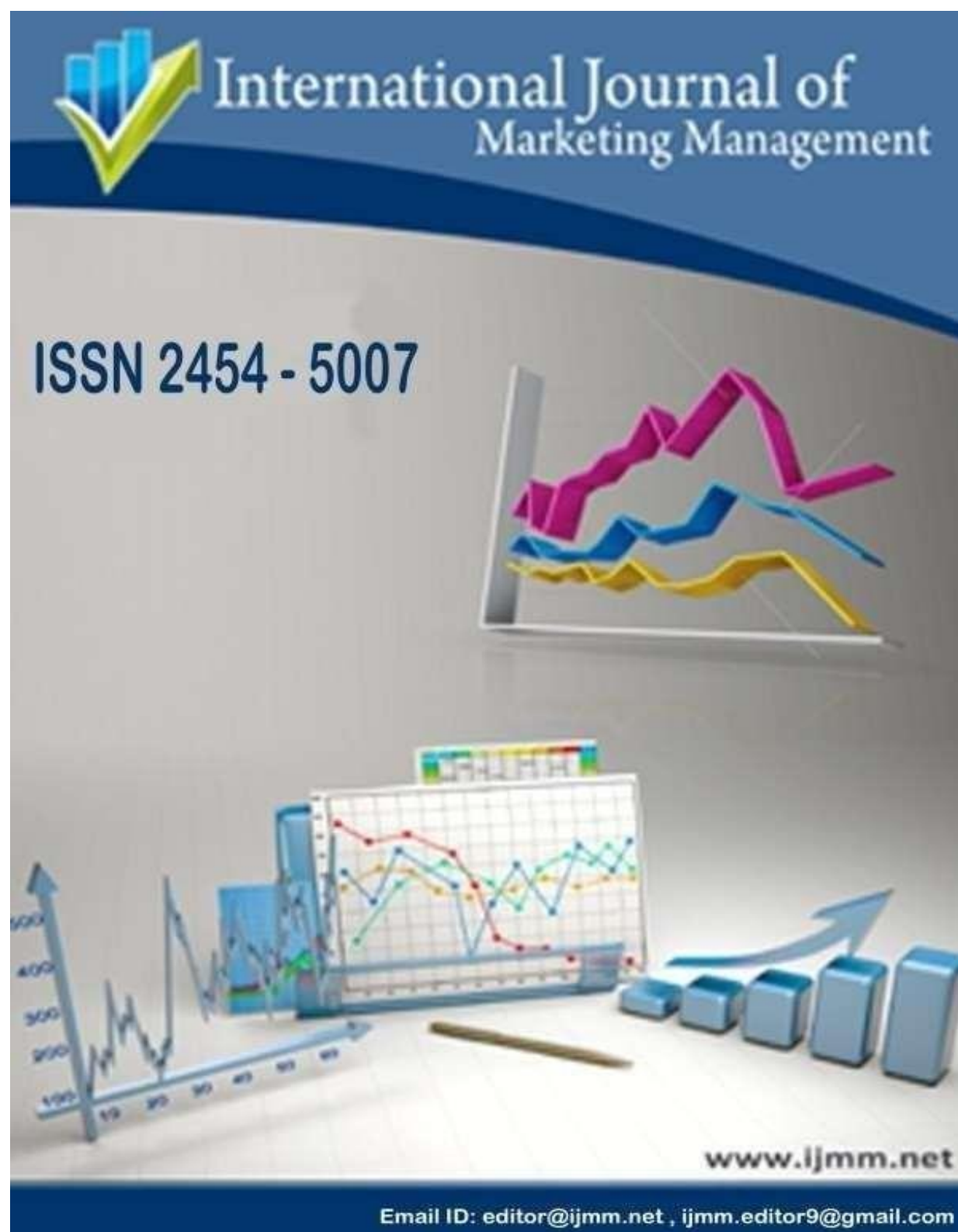




A STUDY ON THE USAGE OF UPI IN RURAL AREAS

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ABSTRACT

With an emphasis on assessing the awareness, adoption, and challenges of digital transactions, this study investigates the impact of Unified Payments Interface (UPI) in rural areas with reference to Coimbatore city. The rapid digitalization of India's financial system has brought UPI to the forefront of rural banking, offering instant, low-cost, and convenient transactions. However, despite government initiatives and increased smartphone penetration, the adoption rate in rural regions faces several obstacles such as limited internet connectivity, lack of digital literacy, fear of fraud, and technical issues. This research, based on both primary data collected through surveys and secondary data from published reports, seeks to understand the benefits, barriers, and usage patterns of UPI among rural users. The analysis highlights that UPI has promoted

financial inclusion, reduced dependence on cash, and enhanced transaction efficiency, while simultaneously revealing gaps in awareness and trust. The findings provide valuable insights for policymakers, banks, and fintech companies to design awareness campaigns, strengthen security measures, and improve infrastructure, thereby encouraging broader acceptance of UPI in rural Coimbatore and beyond.

KEY WORDS

Unified Payments Interface, Rural Adoption, Financial Inclusion, Digital Transactions, Coimbatore

INTRODUCTION

The Unified Payments Interface (UPI) has emerged as a revolutionary digital payment system, transforming the way financial transactions are carried out across India. UPI launches in 2016 and has brought banking to

people's fingertips, enabling instant, secure, and convenient money transfers using smart phones and simple QR codes. In rural areas, it has opened new pathways for financial inclusion, empowering individuals, farmers, self-help groups, and small entrepreneurs to participate in the digital economy. Government initiatives, increasing Smartphone penetration, affordable internet, and user-friendly interfaces in local languages have further accelerated adoption. Today, rural communities are embracing UPI not only for daily purchases but also for receiving subsidies, paying bills, and growing businesses. The evolution of technology has brought about a significant shift in the financial landscape of India with the Unified Payments Interface (UPI) serving as a revolutionary innovation.

STATEMENT OF THE PROBLEM

The adoption of digital payment systems in India has grown significantly, with the Unified Payments Interface (UPI) emerging as a widely accepted platform for financial transactions. While urban areas have witnessed rapid acceptance of UPI due to better infrastructure, awareness, and technological access,

rural areas continue to face several barriers in its adoption. In rural Coimbatore, challenges such as poor internet connectivity, lack of smartphones, limited digital literacy, fear of cyber fraud, and technical glitches often hinder smooth usage of UPI. Despite government initiatives and the increasing push towards a cashless economy, many rural users remain hesitant to adopt UPI fully, relying instead on traditional cash-based transactions. This digital divide creates an imbalance in financial inclusion and restricts the potential benefits of UPI for rural populations. Hence, there arises a need to study the extent of UPI adoption in rural areas of Coimbatore, to identify the benefits, issues, and behavioral factors influencing its usage, and to suggest measures to enhance digital financial participation.

OBJECTIVES

- To create awareness among rural individuals regarding the usage of UPI.
- To examine the intent of UPI use by rural populations.

NEED OF THE STUDY

In today's fast-evolving digital economy, UPI (Unified Payments Interface) has emerged as one of the most powerful tools driving financial inclusion and transforming how India transacts. As of 2025, UPI accounts for over 80% of total retail digital transactions in the country, showing massive adoption in urban and semi urban regions. However, rural areas continue to lag, with adoption affected by limited infrastructure, low digital literacy, and trust barriers. Despite several government initiatives like Digital India, Jan Dan Yojana, and PM Gati Shakti, there is still a digital divide between urban and rural regions. Coimbatore, a rapidly developing two tier-city in Tamil Nadu, offers a unique opportunity to study this divide particularly in its surrounding rural pockets where economic activity is high but digital financial habits are still developing in rural areas.

LIMITATIONS OF THE STUDY

The sample of this study has been restricted to 252 respondents. This study is purely based on the information supplied by the respondents in Coimbatore district. The findings of the

study are not applicable to any other area.

REVIEW OF LITERATURE

Lakshmi Narayanan & Kavitha R (2023)¹² - "Gendered Dimensions of UPI Adoption in Rural Tamil Nadu" This gender focused study explores the adoption gap between rural men and women in Coimbatore and Tiruppur districts. Surveying 252 respondents, the authors report that women face additional barriers including lower smartphone ownership, dependence on male family members for transactions, and heightened anxiety about digital fraud. On the other hand, self-help group (SHG) members exposed to microfinance digital tools showed greater openness toward UPI. The study highlights how women's digital exclusion is not only technological but also socio-cultural, shaped by norms around money management and mobility. The authors recommend targeted awareness campaigns for women, collaborations with SHGs, and simplified UPI interfaces tailored for first-time women users.

Arun Prakash & Sneha N (2023)¹³ - "Impact of Perceived Ease of Use and

Perceived Usefulness on UPI Adoption in Tamil Nadu Villages” Using the Technology Acceptance Model (TAM), this research quantitatively analyzes UPI adoption in 252 rural households. Findings confirm that perceived ease of use and perceived usefulness are the strongest predictors of adoption, outweighing perceived security concerns. However, the study notes that once users experience a single failed transaction, their likelihood of continued

use drops significantly. This demonstrates that first impressions are critical in shaping adoption patterns. The authors argue that policymakers and app developers should prioritize reducing transaction errors, offering instant customer support, and gamifying the onboarding process to retain firsttime users. They suggest that once users become comfortable, positive word-of-mouth accelerates adoption in villages.

ANALYSIS AND INTERPRETATION

PERCENTAGE ANALYSIS

Demographic profile of the Respondents

Table 1

Demographic profile	Groups	Frequency	Percent
Gender	Male	85	32.2
	Female	179	67.8
Educational Qualification	Under graduate	207	78.4
	Post graduate	35	13.3
	Diploma	14	5.3
	Profession	8	3.0
Age	18 to 25	230	87.1
	26 to 35	16	6.1
	36 to 44	11	4.2
	45 to 65	7	2.7
	66 to 70	-	-

Occupation	Student	202	76.5
	Rural People	10	3.8
	Professional	27	10.2
	Business	11	4.2
	Home Maker	14	5.3
Residential Status	Urban	139	52.7
	Semi-Urban	43	16.3
	Rural	77	29.2
	Semi-Rural	5	1.9
	Total	264	100.0

1. Percentage analysis reveals that the majority of respondents (87.1%) belong to the age group of 18–25 years, which forms the largest age category among all groups.
2. The analysis shows that most respondents (67.8%) are female, indicating a higher participation of female respondents compared to male respondents (32.2%).
3. From the survey, a significant proportion of respondents (76.5%) are students, forming the largest occupational group.
4. The percentage analysis further indicates that 10.2% of respondents are professionals, 4.2% are business owners, 5.3% are homemakers, and 3.8% are rural people, showing a smaller representation of these groups.
5. In terms of residential area, 52.7% of respondents reside in urban areas, marking the highest frequency, followed by 29.2% in rural, 16.3% in semi-urban, and 1.9% in semi-rural areas.

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Table 2
Most Use of UPI app

Demographic profiles	Groups	Most Use of UPI app												Chi. square	Sig.
		P1		P2		P3		P4		P5		Total			
		No	%	No	%	No	%	No	%	No	%	No	%		
Gender	Male	64	75.2	14	16.4	4	4.7	0	0	3	3.5	85	100	9.508	.050
	Female	147	82.1	14	7.8	9	5.0	7	3.9	2	1.1	179	100	9.508	.050
Education Qualification	Under graduate	168	81.1	21	10.1	9	4.3	6	2.8	3	1.4	207	100	17.498	.132
	Post graduate	29	82.8	3	8.5	3	8.5	0	0	0	0	35	100	17.498	.132
	Diplo ma	10	71.4	3	21.4	0	0	0	0	1	7.1	14	100	17.498	.132
	Profes sion	4	50	1	12.5	1	12.5	1	12.5	1	12.5	8	100	17.498	.132
Age	18-25	187	81.3	22	9.5	9	3.9	7	3.0	5	2.1	230	100	18.03	.115
	26-35	10	62.5	4	25	2	12.5	0	0	0	0	16	100	18.03	.115
	36-44	9	81.8	2	18.1	0	0	0	0	0	0	11	100	18.03	.115
	45-65	5	71.4	0	0	2	28.5	0	0	0	0	7	100	18.03	.115
	66-70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupation	Stude nt	164	81.1	19	9.4	8	3.9	7	3.4	4	1.9	202	100	29.124	.023
	Rural people	5	50	2	20	3	30	0	0	0	0	10	100	29.124	.023
	Profes sional	22	81.4	4	14.8	1	3.7	0	0	0	0	27	100	29.124	.023
	Busin ess	6	54.5	3	27.2	1	9.0	0	0	1	9.0	11	100	29.124	.023
	Home maker	14	100	0	0	0	0	0	0	0	0	14	100	29.124	.023
Residential status	Urban	116	83.4	13	9.3	4	2.8	5	3.5	1	0.7	139	100	21.880	.039
	Semiurban	28	65.1	7	16.2	6	13.9	2	4.6	0	0	43	100	21.880	.039
	Rural	63	81.8	7	9.0	3	3.8	0	0	4	5.1	77	100	21.880	.039

	Semi-rural	4	80	1	20	0	0	0	0	0	0	5	100	21.880	.039
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(Source:Primary Data)

Chi-square analysis has been applied to assess whether demographic factors such as age, gender, educational qualification, occupation, and residential status are significantly associated with the investment preferences of the respondents. The analysis reveals that, at the 5% significance level, educational qualification ($\chi^2 = 17.498$, $p = 0.132$) and age ($\chi^2 = 18.030$, $p = 0.115$) show no significant association with investment preferences, indicating that respondents across different age groups and educational levels exhibit similar investment behavior. In contrast, gender ($\chi^2 = 9.508$, $p = 0.050$) shows a marginally significant association, suggesting that male and female respondents display slightly different preferences, leading to a partial rejection of the null hypothesis. Further, occupation ($\chi^2 = 29.124$, $p = 0.010$) and residential status ($\chi^2 = 21.880$, $p = 0.010$) exhibit significant associations, highlighting that these demographic factors strongly influence the type of investment chosen by respondents. Overall, the findings suggest that while age and educational qualification do not substantially affect investment decisions, factors such as occupation, residential area, and to some extent gender play an important role in shaping the investment preferences of individuals.

ONE WAY-ANNOVA

Table 3
Frequency of UPI usage

Factor	Groups	'requency of UPI usage					
		Mean	SD	No	F-Value	Sig Value	S/NS
Gender	Male	1.7176	1.10854	85	3.168	.076	NS
	Female	1.9832	1.114399	179			

Educational Qualification	Under graduate	1.9034	1.14922	207	1.027	.381	NS
	Post graduate	1.8286	1.07062	35			
	Diploma	1.6429	1.08182	14			
	Profession	2.5000	1.19523	8			
Age	18-25	1.8870	1.13511	230	.815	.487	NS
	26-35	1.8750	1.08781	16			
	36-44	2.3636	1.43337	11			
	45-65	1.5714	.78680	7			
	66-70	-	-	-	-	-	-
Occupation	Student	1.9208	1.14764	202	3.292	.012	S
	Rural people	1.9000	.73786	10			
	Professional	1.5185	.93522	27			
	Business	1.3636	.67420	11			
	Homemaker	2.7143	1.43734	14			
Residential Status	Urban	1.7338	1.12659	139	2.190	.090	NS
	Semi-Urban	2.0000	.97590	43			
	Rural	2.1299	1.22851	77			
	Semi-Rural	2.0000	.70711	5			

(Source : Primary Data)

ANOVA was applied to test whether the agreeability scores on the adoption of UPI services differ significantly among respondents based on demographic factors such as gender, age, educational qualification, occupation, and residential area. The analysis revealed that gender-wise mean scores (male = 1.7176, female = 1.9832) with an F-value of 1.168 showed no significant difference, leading to acceptance of the null hypothesis. Similarly, educational qualification-wise scores Undergraduate (1.9034), Postgraduate (1.826), Diploma (1.6429), and Profession (2.5000) with an F-value of 1.027, and age group scores 18-25 (1.8870), 26-35 (1.8750), 36-44 (2.3616), and 45-55 (1.5714) with an F-value of 0.815, also showed no significant differences, and thus the null hypotheses were accepted. For residential area, the mean scores Urban (1.7738), Semi-Urban

(2.0000), Rural (2.1299), and Semi-Rural (2.0000) with an F-value of 2.190 indicated no significant variation, again leading to acceptance of the null hypothesis. However, occupation-wise analysis showed mean scores of Student (1.9208), Rural people (1.9000), Professional (1.5185), Business (1.6364), and Homemaker (2.7143), with an F-value of 3.292, indicating a significant difference in adoption levels. Hence, the null hypothesis was rejected at the 5% level for occupation. These findings suggest that except for occupation, demographic factors do not significantly influence the perception of UPI adoption, reflecting uniformity across groups, while occupation emerges as a differentiating factor in adoption behavior.

DESCRIPTIVE STATISTICS

Table 4

	N	Minimum	Maximum	Mean	Std. Deviation
Difficulties have faced using UPI	264	.00	6.00	1.64	1.79
Facing difficulties in making payments	264	1.00	4.00	2.00	.918
Not started using UPI	264	1.00	5.00	2.55	1.37
Improve the digital payment in rural areas	264	1.00	5.00	2.42	1.08
Valid N (list wise)	264				

(Source : Primary Data)

From the table 4 - it has been evident from the mean ratings that respondents have faced some difficulties using UPI (mean 1.64), are facing moderate difficulties in making payments (mean 2.00), have a moderate level of not started using UPI (mean 2.55), and

somewhat agree on improving the digital payment in rural areas (mean 2.42).

SUGGESTION

- Ensure stable internet connectivity, wider mobile

network coverage, and affordable smartphones for smooth UPI transactions.

- Organize regular digital literacy and awareness programs in local languages, focusing on women, elderly citizens, and small traders.
- Design UPI apps with simple interfaces, voice-guided instructions, and local language options for easy use.
- Strengthen security systems to prevent fraud and provide quick grievance redressal mechanisms along with user education on safe practices.
- Encourage partnerships between cooperatives, self-help groups, and banks to promote group adoption and build trust in UPI.
- Offer cashback, reduced transaction fees, or tax benefits for farmers and small merchants who actively use UPI.
- Introduce digital finance education in schools and rural training centers to create awareness from a young age.
- Monitor UPI adoption regularly at the grassroots level, identify gaps,

and make timely policy interventions.

- Promote the use of popular and user-friendly apps like Google Pay, PhonePe, and Paytm, as these are already widely trusted and adopted by people, making it easier for rural users to shift toward digital payments.
- Among the many UPI apps are available but the people are most commonly use

Google Pay, because it is seen as simple, reliable, and user-friendly compared to others.

CONCLUSION

One of the most important outcomes observed is the role of UPI in improving transparency and efficiency in financial activities. Direct Benefit Transfers (DBT) through UPI-linked accounts ensure that subsidies, pensions, and welfare payments reach beneficiaries quickly without leakage. This has not only strengthened trust in government schemes but also empowered women and marginalized groups by giving them direct access to funds. The system has contributed to reducing exploitation from middlemen and informal moneylenders, thereby reshaping financial independence in rural

households. Despite these positive impacts, the study also brings attention to persistent challenges. Limited internet connectivity, poor smart phone penetration, low digital literacy, and security concerns continue to restrict UPI's reach. Many rural residents are hesitant to use digital payment systems independently due to fear of fraud or lack of trust in technology. These barriers must be addressed to ensure that UPI does not remain an urban-centric success but becomes a truly nationwide tool for inclusive financial growth. It suggest that more effort is required from policymakers, banks, fintech companies, and local institutions to expand awareness, strengthen infrastructure, and simplify digital platforms. Awareness campaigns in local languages, cyber security training, voice-assisted apps, and incentives for small businesses can significantly boost confidence and adoption among rural users. Collaboration between self-help groups, cooperatives, and financial institutions can also help build community-level trust and support for UPI adoption.