

Digital Payment Systems in India: Evidence from Small Retailers in Erode District, Tamil Nadu

A. Amutha¹, A. Shanpareeth², C. Selvaraj³ & R. Rajanbabu^{*}

¹Assistant Professor, Department of Economics, PSG College of Arts and Science, Coimbatore, India

²Assistant Professor, Department of Economics, Government Arts College, Coimbatore, India

³Associate Professor, Department of Economics, Government Arts College, Coimbatore, India

^{*}Assistant Professor, Department of Economics, S.T. Hindu College, Nagercoil, India

^{*}Corresponding Author: **R. Rajanbabu**

Abstract

The Indian economy has made significant progress in digitization over the past two decades. The demonetization in 2016 played a significant role in promoting transactions and the government has been actively encouraging people to adopt digital payment methods. The widespread availability of Smartphones and the introduction of mobile payment applications have made it easier for people to make digital transactions. For the study, the researcher has examined the growth of digital payment systems in India and considered the performance of digital payments with reference to small retailers in Erode district. The secondary data have been collected for 11 years and the primary data have been collected from the small retailers in Erode district. The Result shows that RTGS and UPI have a maximum transaction value and IMPS has a maximum growth in the study period. As many changes were made in modes of digital payments by National Payments Corporation of India (NPCI). User-friendly, easy transferability and convenience were the most preferred factors to choose the digital payments by the small retailers.

Keywords: Cashless economy, Credit cards, Debit cards, Digital payment, Electronic money, IMPS, NEFT, RTGS, UPI

Introduction

Digitalization has become a crucial economic driver in many countries, including India. The adoption of digital technologies has led to the creation of new industries and job opportunities, increased productivity, and improved efficiency in various sectors. The World Economic Forum's report highlights the positive impact of digitalization on a country's GDP per capita, showing that digitalization can have a significant impact on a country's economic growth. In India, the digital India campaign has been instrumental in promoting digitalization and digital literacy. The campaign has led to the development of digital infrastructure, including the establishment of high-speed internet connectivity and the promotion in rural areas, to enable more people to participate in the digital economy.

Review of literature

Cashless economy is an economy where maximum transactions are done without using the physical cash but through digital means like credit cards, debit cards, e-wallets and electronic fund transfer (ECS, NEFT, RTGS, USSD, UPI, Aadhaar based payment system etc). Rising Smartphone penetration along with increasing competition in the domestic market could be attributed to the growing value (Kavitha and Nachammai, 2022). With the help and support of these payment methods, people can make ease of transactions with a single click. Though there are many advantages in using digital payment methods people have to face many challenges and difficulties also, so to make it more successful the Government has to ensure the possibility of using the Internet, connectivity, and technical support, especially in rural areas (Benazir and Chellammal, 2021). Digital payment acceptance has spread from internet retail transactions to street vendor transactions. Small scale shopkeepers are literate enough to use digital payment systems, and retailers can deploy infrastructure to transact digitally (such as bank accounts and Smartphones). Fees on digital platforms are also reasonable (Ashok, 2022). Senthamizh and Epsheeba (2023) digital payment plays a better role not only among the working class people but also among the younger generation. The method of digital transaction is used majorly by the younger generation, particularly the student community as they have better knowledge and access to digital devices. The study found that male respondents used digital transactions more frequently than female respondents and also those in the higher income group used the digital transaction method more frequently than those in lower income group. Sangeeta Jerath (2022) examined the growth of digital payments in India, growth in different modes of payment in India as well as growth in Indian payment infrastructures. The study found that India is experiencing robust growth in the digital payments arena. Angamuthu (2020) focused on growth of digital payments with respect to its volume and value of transactions during

the period 2012-2013 to 2018-2019. This analytical study reports positive growth in terms of actual volume (24.11 percent) and value (15.84 percent) of overall digital payments in the country over the last 7 years.

Objectives of the study

Technological advancement has been occurring in all sectors like agriculture, industrial, education, marine, construction and business environments. In the fast growing business environment, digital payment systems play a major role in the transaction process, particularly in sales. Digital payment methods such as UPI, Mobile banking, E-wallets, Internet banking, Credit/Debit cards, USSD, AePS have become increasingly popular and are now a preferred method of payment for many people. The shift towards the adoption of digital payments has both positive and negative aspects. Due to various changes made by NPCI in the modes of digital payments in 2017, there are drastic improvements in the digital payment systems. Hence, this study concentrates on the growth of digital payment systems and its performance by the small retailers with the following specific objectives.

- (i) to examine the growth of digital payment systems in India.
- (ii) to analyze the performance of modes of payment system by the small retailers.
- (iii) to determine the factors influencing the usage of digital payment systems.

Data Sources and Methodology

Both descriptive and analytical methods were used in the study. Primary data have been collected through structured interview methods. The study was conducted in PS Park and Manikoonda area in Erode district of Tamil Nadu, with a sample size of 64 small retailers. The secondary data have been collected from RBI bulletin and annual reports for a period of 11 years from (2011-2012 to 2021-2022). To analyze the overall growth of digital transactions and analyze the growth of digital payment systems like RTGS, CTS, IMPS, NEFT, Credit cards, Debit cards and PPI. The statistical tools like percentage, weighted mean, Garrett ranking, annual growth rate and compound annual growth rate were used to derive inferences.

Results and Discussion

Table 1: Annual Growth Rate of Digital Payment Systems in India

Year	RTGS	CTS	IMPS	NEFT	Credit cards	Debit cards	PPI
2011-2012	-	-	-	-	-	-	-
2012-2013	25.50	44.20	975.00	62.10	27.26	39.14	26.94
2013-2014	8.48	102.96	2127.91	50.87	25.25	28.34	4.70

2014-2015	2.69	51.05	507.52	36.58	23.33	27.18	157.28
2015-2016	9.36	4.67	178.69	39.24	26.74	30.95	130.19
2016-2017	19.08	5.93	153.76	44.15	36.44	107.61	71.72
2017-2018	18.86	7.32	116.84	43.48	39.77	39.47	68.97
2018-2019	16.26	2.62	78.18	32.34	31.44	28.99	50.65
2019-2020	- 3.34	-4.03	46.98	0.67	21.15	18.60	1.05
2020-2021	-19.49	-28.09	25.84	9.52	-13.75	- 5.86	-8.29
2021-2022	21.84	18.18	41.80	14.30	54.18	10.16	48.71
CAGR (%)	8.22	14.42	185.89	28.70	23.35	26.83	42.02

Source: RBI bulletin

The RTGS transaction value increased from 539307.5 billion and in the following years, it has been fluctuating and reached 1286580 billion. The higher rate of growth rate is observed in 2012-2013. RTGS has a positive growth during the study period except over the year it recorded a negative growth rate in 2019-20 & 2020-21. In 2021-22 the attained growth rate was at 21.84 percent. The compound annual growth rate was registered as 8.22 percent indicating that the growth is registered every year on average during the study period.

The CTS transaction value increased from 15104 billion and in the following years, it has been fluctuating and reached 66500 billion. The higher rate of growth rate is observed in 2013-2014. RTGS has a positive growth during the study period, except over the year it was recorded as negative growth rate in 2019-20 & 2020-21. In 2021-22 the attained growth rate was at 18.18 percent. The compound annual growth rate was registered as 14.42 percent indicating that the growth is registered every year on average during the study period.

The IMPS transaction value increased from 0.4 billion and in the following years, it has been fluctuating and reached 41710 billion. The higher rate of growth rate is observed in 2013-2014. IMPS have a positive growth during the study period. In 2021-22 the attained growth rate was at 41.80 percent. The compound annual growth rate was registered as 185.89 percent indicating that the growth is registered every year on average during the study period.

The NEFT transaction value increased from 17903.5 billion and in the following years, it has been fluctuating and reached 287250 billion. The higher rate of growth rate is observed in 2013-2014. NEFT has a positive growth during the study period. In 2021-22 the attained growth rate was at 14.30 percent. The compound annual growth rate was

registered as 28.70 percent indicating that the growth is registered every year on average during the study period.

The Credit cards transaction value increased from 966.1 billion and in the following years, it has been fluctuating and reached 9720 billion. Credit cards had a positive growth during the study period except over a year it recorded a negative growth rate in 2020-21 (-13.75 percent). In 2021-22, it attained the highest growth rate of 54.18 percent. The compound annual growth rate was registered as 23.35 percent indicating that the growth is registered every year on average during the study period.

The Debit cards transaction value increased from 534.3 billion and in the following years, it has been fluctuating and reached 7300 billion. The higher rate of growth rate is observed in 2016-2017. Debit cards had a positive growth during the study period except over a year it recorded negative growth rate in 2020-21 (-5.86 percent). In 2021-22 the growth rate attained was at 10.16 percent. The compound annual growth rate was registered as 26.83 percent indicating that the growth is registered every year on average during the study period.

The PPI transaction value increased from 62 billion and in the following years, it has been fluctuating and reached 2940 billion. The higher rate of growth rate is observed in 2014-2015. PPI has a positive growth during the study period except over a year it recorded a negative growth rate in 2020-21 (-8.29 percent). In 2021-22 the attained growth rate was at 48.71 percent. The compound annual growth rate was registered as 42.02 percent indicating that the growth is registered every year on average during the study period.

IMPS has witnessed a maximum rate of growth (185.89 percent) and ECR (Dr) & ECR (Cr) has a decrease in the transaction value due to the development of QR-based & UPI-based payment systems and consolidation of multiple ECR systems into NACH systems.

Table 2: Ranking Preference of the Small retailers

Modes of payment	Mean score	Rank
UPI	71.34	I
E-Wallet	63.25	II
Plastic money	56.31	III
Internet banking	48.11	IV
AePS	36.67	V
USSD	24.31	VI

Source: Computed from primary data

Most of the small retailers prefer UPI payment and E-Wallet. As the E-Wallets like Gpay, PhonePe, Paytm are integrated, UPI has been ranked highly. And the other payment systems like Plastic money (Cards payment, POS terminal) and Internet banking were ranked at 3 and 4 respectively.

Table 3: Average number of times the digital payments used in a day

Particulars	Frequency	Percentage
Less than 5 times	5	8
5 - 10 times	18	28
11 - 20 times	26	41
More than 20 times	15	23
Total	64	100

Source: Primary data

On an average of about 41 percent of 11-20 times the digital payments were used by the small retailers in their stores. About 28 percent of 5-10 times digital payments were used in their stores, 23 percent of more than 20 times were used by the retailers and merely 8 percent of less than 5 times were utilizing the digital payments in their stores.

Table 4: Influencing Factors of Digital Payments

Particulars	Mean
Time saving	4.19
Reduced Transaction cost	3.75
Increased cash flow	4.23
To keep out of change issues	3.91
Improved efficiency	4.00
Convenience	4.23
Increased sales volume	3.53
Easy Transferability	4.36

Consumers demand	3.78
Competitive advantage	3.38
User friendly	4.31
Enhanced customer experience	3.72
Enhanced Security (fraud & theft)	3.63
Access to data (Data on customer Behaviour & spending patterns)	3.48

Source: Computed from primary data

The study finds that the mean value for the demand and supply factors of small retailers in adopting digital payments: user friendly (4.31), convenience (4.23), easy transferability (4.36), to keep out of change issues (3.91), enhanced security (3.63), increased cash flow (4.23), reduced transaction cost (3.75), consumers demand (3.78), competitive advantage (3.38), increased sales volume (3.53), time saving (4.19), improved efficiency (4.00), enhanced customer experience (3.72), access to data (3.48). On the whole, easy transferability, user-friendly and convenience were the most preferred factors of small retailers to use digital payments.

Conclusion

India has had a significant evolution of digital payments in recent years, with the government's push towards a cashless economy and the rapid adoption of Smartphones and interconnectivity. The growth of the digital payment system in India has been analyzed and the study period shows that the RTGS has the maximum amount of transactions and IMPS has the maximum level of growth over the periods. The fluctuations in the period was due to COVID-19, development of new payment technologies such as contactless payments, digital wallets and QR code-based payments, demonetization of high valued currency notes in 2016, increase in mobile and internet penetration. The UPI transaction has the maximum value of transaction in India currently. As it was launched in 2016, to highlight its present status, small retailers' performance of digital payment systems has been undertaken to analyze the growth of UPI. Most of the small retailers choose to rank their first preference to UPI and digital wallets payment systems. User-friendly, easy transferability and convenience were the most preferred factors to choose the digital payments by the small retailers. Hence, a huge part of this payment revolution was led by UPI. While it still represents a small 10 percent share of total payments in the retail sector, the percentage is expected to grow in coming years. The Idea of going "Cashless" has changed the way customers look for new payment methods. Small and unorganized retailer's form 90 percent of the retail sector in India, with them accepting payments, is the first step to digitalizing their business.

References

1. Angamuthu, B. (2020). Growth of Digital Payments in India. *NMIMS Journal of Economics and Public policy*, 5(4), 31-41.
2. Ashok Botta (2022). A Study on the Adoption of Digital Payment Mechanism by Small Retail Stores in Visakhapatnam City. *Journal of Positive School Psychology*, 6 (10), 61-66.
3. Benazir Laila Kaleeth, A. and Chellammal, T. (2021). Adoption of Digital Payment Methods in Rural Areas of Ramanathapuram District. *Annals of the Romanian Society for Cell Biology*, 25 (4), 7831-7837.
4. Kavitha, B. and Nachammai, N. (2022). Moving from Cash to Cashless Economy - Digital Payment Systems in India. *International Journal of Multidisciplinary Educational Research*, 11, 5(3), 35-37.
5. Rajanbabu, R. (2015). Growth of Spices Processing Industry in Tiruchirappalli District, Tamil Nadu. *International Journal of Research in Commerce, Economics & Management*, 5 (11), 83-86.
6. Ravikumar, T., Suresha, B., Sriram, M. and Rajesh, R. (2019). Impact of Digital Payments on Economic Growth: Evidence from India. *International Journal of Innovative Technology and Exploring Engineering*, 8 (12), 553-557.
7. Sangeeta Jerath (2022). Digital Payments in India: An Analysis. *International Journal of Innovative Technology and Exploring Engineering*, 11 (11), 47-54.
8. Senthamizh Veena, A. and Epsheeba, D. (2023). Study on Digital Payment Usage among the Student Community in Tiruchirappalli City of Tamil Nadu. *International Journal of Research - GRANTHAALAYAH*, 11(5), 62-75.
9. Shadab Ahmad, Moiz Akhtar, Asma Farooque (2020). A Study on Rise and Growth of the Indian Retail Industry”, *Catalyst – Journal of Business Management*, 2 (1), 1-12.
10. Shobha, B. G. (2020). Digital Payments-Analysis of Its Present Status in India. *International Journal of Creative Research Thoughts*, 8 (7), 4071-4081.