ADOPTION OF DIGITAL PAYMENT SYSTEMS AMONG RURAL AND URBAN CONSUMERS IN KERALA

By

***Anil Raj, V., **Rajasekaran, A., & ***Misha, V.**

**Assistant Professor, Department of Commerce, Sree Narayana College, Punalur, Kollam, Kerala, India.*
***Associate Professor, Department of Commerce, Sree Narayana College, Kollam District, Kerala, India.*
****Assistant Professor, Department of Commerce, Sree Narayana College, Kollam, Kerala, India.*

Abstract

The rapid advancement of financial technology has transformed the payment landscape in India. Digital payment systems have become increasingly popular due to their convenience, speed, and efficiency. Government initiatives promoting digital financial inclusion and the widespread use of smartphones have accelerated the adoption of digital payment platforms. The present study examines the adoption of digital payment systems among rural and urban consumers in Kerala. The study also analyses consumer perceptions and behavioural patterns regarding digital payment methods. Primary data were collected from 300 respondents using a structured questionnaire. The results indicate that urban consumers demonstrate higher adoption levels of digital payment systems compared to rural consumers due to better digital infrastructure and awareness. However, rural consumers are gradually adopting digital payments due to increasing smartphone penetration and government awareness programmes. The study highlights the importance of digital literacy, improved security mechanisms, and stronger digital infrastructure in promoting wider adoption of digital payment systems.

Keywords: *digital payment systems, consumer behaviour, rural consumers, urban consumers, kerala, and financial technology.*

Introduction

Digital payment systems have emerged as an important component of modern financial transactions. Technological developments and the growth of financial technology have enabled consumers to conduct transactions quickly and securely without relying on physical cash. In India, digital payment adoption has increased significantly due to government initiatives aimed at promoting a cashless economy. Several digital payment methods such as debit cards, credit cards, internet banking, mobile wallets, and the Unified Payments Interface, have become widely used. These platforms allow users to transfer funds instantly and perform transactions through mobile devices and online banking services.

Kerala is one of the most digitally literate states in India and has a well-developed banking network. Despite these advantages, differences exist between rural and urban consumers in terms of access to digital technologies, digital literacy, and trust in online transactions. Urban consumers generally have better exposure to digital technologies, while rural consumers may face challenges related to infrastructure and awareness.

Understanding consumer adoption patterns of digital payment systems is essential for

policymakers, financial institutions, and technology providers to design strategies that promote digital financial inclusion. This study, therefore, examines the adoption of digital payment systems among rural and urban consumers in Kerala.

Review of Literature

Technology adoption theories explain the behavioural factors influencing the acceptance of new technologies. The Technology Acceptance Model (TAM) developed by Davis suggests that perceived usefulness and perceived ease of use influence individuals' adoption of new technologies (Davis, 1989).

Another important framework is the Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Venkatesh et al., which identifies factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions as determinants of technology adoption (Venkatesh et al., 2003).

Reports by the Reserve Bank of India indicate a significant increase in digital payment transactions in India over the past decade (Reserve Bank of India, 2022). The National Payments Corporation of India has also contributed to the growth of digital payments through platforms such as the Unified Payments Interface (UPI), which has significantly transformed the digital payment ecosystem in India (National Payments Corporation of India, 2023).

Previous studies highlight that urban consumers are more likely to adopt digital payment technologies due to higher digital awareness and better technological infrastructure. Rural consumers often face challenges related to digital literacy, network connectivity, and security concerns. However, increasing smartphone penetration and government initiatives have contributed to the gradual adoption of digital payment systems in rural areas (Gupta & Arora, 2020; Singh & Rana, 2017).

Objectives of the Study

The study is conducted with the following objectives:

1. To examine the level of adoption of digital payment systems among consumers in Kerala.
2. To compare digital payment usage between rural and urban consumers.
3. To identify factors influencing consumer adoption of digital payment systems.
4. To analyse consumer perceptions regarding the benefits and risks associated with digital payments.

Research Methodology

Research Design

The study adopts a descriptive research design to analyse consumer adoption patterns related to digital payment systems.

Data Sources

Both primary and secondary data were used in the study. Primary data were collected through a structured questionnaire distributed among consumers in rural and urban areas of Kerala. Secondary data were obtained from journals, books, reports, and official publications.

Sample Size

The study was conducted with 300 respondents.

Sampling Technique

A convenience sampling method was used for selecting respondents.

Tools for Analysis

The collected data were analysed using the following statistical tools:

- Percentage analysis
- Mean score analysis
- Chi-square test

Results and Discussions

This section presents the analysis and interpretation of the data collected from the respondents regarding the adoption of digital payment systems. The results are analysed using appropriate statistical tools such as mean score analysis and chi-square test in order to examine the relationship between variables and to identify the factors influencing digital payment adoption among the respondents.

Table 1. Demographic Profile of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	168	56%
	Female	132	44%
Age	Below 25 years	54	18%
	25–35 years	102	34%
	36–45 years	84	28%
	Above 45 years	60	20%
Education	SSLC	42	14%
	Higher Secondary	78	26%
	Graduate	120	40%
	Postgraduate	60	20%
Residence	Rural	116	38.7%
	Urban	184	61.3%

(Sample size = 300)

Table 2. Hypothesis Testing (Chi-Square Test)

Hypothesis	Variables Tested	Chi-square Value	df	p-value	Result
H1	Residence and Debit Card Usage	23.244	4	0.002	Significant
H2	Residence and Credit Card Usage	16.940	4	0.018	Significant
H3	Residence and Internet Banking Usage	27.336	4	0.000	Significant
H4	Residence and Mobile Banking Usage	17.444	4	0.015	Significant
H5	Residence and Mobile Wallet Usage	20.291	4	0.005	Significant
H6	Residence and Unified Payments Interface Usage	19.962	4	0.006	Significant
H7	Residence and Aadhaar Enabled Payment System Usage	25.617	4	0.001	Significant
H8	Residence and High Value Digital Transactions	18.938	4	0.000	Significant
H9	Residence and Medium Value Digital Transactions	16.255	4	0.000	Significant
H10	Residence and Low Value Digital Transactions	3.371	4	0.185	Not Significant

The Chi-square test was conducted to examine the association between place of residence (rural/urban) and the usage of different digital payment instruments and transaction values.

The results reveal that there is a statistically significant association between residence and most forms of digital payment usage. Specifically, the relationship between residence and the use of debit cards (χ^2 = 23.244, p = 0.002), credit cards (χ^2 = 16.940, p = 0.018), internet banking (χ^2 = 27.336, p = 0.000), mobile banking (χ^2 = 17.444, p = 0.015), mobile wallets (χ^2 = 20.291, p = 0.005), Unified Payments Interface (UPI) (χ^2 = 19.962, p = 0.006), and Aadhaar Enabled Payment System (χ^2 = 25.617, p = 0.001)

were found to be significant at the 5 percent level.

These results indicate that place of residence significantly influences the adoption and usage of digital payment systems, suggesting that urban and rural consumers differ in their level of access, awareness, and usage of these technologies.

Further, the association between residence and high-value digital transactions (χ^2 = 18.938, p = 0.000) as well as medium-value digital transactions (χ^2 = 16.255, p = 0.000) was also found to be statistically significant. This implies that consumers' residential background affects the value level of digital transactions they undertake.

However, the relationship between residence and low-value digital transactions (χ^2 = 3.371, p = 0.185) was found to be statistically insignificant**,** as the p-value is greater than 0.05. This indicates that both rural and urban consumers engage in low-value digital transactions at similar levels, and residence does not significantly influence such transactions.

Overall, the findings suggest that residential differences play an important role in shaping digital payment adoption and transaction behaviour, particularly for higher-value digital payments, while low-value transactions are widely accepted across both rural and urban consumers.

Table 3. Mean Score Analysis of Factors Influencing Digital Payment Adoption

Factors	Mean Score	Standard Deviation	Rank
Convenience and ease of use	4.32	0.71	1
Speed of transactions	4.18	0.76	2
Availability of internet connectivity	3.94	0.82	3
Security and privacy	3.88	0.86	4
Government initiatives	3.74	0.89	5
Cashback and reward offers	3.62	0.91	6
Social influence	3.48	0.95	7
Merchant acceptance	3.41	0.97	8

(Scale: 1 = Strongly Disagree to 5 = Strongly Agree; Sample Size = 300)

The mean score analysis shows that convenience and ease of use (Mean=4.32) is the most influential factor in digital payment adoption, followed by speed of transactions (Mean=4.18)**.** This indicates that respondents prefer digital payments mainly because they are easy and quick to use.

Availability of internet connectivity (Mean=3.94) and security and privacy (Mean=3.88) also play an important role in

influencing adoption. Government initiatives (Mean=3.74) and cashback and reward offers (Mean=3.62) moderately encourage the use of digital payments.

However, social influence (Mean=3.48) and merchant acceptance (Mean=3.41) have comparatively lower influence on adoption. Overall, the results suggest that functional benefits such as convenience and speed are the key drivers of digital payment usage.

Major Findings

1. Urban consumers show higher adoption of digital payment systems compared to rural consumers.
2. Convenience and ease of use are the most influential factors encouraging digital payment adoption.
3. Speed of transactions and internet connectivity also play significant roles in influencing consumer behaviour.
4. Rural consumers face challenges such as limited awareness and security concerns.
5. Government initiatives have positively contributed to increasing digital payment adoption.

Suggestions

1. Digital literacy programmes should be conducted in rural areas.
2. Internet connectivity and digital infrastructure should be improved in rural regions.
3. Banks and financial institutions should strengthen digital transaction security.
4. Awareness campaigns should be conducted to build consumer confidence in digital payments.
5. Financial institutions should promote user-friendly digital payment platforms.

Conclusion

Digital payment systems have become an essential part of modern financial transactions. The adoption of digital payment technologies in Kerala has increased significantly due to technological developments and supportive government policies. Although urban consumers currently demonstrate higher levels of digital payment adoption, rural consumers are gradually embracing these technologies. Improving digital literacy, strengthening technological infrastructure, and ensuring transaction security will play a crucial role in encouraging wider adoption of digital payment systems. With appropriate policy measures and technological advancements, digital payment systems can contribute significantly to financial inclusion and economic development in Kerala.

References

Davis, F., D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3),

319–340. https://doi.org/10.2307/249008

Gupta, K., & Arora, N. (2020). Investigating consumer adoption of digital payment systems in India. *International Journal of Bank Marketing, 38*(5), 1083–1100.

National Payments Corporation of India. (2023). *Annual report 2022–23*. NPCI. https://www.npci.org.in

Reserve Bank of India. (2022). *Annual report 2021–22*. Reserve Bank of India. https://www.rbi.org.in

Singh, N., & Rana, N. P. (2017). Consumer adoption of internet banking in India: An extension of the technology acceptance model. *International Journal of Bank Marketing, 35*(4), 557–580.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540

To cite this article

****

Anil Raj, V., Rajasekaran, A., & Misha, V. (2025). Adoption of Digital Payment Systems among Rural and Urban Consumers in Kerala. *Sparkling International Journal of Multidisciplinary Research Studies, 9*(1), 27-34.

****

ABOUT THE AUTHORS

***Anil Raj V** is an Assistant Professor of Commerce at S. N. College, Punalur, with over 14 years of teaching experience in higher education. He has demonstrated sustained commitment to teaching, mentoring, and academic administration, contributing significantly to the academic growth and development of students. He is currently pursuing a Ph.D. in Banking, with research interests focusing on contemporary issues and emerging developments in the financial sector. He has published research articles in UGC CARE-listed journals, reflecting his engagement with scholarly research.*

***Dr A. Rajasekaran** is an Associate Professor of Commerce with over 16 years of teaching experience in higher education. He specialises in commerce and management disciplines and contributes to academic excellence through effective teaching, curriculum development, and student mentoring. He demonstrates a strong commitment to research and professional development and has guided students in academic projects. He actively participates in scholarly activities, thereby contributing to institutional advancement and student achievement.*

***Dr Misha, V.** is an Assistant Professor in the Department of Commerce at Sree Narayana College, Kollam, with over 20 years of teaching experience in higher education. She began her academic career as a Lecturer in Education and served for a decade in teacher training colleges, contributing significantly to the preparation and development of future educators. Since 2016, she has been serving in the field of commerce education, demonstrating versatility across*

disciplines. She has made notable contributions to academic research, having published 25 research articles and presented 20 papers at national and international conferences and seminars. Her extensive teaching experience and active engagement in research reflect her strong commitment to academic excellence and continuous professional development.

****