

Unified Payment Interface (UPI): A Digital Transformation in India

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Abstract: *Digital Payment in India has got tremendous growth after the Demonetization in the year 2016. The Government of India has taken an initiative of “Digital India” for the quick and transparent services in India. The Banking sector has also strived hard to popularize digital payments and gained momentum response of public. For digital payment “National Payment Corporation of India (NPCI)” has launched the “Unified Payment Interface (UPI)”, which is a cost-effective, revamped and amazing payment system for all. UPI is potentially innovative way for transferring fund using a virtual payment address established by NPCI. Moreover, being a mobile based payment system, it was expected to have a significant growth, but not as per the expectations has received yet. UPI can help bring a large part of the population within the ambit of digital economy and can be a great tool for financial inclusion in India. To serve the purpose a structured questionnaire is used as a research technique to determine how well-liked UPI and digital payments are popular among the general public.*

Keywords: UPI, Digital Payments, NPCI, Digital Transactions

1. Introduction

Digital banking is transformation of traditional banking. Digitalization has made banking paperless. Demonetization in 2016 encouraged digital banking. As huge demand for currency for basic requirements has motivated common man to switch to digital banking. Soon people realized digital banking operations are better substitutes to traditional physical banks. All physical bank activities like bank statement, cash withdrawal, fund transfer, account management, loan management etc. is possible digitally with single internet connection without visiting bank branch manually.

National Payments Corporation of India (NPCI) is an umbrella organization for operating retail payments and settlement systems in India; it is an initiative of Reserve Bank of India (RBI) and Indian Banks' Association (IBA) under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment and Settlement Infrastructure in India. Considering the utility nature of the objects of NPCI, it has been incorporated as a "Not for Profit Company under the provisions of Section 25 of Companies Act 1956 (now Section 8 of Companies Act 2013), with an intention to provide infrastructure to entire banking system in India for physical as well as electronic payment and settlement systems. The Company is focused on bringing innovations in the retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems. As it functions on Open - API (Application Programming Interface), it allows a user without restriction. It provides three main benefits to the user; i) It is a mobile-friendly platform, ii) It is linked to Aadhar (A unique 12-digit code issued by the government of India for individuals as proof of Indian residence), and as a result, it functions even if you do not have access to the internet, iii) This platform is available to the Smartphone users as well as non-Smartphone users. It enables the customers to pay merchants instantly (P2M). This platform is used on mobile phones. It has made money transfer as

easy as sending messages through mobile round the clock 24*7 and 365 days.

Financial institutions provide different innovative products to their customers to maintain competitive advantages. The emphasis on branch banking has shifted to IT-based channels. Different types of IT-based services, such as online banking, ATMs, and mobile banking, are being provided by banks for the needs of their customers. In the 21st century, mobile banking was the newest, with cost-effectiveness and efficiency (Moser, 2015). India is one of those countries booming high in mobile users and internet subscribers (Singh, 2013).

The campaign 'Digital India' has played an essential role in the advancement and competition in the banking industry in India (Khan, 2014). Banks in India are now providing innovative and advanced platforms to their consumer to avail of banking services. Earlier, visiting a branch was a must for the customer to avail of any service. Mobile banking and internet banking have changed the traditional banking system. Now the customer can avail of services with no visit or with very few visits to the branch. It is observed that the banks' most valuable and loyal customers are using both traditional and digital banking services like electronic banking. (Hosseini et al. 2022)

2. Literature Review

K. Suma Vally and K. HemaDivya. (2018) in the Paper “A study on digital payments in India with perspective of consumers Adoption” conclude that the use of technology for digital payments have improved the performance of banking sector and able to achieve the motive cash less economy. This study also emphasis to the percentage of awareness on maximum utilization of technology.

Dr. VirshreeTungare (2018) in his research paper “A Study on Customer Insight towards UPI (Unified Payment Interface) - An Advancement of Mobile Payment System” described that in comparison to all other payment systems it

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can be said that UPI is the most advanced payment system in the world.

Sunny Gupta and Dinesh Chand (2021) conducted a study on “Consumers Perception towards Unified Payments Interface”. They found that maximum number of people uses UPI for fund transfer, mobile recharges or cash back, women respondents were rigid in using technologies and cash back alone could not be considered as factor for motivating consumers to use UPI on a daily basis.

Venkata Siva Kumar. S and Ch. Kavya (2020) in their paper, ‘Role of Unified Payment Interface in Digital Banking Services – An Empirical Study on User Perceptions’, analyzed the awareness and perceptions of varied age groups of individuals and occupations towards usage of UPI services. They concluded that users of UPI were having diverse perceptions in using UPI banking services.

PoornaPushkal C and Pappeswari C (2021), “A Study on Awareness and Customer Satisfaction of Unified Payment Interface (UPI) For Digital Payments with Reference to Ambasamudram Area”, in their paper an attempt was made to identify the level of awareness and satisfaction among people about UPI and the basis on which they select mode of digital payment and the work was done to identify the adoption of UPI in money transfer system.

Rishabh Jha & Rohit Kumar (2021) In his study titled “An innovative step for making Digital payment Effective and factors affecting Consumer perception on the use of UPI” Performance expectancy, effort expectancy, facilitating conditions (Mobile specs & Network strength), and Cash backs & Rewards found to have an impactful relationship with the behavioral intention of the users who prefer to adopt and use UPI payments.

Atul Gupta (2018) In his study titled “UPI Redefining Digital Payments a Critical Review” states the statistical data about the usage of UPI mobile interfaces. the data was extracted from the government websites like RBI and NPCI. This article discusses the various challenges and opportunities of UPI.

3. Research Methodology

Objectives of the Study:

- To investigate the level of public acceptance of UPI and Digital Payments
- To identify the most popular apps which have a major market share
- To analyse the trend of consumer behaviour toward digital payments

Research Design: The research has been conducted using exploratory and descriptive research designs, which aimed to describe the current situation and trends related to the UPI payment system and also provides new insights about UPI.

Data Collection: Primary and Secondary both types of data have been used for the purpose of study. Primary data has been collected from 120 persons by the way of a structured

questionnaire. Whereas secondary data has been collected from various sources such as research papers, journals, reports, and online databases such as Google Scholar, Science Direct, and RBI's official website. The data has been collected to see the present scenario of the UPI and about the future prospects of digital payment industry.

Data Analysis: The data collected with the help of a structured questionnaire has been analyzed by using pie chart and bar diagrams. As the secondary data has also been used, so analyzed both graphically and theoretically to present the objectives of the study.

Limitations:

The research is based on primary and secondary data, and the accuracy and reliability of the data are dependent on the sources and methods used to collect them.

- The study may not capture the latest developments in the UPI payment system, and the findings may not be generalizable to other countries or regions.
- The research may be limited by the availability and accessibility of relevant data.

Unique Features of Unified Payments Interface (UPI)

There are many special features of UPI, which make it important and also proven a unique platform due to following:

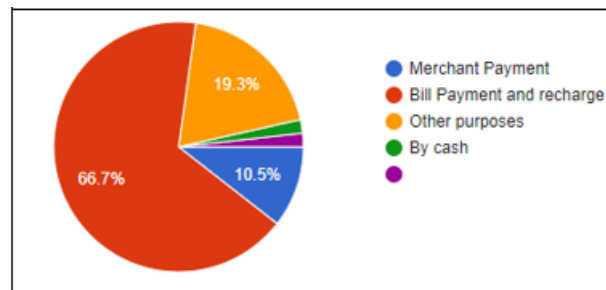
- There is just one single mobile app to access various bank accounts.
- It facilitates the immediate transfer of money via mobile devices 24*7.
- The virtual address of the customer for any kind of 'Pull & Push' offers security. The customer does not have to enter information like card number, IFSC code or account number.
- With one click, there is a two - factor Authentication - Aligned with the Regulatory guidelines, and also provides a seamless single click payment.
- Negates the hassle of cash on delivery, or even going to an ATM.
- You can easily share your bills with friends.
- Over the Counter Payments, Barcode (Scan and Pay) based payments, and Utility Bill Payments can be made.
- You can make merchant payment with a single app or in - app payments.
- You can raise complaints directly from the mobile app.
- You can make donations, disbursements, and collections easily (UPI)

Rules of New UPI Payment System

Here is the list of some important factors that should be followed strictly while using New UPI app:

- The interchange fee is not applicable for customers and applicable for the prepaid payment instruments (PPI) merchant transactions as per the National Payments Corporation of India (NPCI).
- Interchange fee is applicable from 1 April 2023
- Interchange price will be reviewed by NPCI by 30 September 2023
- The interchange fee varies from 0.50 to 1.1% and is capped for specific categories
- The initiative targets to increase the revenue of payment service provider and banks

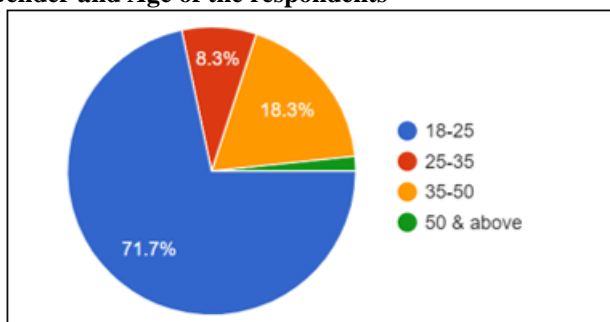
- No charge will be levied on the bank account to bank account - based UPI payments or normal UPI payments.
- For peer - to - peer (P2P) and peer - to - peer - merchant (P2PM) transactions, interchange fee will not be levied
- UPI payment is free, and no charges will be levied while making payment from bank account or PPI/ Paytm Wallet
- Choice of using any RuPay Credit card, bank account, and prepaid wallets on UPI - enabled apps will be provided to the customers.



Data analysis and Interpretation

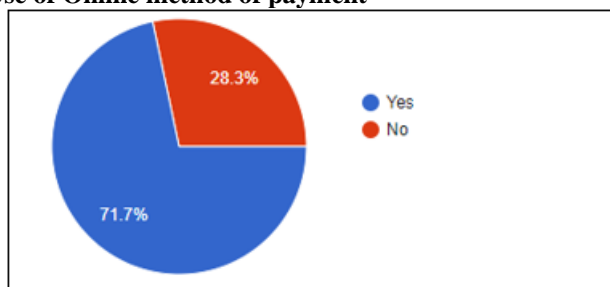
The research was done with 120 respondents served as the foundation for the data analysis.

Gender and Age of the respondents



According to the above pie chart, 71.7% of the respondents are between the age group of 18 - 25 years, 8.3% are between the age group of 25 - 35 years, 18.3% belong to the age group of 35 - 50 years and 1.7% belongs to the age group 50 & above. In this 30% of the respondents are male and 70% of the respondents are female.

Use of Online method of payment

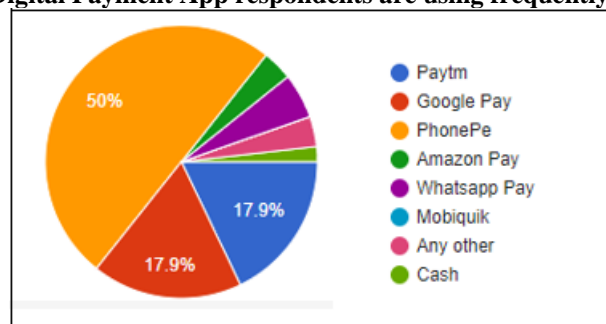


According to the above pie chart, 71.7% of the respondents use online methods of payment whereas remaining 28.3% of the respondents are using offline method of payment. In this, 39.3% of respondents use UPI method, 14.3% respondents use digital payment methods like debit cards, and credit card and 46.4% of respondents use cash on delivery for making payment.

Purposes for which UPIs used

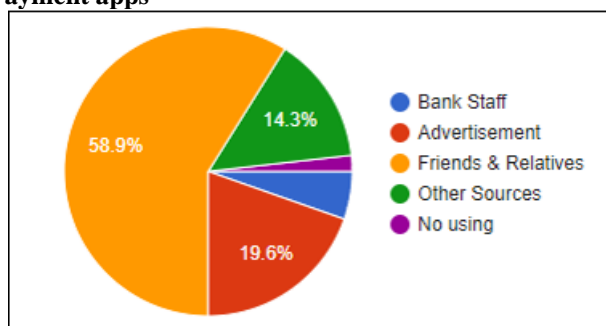
The above chart shows that 66.7% respondents use UPI for bill payments and recharge, being convenient as it can be done from anywhere, whereas 19.3% respondents are using UPI for other purposes than mentioned in options. 10.5% respondents are using UPI for merchant payments followed by various other purposes. UPI is a timesaving and safe method if used keeping in view the precautions to be taken while doing the transactions.

Digital Payment App respondents are using frequently



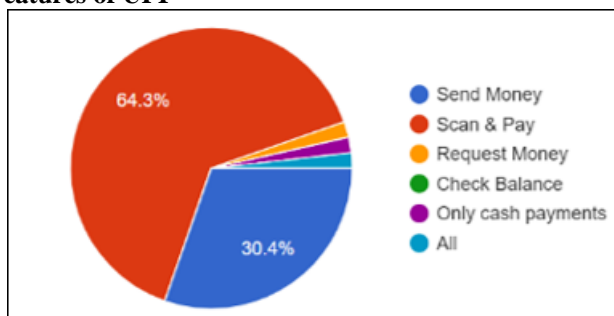
The Above Pie Chart shows that 50% of the respondents prefer to use PhonePe, followed by Paytm and Google Pay by 17.9% each, and WhatsApp Pay by 5.4%. This is because 50% of the respondents find PhonePe Pay app easy to use and is best in terms of discounts and offers. Amazon Pay and others methods are used by 3.6% each.

How respondents come to know about the Online Payment apps



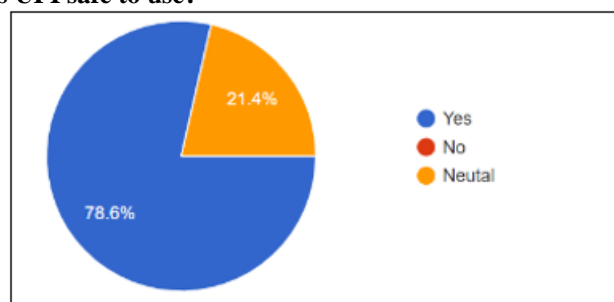
According to the above pie chart, 59.8% respondents come to know about online payment apps from their friends & relatives, 19.6% respondents come to know from advertisements, whereas 14.3% come to know from other sources mentioned followed by 5.4% from bank staff. While 1.8% respondents are there, who are not using any online payment app.

Features of UPI



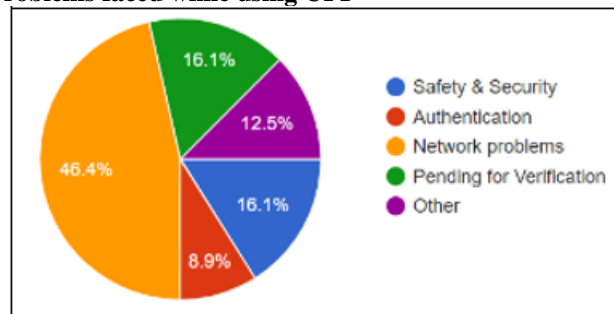
According to this chart, 64.3 % respondents are using these apps for scan & pay, 30.4% respondents are using UPI for sending money to others, being an easy way to send money without physical meetings due to busy schedules, followed by 1.8% each for request money from others and for all purposes. Whereas, 1.8% respondents are also here who are not using these UPI apps for any purpose, they are still paying cash for their purchases and other transactions they are carrying.

Is UPI safe to use?



This pie chart shows that 78.8% of the respondents think that UPI is safe while 21.4% respondents are neutral about it. But at the same time no one has the view that its not safe, due to its uses and the benefits its giving to the public in all fields.

Problems faced while using UPI



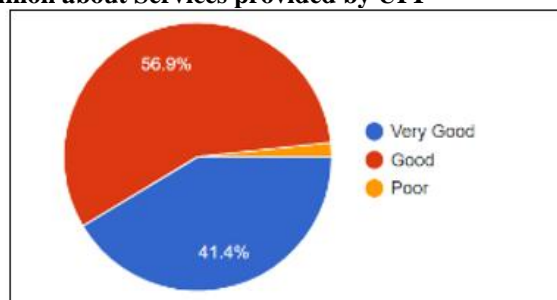
Respondents were also asked about the problems they are facing while using UPI. 46.4% respondents are of the view that network problems are the biggest one while using UPI followed by 16.1% each for pending for verification and safety & security measures. Further, 12.5% of the respondent told that pending for verification is also one of the major problem in using these apps. Actually, most of the problems are not due to use of UPI, rather they are due to internet/network issues.

State of level of satisfaction for various services provided by UPI



The above bar diagram shows the level of satisfaction of respondents for various services provided by UPI. It shows that most of the respondents are satisfied with the services provided by UPI, while a few are dissatisfied with the services provided, but they are very less in the number i. e. 1% to 6% only. Highly dissatisfied we can see a very small bar only in balance enquiry.

Opinion about Services provided by UPI



According to the above pie chart, 56.9% respondents are of the view that UPI is good, 41.4% of the respondents marked it as very good. Only 1.7% respondents considered it as poor. Most of the respondents consider it good because it has resolved many problems pertaining to cash in hand. Moreover 98.2% of the respondents also said that they had shared UPI with their friends and relatives after going through the benefits derived from this app.

4. Findings of the Study

- 71.7% of the respondents prefer to use digital payment system. It shows their awareness about the digital payment system and its usefulness.
- These apps are mainly used by the people of age group between 18 - 50 years.
- Respondents using these apps are highly satisfied with the services they are providing by the way of different features available.
- PhonePe is the highest used app (50%) and followed by Google Pay and Paytm (17.9%).
- Many respondents use UPI apps because of ease of usability and cash back offers & other discounts.
- 78.6% of the respondents opined that UPI apps are fully secured and can be used for various purposes, whereas the remaining respondents are also neutral about the safety.
- Most of the respondents use UPI apps for paying off bills by scanning and pay.
- The limitations or problem associated with UPI apps are not due to its uses or safety measures but due to the network problems that are faced by respondents.

- 98.3% of the respondents are satisfied with the digital payment system.
- 98.2% of the respondents recommend the use digital payment system to their friends and family members.
- UPI services are contributing to go for cashless economy at their best.

5. Suggestions

- The main objective of introducing digital payment system is to have a paperless and cashless economy, it is necessary to organize more campaigns to create awareness among the citizens of India to use digital payment system.
- The knowledge of the respondents to be upgraded through different promotional channels.
- Women have to be encouraged more to use digital payment system.
- People living in rural areas must also be educated for using these apps and campaigns should be run to accomplish the purpose.
- Apart from using Phonepe, Google Pay and Paytm the other apps are to be made known to public and encourage them to use.
- Cash back and discount offers to be continued to motivate users to use digital payment system.
- The digital payment system is used mainly for fund transfer and paying off for different types of bills. Steps must be taken or awareness must be spread to use for other financial/banking transactions as well.
- Colleges/Universities can initiate students to pay their college fees/examination fees and other related payments through the various digital payment apps.
- If the transactions get failed due to connectivity or technical issues, those are to be redressed within a short span of time.

6. Conclusion

UPI is a significant advancement of payment system in terms of cost, ease of use for consumers, settlement times and security. It offers a seamless and secure payment experience, making it a popular payment option for individuals and businesses alike. UPI is an application in the smart phones allow users to send money between bank accounts. It is a real time payment system and user - friendly. The adoption and usage rates of UPI have been increasing rapidly, with UPI transactions growing at an unprecedented rate. UPI allows a customer to pay directly from a bank account to different merchants, both online and offline. The study concludes that people are more aware of digital payment system and use UPI apps as they are user - friendly and secured. Most of the people use Google Pay and Phone Pe for fund transfer. As the respondents are satisfied with the digital payment system, they recommend it to use their family and friends. Looking towards the future, UPI is expected to continue its growth trajectory, with increased adoption, innovation, and international expansion. With the government's push towards a digital economy and the increasing popularity of UPI, India is poised to become a leader in the digital payment space. Increase in the number of users lead to achieve the vision of the Government

programme 'Digital India' and make India a cashless economy.

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