



**ISSN: 2454-9940**



**INTERNATIONAL JOURNAL OF APPLIED  
SCIENCE ENGINEERING AND MANAGEMENT**

**E-Mail :**  
**editor.ijasem@gmail.com**  
**editor@ijasem.org**

**[www.ijasem.org](http://www.ijasem.org)**

## **A STUDY ON THE DIGITAL PAYMENT SERVICES IN INDIA**

**Mrs. P. MAMATHA, MBA; MPHIL. \*1, Mr. ANANDA REDDY. Y, MSC(STATS);  
MSC(MATHS) \*2, Mr. G. VENKATESHWARLU, MCA; MTECH. \*3**

### **ABSTRACT**

People have been used to cash transactions and online banking since the beginning. In 2016, NPCI conducted a pilot program with 21 member banks, which led to the creation of UPI. On April 11, 2016, in Mumbai, the pilot program was introduced by RBI Governor Dr. Raghuram G. Rajan. Banks have been putting their UPI-capable apps on Google Play since August 25th, 2016. It has greatly facilitated trade accessibility for consumers and merchants alike across the country. It has offered transaction products for both financial and non-financial transactions. More than ten countries are now prepared to introduce the UPI system thanks to its most distinctive features, which include instantaneous money transfers, QR codes, one app accessing multiple accounts, and many more. These features have made the other countries very competitive. Conversely, though, it has aided the RBI in realizing its goal of reducing the level of risk associated with India's retail payment system

**Keywords:** UPI, payments, growth, and economy

### **INTRODUCTION:**

#### **UPI (Unified Payments Interface)**

A mobile platform from any participating bank can control multiple bank accounts through the Unified Payments Interface (UPI), which unifies various banking functions, effective fund routing, and merchant payments under one roof. Additionally, it provides "peer-to-peer" collection requests, which can be scheduled and paid for based on necessity and

convenience. Customers are becoming more interested in using e-commerce platforms to pay bills, recharge phones, and buy non-essential items as a result of the increase in UPI transactions. The impact of UPI Payments on the Indian market has had a significant impact on consumers' choice of payment methods and shopping websites.

\*1. Principal, Siva Sivani Degree College, NH-44 Kompally, Secunderabad-500100, Telangana, India.

\*2. HOD, Dept. of Statistics, Siva Sivani Degree College, NH-44 Kompally, Secunderabad-500100, Telangana, India.

\*3. Lecturer in Computer Science, Siva Sivani Degree College, NH-44 Kompally, Secunderabad-500100, Telangana, India

It has been extremely helpful during the pandemic, when maintaining social distance is the most important norm. The immediate real-time payment system is the best financial innovation to come out of India since independence, and it is helping to prepare the way for the eventual abolition of the cash economy. It has made use of its influence to assist the country in becoming one of the digital economies with the fastest growth rates worldwide.

## REVIEW OF LITERATURE:

1. Dr. Pradipta Mukhopadhyay, Volume 7, Issue 2, July 2021, A Case Study on Digital Currency with a Special Reference to India"

In this paper, I examine the actual significance of digital currencies in contemporary society, with particular emphasis on the state of digital currency in India right now. The data required for the current study was gathered using both direct and indirect methods of data collection because it was a casual, exploratory, and empirical investigation.

2. Alonso, S. L. N., Jorge-Vazquez, J., & Forradellas, R. F. R. (2021). The study's attention is given to the current state of CBDC and the number of nations that have adopted them following numerous pilot tests. There are numerous benefits and drawbacks to CBDC. Only after using these

currencies for a considerable amount of time can it be comprehended. Recently, CBDC has gained popularity. The central bank would develop and maintain CBDC, an electronic form of money that people and organizations could use to send and receive payments and hold value. The 10, 50, or 100 money units of a CBDC would always be equal to the 10, 50, or 100 money units of standard physical coins or banknotes. Similar to real coins or banknotes, a CBDC would be backed by dollars, euros, yen, or any other currency.

3. CMA Manpreet Kaur, September 2020. This study, entitled "Digital Currency and its Implications for India," finds that the use of digital payment methods is made possible by the amazing rise in smart phone ownership and the availability of user-friendly payment options like PAYTM and BHIM UPI. Using SWOT analysis, the article attempts to investigate worldwide trends in digital currency in a few selected nations and assess the consequences of digital money for India. This was made clear by a decision by the RBI to stop crypto currency trading, which caused ZEB Pay, India's largest crypto exchange, to shut down by preventing deposits and withdrawals in Indian rupees. It turns out that the decision was not sufficiently supported by the study, nevertheless.

4. Aditya Kulkarni, 15th Aug 2022 “Public perception of the “Digital Rupee” in India” Explored large number of individuals favours the "digital rupee," but some of them are still unaware of it and are sceptical of its features, according to the report. The study also identifies a limitation in terms of the quantity of participants as India has a sizable population; however, the information from this study will be helpful when the "Digital Rupee" launches. When UPI (United Payments Interface) was introduced, the Indian public was sceptical, but it has since proven to be a spectacular success, with everyone in India using it to make payments, from farmers to consultancies, tiny towns to urban centres. This study demonstrates the first understanding of the "digital rupee" and may be used as evidence in discussions on the ever-evolving.

5. O. Ward, S. Rochemont November 2019, This study, entitled “Understanding central bank digital currencies (CBDC),” explained the best design for a central bank digital currency (CBDC) in a setting where agents sort into cash, CBDC, and bank deposits depending on how much anonymity and security they value and where network effects make the usefulness of payment methods reliant on the volume of users. A CBDC that directly competes with deposits reduces bank credit and

output, whereas a cash-like CBDC may cause cash to evaporate. CBDC can be constructed with characteristics that are comparable to cash or deposits and can be interest-bearing. The best CBDC design thus weighs the social benefits of preserving a variety of payment tools against bank intermediation. An interest-bearing CBDC reduces the central bank's trade-off when network effects are important.

6. Peterson K. Ozili, November 2022, in this article “Central bank digital currency in India: the case for a digital rupee,” examines the E-Rupee, or digital rupee, issued by the Indian central bank. It was discovered that Indians who were interested in learning about "crypto currency" were also interested in learning about "central bank digital currency." The research also revealed possible advantages of using CBDC, including a decreased reliance on currency, a higher seignior age since transaction costs are lower, and a decreased risk of settlement. Yet, the hazards that come with CBDC must be carefully weighed against the potential advantages. A significant tool for the RBI's monetary policy will be the India CBDC, but its implementation in India will necessitate legal and regulatory adjustments.

## OBJECTIVES:

- UPI on the rural and urban fronts

- Issues relating to UPI on a global front
- Impact of the UPI on the whole economy

UPI Payments current reach

According to recent reports, India's UPI completed an all-time high 7.82 billion transactions in December, totaling INR 12.82 trillion (\$174.6 billion). In comparison to November, this indicates an increase in volume and value of 7.12 percent and 7.73 percent, respectively.

Volume and worth both saw year-over-year increases of 71% and 55%, respectively.

A goal of one billion transactions daily has been set by the National Payments Corporation of India (NPCI), which oversees and runs UPI. In the upcoming three to five years, NPCI aims to achieve this.

#### **P2P Transactions:**

According to a study of P2P transactions, 71% of the total value of UPI transactions, or INR 6.99 lakh crore, involved deals worth more than INR 2,000. The following largest group of payments, totaling INR 78.07KCr, or 8% of the total amount of UPI transactions, were made in the INR 501–2,000 range. While this was going on, minor ticket P2P payments worth up to INR 500 made up about 3% of the INR 28.7K Cr in total UPI payments. Nearly INR 6.99 Lakh Cross. or most P2P transfers had lots

larger than INR 2,000. The number of transactions conducted through UPI in April 2022 increased by 10% from the previous month to 558 Cr, and the worth of those transactions increased by over 10% to INR 9.83 Lakh Cross.

#### **P2M Transactions:**

Recent UPI data from the National Payments Corporation of India revealed that peer-to-merchant (P2M) UPI transactions increased by 140% in December 2022 to 422.7 crore from 175.4 crores in December 2021. (NPCI). Additionally, the number of trades rose by 84%, from Rs

1.57 lakh crore in December 2021 to Rs 2.90 lakh crore in December 2022. In December, there were 782.9 crore P2M transactions, representing 54% of the total UPI volume, compared to 360.2 crore P2P transactions, or 46% of the total volume. In terms of value, P2M transactions only made up 22.6% of the total transaction value of Rs.

12.82 lakh crore, while P2P transactions made up the remaining 77.3%.

#### **Shift from P2P to P2M Transactions:**

Most UPI transactions were originally P2P transactions, but in recent years there has been a noticeable shift toward P2M transactions. Terms of traffic, it has surpassed all other P2M payment methods. It is anticipated that the adoption of the



RuPay credit feature on UPI by bigger credit issuers, such as HDFC Bank and three issuers from the public sector, will increase UPI transactions even more.

### **Urban Upsurge, Rural Slack**

It's interesting to see that some store owners are now returning change via UPI rather than using chocolates and sweets as a replacement.

What can be done to improve trends in rural digital payment is the crucial conversation that has to be conducted right now. What can be done to increase the rural population's access to and preference for digital payment platforms?

Although India is moving quickly towards digitalization of every sector thanks to the epidemic, there is still a significant amount of work to be done to strengthen the infrastructure of UPI and other digital payment platforms. Several financial institutions are still lacking the necessary infrastructure to handle digital transactions, particularly in rural areas. Online transactions frequently fail to complete, which is quite upsetting for new users. Thus, it is imperative to provide enough rural infrastructures in order to support digital payments.

Raising public awareness and providing support to those who need it would be essential in the effort to hasten financial and digital inclusion in rural India. This will

allow them to fully understand the system and appreciate its benefits. For the next year, there is a chance to increase UPI penetration by about 25%.

Groups like 1Bridge, which has a significant presence in over 10,000 villages across several states, have teamed up with WhatsApp and the State Rural Livelihoods Mission to promote last-mile deliveries, supported trade, and digital and financial inclusion. They are therefore ideally suited to help financial transactions in communities and facilitate the generation of more income by providing deliveries and supported commerce services. It is essential to personally engage with rural residents to discuss their concerns, worries, and resistance to adopting the UPI payment system. Rural folks will be able to realize the advantages of UPI through consistent work on this front, boosting penetration throughout rural India.

This indicates a behavioral shift in the consumers in these regions, with more citizens adopting assisted digital means for their banking and lifestyle requirements and getting incorporated into the formal economy, the report mentioned.

The report also indicated a sharp growth of over 200 per cent in the cash collection business (including EMIs) with a monthly average of Rs1,400 crore, indicating demand for lending and other financing

solutions, bouncing back to the pre-pandemic levels.

"We have serviced close to Rs 70,000 crore of digital services in the first 10 months of this calendar year and the steady growth of cash withdrawal business, together with the fast-track adoption of some of these green shoot services indicate a steady recovery of our economy post the devastating impact of the pandemic," said Bajaj.

#### UPI GOES GLOBAL

- To facilitate quicker remittances between the two nations, Singapore's Pay Now and India's Unified Payments Interface (UPI) have just been connected.
- The first nation with whom cross-border Person to Person (P2P) payment services have been introduced is Singapore.
- The UPI-Pay Now collaboration is the first of its kind in the world to include cloud-based infrastructure and involvement from non-bank financial companies

#### The Move's Importance

Since the project enables quicker and more affordable financial transfers between the two nations without the requirement of utilising the other payment system, it is anticipated to have a significant positive impact on the Indian diaspora in Singapore, particularly migrant workers and students.

According to the ministry of external affairs (MEA) report Population of Overseas Indians (2022), there are currently 6.5 lakh Indians living in Singapore, including non-resident Indians and people of Indian descent.

According to the RBI (Reserve Bank of India) Remittance Survey, 2021, Singapore's proportion of the total inward remittances to India in 2020–21 was 5.7%. The system's integration will result in a 10% reduction in the cost of sending remittances.

#### UPI 2.0

Full-scale interoperability in money transfers has been made possible via the Unified Payments Interface (UPI). The number of transactions has increased by 123 times from 2 million in December 2016 to 246 million in June 2018, while transaction values have increased by 58 times during the same time period from 7 billion INR to 408 billion INR. To make UPI into an end-to-end digital transacting platform, efforts were made with the launch of the second edition on August 16, 2018.

Enhancing trust for both customers and businesses:

One of the keys asks in achieving massive adoption of digital payments is enhancing trust in digital transactions pan-India, both at the end of the payer as well as small merchants. UPI 2.0 aims at addressing

concerns by providing more context to the underlying transactions.

Most UPI transactions have been payer initiated and focused on person-to-person (P2P) transfers. The ability of merchants to send a digital invoice along with a collect request in UPI 2.0 can help the payer with the purpose of the request and boost collect request side transactions. Another noteworthy feature is related to the quick response (QR) code—the payment instrument which promotes digital payments at micro merchants. There have been instances of frauds in QR transactions in a few global markets where the code is widely adopted. The intent/signed QR feature is aimed at better establishing the authenticity of the payee and thus addressing such concerns and boosting offline merchant payments.

Tapping use cases:

With the launch of the second phase, UPI has the potential to digitise the entire ecosystem around the core payment functionality. Financial institutions (FIs) can look at utilising the enhanced version of UPI and its features for multiple P2M transactions across innovative use cases.

High-value products/services will now also become attractive for UPI transactions as the amount has been revised and capped to 2, 00,000 INR. Favorite digital payment choice," said Nirmala Sitharaman, Minister

of Finance, in a written reply. Further, Aadhaar Enabled Payment System (AePS) inter-bank transactions during 2020-21 registered 9-fold growth over the past four years. The Ministry further said that the Reserve Bank of India (RBI) conducted a pan-India financial literacy and inclusion survey based on financial knowledge, attitude and behaviour. On a total score of 21, the average urban and rural score in the North zone and East zone was 11.5 and 12.1, respectively. In the East zone, both urban and rural score was 12.1. In the Central zone, urban score was 12.5, while the rural score was 12.1. Further in the West zone, the urban score was 12.6, and the rural score was 12.5. While in the South zone the urban and the rural score was 11.2 and 10.3, respectively. Further, the Ministry said that the government initiated the Digital Finance for Rural India: Creating Awareness and Access (DFIAA) scheme in November 2016 under the Digital Saksharta Abhiyan (DISHA) for conducting awareness sessions on digital finance options available for rural citizens as well as enabling various mechanisms of digital financial services.

Under this programme, more than 2 crore beneficiaries and more than 27 lakh Merchants were trained. In addition, sensitization drives were carried out at 650



Districts and 5,735 Blocks throughout the country.

## FINDINGS:

- Both urban and rural sections of India have quickly accepted UPI, although UPI still needs to be better understood and promoted in rural areas.
- While UPI has received a lot of attention internationally, it still has issues with security and privacy issues as well as interoperability with other payment systems.
- The introduction of UPI has significantly changed the Indian economy, causing a move away from a cash-based economy, increased financial inclusion, a decline in the informal economy, and increased payment system efficiency.
- The UPI payment front has emphasized on growing the network of participating banks and retailers, boosting security features, improving user experience, raising awareness of UPI, and growing adoption through incentives.
- Prioritizing security and privacy issues, investing in new technologies and security features, and exploring partnerships with other payment systems and

regulatory bodies to create a more unified and standardized payment infrastructure are all necessary to ensure the continued success of UPI.

## SUGGESTIONS

- Firstly, the government and banks could work together to increase the number of UPI-enabled devices, such as smart phones, in rural areas.
- This could be done through initiatives such as subsidizing the cost of smart phones or providing financial incentives to retailers who promote UPI usage.
- Secondly, there could be more efforts to educate and raise awareness about UPI among rural populations who may not be familiar with the concept of digital payments.
- To address the issue of interoperability, there could be more efforts to collaborate with other payment systems globally.
- The government and regulators could work with international organizations to promote interoperability and standardization across payment systems.
- Additionally, more investments could be made in research and development to create new and

innovative payment solutions that can work seamlessly with UPI.

- To further enhance the impact of UPI on the Indian economy, there could be more focus on expanding the use cases for UPI. For instance, there could be more efforts to promote UPI usage for bill payments, e-commerce transactions, and government services.
- Additionally, there could be more focus on integrating UPI with other financial services such as insurance and investments to create a more comprehensive financial ecosystem.
- To continue to drive adoption and usage of UPI, there could be more investments in technology and innovation.
- This could include the development of new features and functionalities, such as voice-based payments and contactless payments.
- Additionally, there could be more efforts to collaborate with merchants and retailers to create more opportunities for UPI payments.
- Finally, there could be more focus on improving the security and

privacy of the UPI system to build user trust and confidence.

## CONCLUSION:

Overall, UPI has been successful in promoting digital transactions and financial inclusion in both rural and urban areas in India. While urban areas initially had higher adoption rates, rural areas are catching up quickly thanks to initiatives such as the Jan Dhan Yojana and the PMJDY accounts. However, there are still some challenges that need to be addressed, such as network connectivity, digital literacy, and accessibility to smart phones. UPI has gained international attention for its innovative approach to digital payments and its potential to disrupt traditional payment systems. However, there are concerns around data privacy and security, as well as interoperability with other payment systems. It remains to be seen how UPI will fare in a global context, and whether it can become a standard for digital payments across different countries and regions. UPI has had a significant impact on the Indian economy, particularly in terms of promoting financial inclusion, reducing cash transactions, and boosting digital payments. It has also enabled small businesses and entrepreneurs to access digital payment infrastructure and expand their customer base. However, there are still some challenges to be addressed such as the

need for more merchant acceptance points and the integration of UPI with other payment systems. To continue its growth and adoption, the UPI payment front needs to focus on improving the user experience, expanding merchant acceptance, and enhancing security and fraud prevention measures. This can be achieved through partnerships with banks and fintech companies, as well as through the development of new features and services that cater to the evolving needs of users. Additionally, efforts to promote digital literacy and financial education can help to increase adoption rates and improve the overall financial health of the population.

## References:

### Journals:

- Kulkarni Aditya, (2022). Public perception of the “Digital Rupee” in India, National College of Ireland, x20260326.
- Preet Lodha Jain, (2022). Central Bank Digital Currencies in India the Digital Rupee: An Alternative to Cash or Not, International journal of Advance Research, Ideas and Innovations in Technology, volume 8 issue 5- v815-1168 pp 133-139.
- Abhimanyu Sasi Pavor, Anithkumar, N,(2022).Journal of Pharmaceutical Negative Results,pnr.2022.13.S01.174.

- Mukhopadhyay Pradipta,( 2021). A Case Study on Digital Currency with a Special Reference to India, International Journal of Advanced in Science ,Communication and technology , volume 7 issue 2 pp 727-735.
- Ozili Peterson, K (2022). Central bank digital currency in India: the case for a digital rupee,Elsevier,4238138.
- Ganesh Adgaonkar, S, (2022). A Study on Advantages and Disadvantages of Digital Currency in India with Special Reference to the Rupee, International journal of Research Publication and Reviews,Vol 3,no.11,pp 2092-2096.

### Websites:

- [www.ijcrt.org](http://www.ijcrt.org)
- [www.jetir.org](http://www.jetir.org)
- <https://cashlessindia.gov.in>
- <https://www.rbi.org.in/>
- <https://www.moneycontrol.com/>
- <https://timesofindia.indiatimes.com/topic/times-new-roman>