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# UPI: Revolutionizing the digital payment system in India: A critical review

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### Abstract

Demonetization paved way for the growth of the digital payment system in India. The government of India launched the Digital India initiative in 2015 with the objective to create a digitally empowered society that is cashless and paperless. UPI is a new digital payment instrument that redefines the way people can make payments. It is one of the most advanced, innovative, user-friendly, convenient, safe and cost-effective payment system developed by the National Payment Corporation of India in 2016. However, it suffers from some challenges, such as lack of digital literacy, lack of awareness of such payment instrument, and security issues. Regardless of such challenges, UPI has emerged as a game changer in the digital payment space in India. It has a great perspective to offer great opportunities to businesses as well as customers. This paper will give an overview of the functioning, issues associated with UPI, opportunities and future prospects of UPI payment system in India.

**Keywords:** UPI, digital payment system, NPCI, digital India

### Introduction

The concept of digital payment is not a new concept. It originated in 1960s with the launch of ARPANET. Digital age started after the invention of the WWW (World wide Web). The word 'digital payment' was not as popular as it is today. Only cash was used for every transaction. Things started changing with the announcement of new payment instrument i.e. Unified Payment Interface (UPI). The government of India began to encourage online transactions significantly. To promote and encourage digital payment, the government has been taking several initiatives in India, such as Pradhan Mantri Jan Dhan Yojna, Pradhan Mantri Mudra Yojna, launch of UPI and BHIM app etc.

UPI is a smartphone payment instrument that combines more than one bank account into a single mobile device that allows consumers to make payment all over the world. UPI payment system is developed by national Payment Corporation (NPCI) as a safe, secure, cost-effective, user friendly and immediate payment mechanism. Inter-bank person-to-person and person-to-merchant transactions can be performed using this interface. A mobile device is required to make payment between two bank accounts. It doesn't require a customer to type bank account details and other sensitive details every time while doing a transaction. The central bank of India, RBI regulates this payment mechanism. It works on Immediate payment service (IMPS) and Aadhar-enabled payment system that facilitates contactless payment between two accounts.

### Literature Review

Gupta, Atul, Bansal, Abhishek, Agarwal Arshad (2018) <sup>[14]</sup> investigated the status of UPI in India. They found that UPI is emerging as a game changer in the history of digital payment system due to its features like convenient, safe and secure, easy to use and inexpensive services. Transactions through UPI has been increased considerably in the last few years.

George, A. Shaji, George, A. S. Hovan and Baskar, T. *et al.* made an attempt to study the benefits, challenges and opportunities of UPI payment system in India. They discovered that UPI has transformed the entire payment landscape in India. They interpreted UPI as a unique, instant, safe and inexpensive payment mechanism that assists people to make payments faster and easier.

Gochhwal, Rahul (2017) <sup>[15]</sup> studied about Unified Payment interface and concluded that UPI has made people's life easier by providing them a payment device in mobile phones.

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Even small merchants are accepting digital payment through UPI.

Roy, Sanghita and Sinha, Indrajit (2014) <sup>[16]</sup> asserted that significant growth has been observed in Indian digital payment system. However, effort should still need to be done to accelerate the use of e-payment instruments.

Thomas, Roshna and Chatterjee, Abhijeet (2017) <sup>[13]</sup> concluded that UPI enabled easy and affordable financial transactions to people. They also found that penetration of mobile phones and internet users asserts great opportunity for UPI.

Basavaraj, Radhika, Veshne, Nupur A. (2017) <sup>[17]</sup>, in their study, they reported that payment through UPI is so easy that it doesn't require any specialized skill to make payment. It is as easy as texting message to someone. UPI payment can be done at any time regardless of banking hours.

Mahesh, A. and Bhat, Ganesh made an attempt to understand the growth UPI, digital payment system. They performed SWOT analysis to understand the growth of UPI in India. They found tremendous growth in the value and volume of transactions using UPI in the last few years. This growth was caused by consumers' interest in choosing digital payment instead of making cash payments.

### Objective of the Study

This paper is an attempt to answer the problems associated with UPI, the opportunities available for UPI to improve customer experiences and the future prospects of UPI payment system in India.

### Research Methodology

This study is based on secondary sources of data collection. Different journals, newspapers, bulletins, relevant websites have been used to extract information. This study concentrated mainly on scholarly resources published in the last five years from launching of UPI till now and collected relevant information. Several research papers have been studied to find relevant materials.

### Challenges associated with UPI Payment System in India

Unified Payment Interface is a unique payment instrument that enables real time payment from one person to another. This new payment mechanism has revolutionized the entire payment system in India. In spite of this, there are several challenges that interrupt the growth and adoption of UPI. Following are the problems or challenges in adopting UPI in India.

- As it is a digital payment instrument, there are security issues associated with it such as risk of fraud, data breaches and other malicious activities.
- Inter-operability problems associated while using UPI platform between banks and mobile wallets. Inter-bank transfer of funds can be performed only in physical mode by customer service representatives. This takes quite a long time to complete payments.
- Sometimes payments through different wallets or banks on a single interface are not accepted by many merchants or shopkeepers which creates hurdles for customers in making payments.
- Lack of connectivity, lack of awareness of the benefits of UPI payment system, lack of digital literacy and infrastructure create serious problems in the adoption of

UPI in rural areas and semi-urban areas.

- At present, the transaction limit of UPI in a day is Rs. 1,00,000. If people want to make payments more than Rs. 1 lakh, they have to go for traditional sources like NEFT, net banking, etc.
- Although all e-commerce sites have given online payment options, consumers still choose to pay through cash.

### Opportunities with UPI

- The digital India campaign of the Government and huge banking networks encouraged the Indian economy towards a digital economy.
- If per day transaction limit of UPI is widened by National Payment Corporation of India, transactions through UPI will increase significantly. This will assist large organisations and businessmen to make large value of transactions using UPI.
- Instead of using a password or pin for the transfer of funds, UPI can employ biometrics for any financial activity. Biometrics don't require anything to remember. Biometrics include voice, eye, vein, fingerprint, facial recognition or any body part. It is a unique identity and it can't be stolen unlike card details or UPI passwords.
- A recurring payment feature can be launched by UPI that will help in making repetitive payments like utility bills, loan EMIs, SIPs, and other bill payments.
- Increasing penetration of internet and mobile phone users work as catalyst in increasing consumers base in semi-urban and rural areas.
- The scope of the Unified Payment Interface has widened its range of services from fund transfer to bill payments, insurance, investments, handling overdraft accounts, etc.

### Future Prospects of UPI Payment System in India

Unified Payment Interface (UPI) has transformed the entire payment landscape in India by providing more efficient and secure way to handle payment activities. It enables people to make fund transfers from one bank account to another from anywhere in the world. Very soon, it becomes more popular mode of online payment. The future of UPI payment system in India is very bright and look promising and it continues to grow in the years to come. The future prospects of UPI can be understand with the following points.

- **Increased Adoption:** UPI has already gained significant popularity among individuals and businesses in India. Its user-friendly interface, interoperability across different banks, and the ability to facilitate instant and seamless transactions have contributed to its widespread adoption. As digital literacy and smartphone penetration increase in the country, the usage of UPI is likely to grow further.
- **Merchant Payments:** While UPI initially focused on person-to-person transactions, it has expanded to include merchant payments as well. More and more businesses, ranging from small shops to online platforms, are integrating UPI as a payment option. This trend is expected to continue, driven by the convenience and cost-effectiveness of accepting UPI payments compared to traditional methods.
- **Integration with Third-Party Services:** UPI has the potential to be integrated with various third-party

services, such as e-commerce platforms, bill payment portals, and ride-sharing apps. By offering UPI as a payment option in these services, it can further enhance the ease and speed of transactions for users.

- **Financial Inclusion:** UPI has played a crucial role in promoting financial inclusion in India. By enabling digital transactions even for individuals who do not have access to traditional banking services, UPI has helped bridge the gap between the banked and unbanked populations. This trend is expected to continue, with UPI driving financial empowerment for millions of people.
- **International Expansion:** Currently, UPI is primarily used for domestic transactions within India. However, there is potential for UPI to expand its reach internationally and enable cross-border payments. Such an expansion would require collaborations and partnerships with foreign payment systems, but it could open up new avenues for UPI's growth and usage.
- **Innovation and Enhancements:** As technology evolves, there will likely be continuous innovation and enhancements to the UPI system. This could include features like voice-based payments, biometric authentication, and integration with emerging technologies like blockchain. These advancements would further improve the security, convenience, and versatility of the UPI payment system.

### Conclusion

UPI has emerged as game changer for the entire payment industry in India. UPI with its anytime anywhere feature, user-friendly, safe and secure, and easy to use feature widely being adopted by the people in India. This new technology is facilitating to both consumers and businesses. Consumer can make anytime anywhere regardless of physically visiting bank. UPI has also benefitted to various industries namely e-commerce industries, hotels, healthcare, food delivery apps, cab booking apps, and telecom industry etc. There is tremendous growth has been observed in the volume and value of transactions of UPI in the last years. Double digit growth in the transactions was reported in the year 2020 as compared to previous year. Digital payment app increases the transparency in the economy which accelerated the credibility of the country and encourage investments from outside the country. However certain problems are also occurring in UPI which must be resolved as soon as possible for further growth of UPI payment system in India.

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