



A PROJECT REPORT ON  
***“A STUDY ON UPI PAYMENT SYSTEM IN INDIA”***

A Project Submitted to  
University of Mumbai for Partial Completion of the Degree  
of Bachelor in Commerce (Accounting and finance)  
Under the Faculty of Commerce

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**Mohanlal Raichand Mehta College of Commerce**  
**Diwali Maa College of Science**  
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**Dr. R.T. Doshi College of Computer Science**  
**NAAC Re-Accredited Grade 'A+' (CGPA : 3.31) (3rd Cycle)**  
**Sector-19, Airoli, Navi Mumbai, Maharashtra 400708**



***FEBRUARY, 2024***



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## **CERTIFICATE**

This is to certify that **MR. MAYUR RAMAKANT KADAM** has worked and duly completed his Project work for the degree of Bachelor in Commerce (Accounting & Finance) under the faculty of Commerce in the subject of **PROJECT WORK** and his project is entitled "**A STUDY ON UPI PAYMENT SYSTEM IN INDIA**" under my supervision.

I further certify that the entire work has been done by the learner under my guidance and that no part of it has been submitted previously for any Degree or Diploma of any university.

It is his own work and facts reported by his personal findings and investigations.

Name and signature of Guiding Teacher

**ASST.PROF.DR.KISHOR CHAUHAN**

**DATE OF SUBMISSION:**

## DECLARATION

I, the undersigned **MAYUR RAMAKANT KADAM** hereby declare that the work embodied in this project work titled "**A STUDY ON UPI PAYMENT SYSTEM IN INDIA**" forms my own contribution to the research work carried out by me under the guidance of **ASST. PROF.DR.KISHOR CHAUHAN** is a result of my own research work and has been previously submitted to any other University for any other Degree/ Diploma to this or any other University.

Wherever reference has been made to previous works of others, it has been clearly indicated as such and included in the bibliography.

I, here by further declare that all information of this document has been obtained and presented in accordance with academic rules and ethical conduct.

**MR.MAYUR RAMAKANT KADAM**

Name & Signature of the learner

Certified by:

**ASST. PROF.DR.KISHOR CHAUHAN**

Name and Signature of the Guiding Teacher

## **ACKNOWLEDGEMENT**

To list who all have helped me is difficult because they are so numerous, and the depth is so enormous.

I would like to acknowledge the following as being idealistic channels and fresh dimensions in the completion of this project.

I take this opportunity to thank the University of Mumbai for giving me chance to do this project.

I would like to thank my **I/C PRINCIPAL DR. B.R. DESHPANDE** for providing the necessary facilities required for completion of this project.

I take this opportunity to thank our **HEAD OF DEPARTMENT ASST. PROF.DR.KISHOR CHAUHAN** for his moral support and guidance.

I would also like to express my sincere gratitude towards my project guide **ASST. PROF. DR. KISHOR CHAUHAN**

Whose guidance and care made the project successful

I would like to thank my College Library, for having provided various reference books and magazines related to my project.

Lastly, I would like to thank each person who directly or indirectly helped me in the completion of the project especially my parents and Peers who supported me throughout my project.

# A STUDY ON UPI PAYMENT SYSTEM IN INDIA



## INDEX

INTRODUCTION	7
What is UPI Transaction	11
Advantages of UPI	24
Disadvantage of UPI	<b>26</b>
Phone pe	40
Paytm	49
Google	64
Bar graph analysis	68
Research & findings	78
Conclusion	81

# **INTRODUCTION**

## **What is UPI?**

Unified Payments Interface (UPI) is a real-time payment system in India that enables seamless money transfers from one bank account to another instantly and free of charge through a mobile device. Users can transfer money to each other with the help of a unique UPI ID or a Virtual Payment Address (VPA).

Users can also transfer money by selecting receiver's contact from their phone book or entering the receiver's contact number.

Introduced by the National Payments Corporation of India (NPCI), and regulated by the Reserve Bank of India (RBI), UPI has transformed digital transactions, streamlining the process of transferring funds between individuals and businesses. It enables individuals to make online purchases, pay utility bills, and shop at brick-and-mortar stores by scanning QR codes.

UPI was developed by the National Payments Corporation of India (NPCI) and launched in April 2016. It is regulated by the Reserve Bank of India (RBI). UPI is designed to facilitate instant money transfers between banks and simplify digital payments.

Unified Payments Interface (UPI) is an Indian instant payment system developed by the National Payments Corporation of India (NPCI) in 2016. The interface facilitates inter bank peer-to-peer (P2P) and person-to-merchant (P2M). transactions. It is used on mobile devices to instantly transfer funds between two bank accounts. The mobile number of the device is required to be registered with the bank. The UPI ID of the recipient can be used to transfer money. It runs as an open source application programming interface (API) on top of the Immediate Payment Service (IMPS), and is regulated by the Reserve Bank of India (RBI). Indian Banks started making their UPI enabled apps available on the Google Play Store on 25 August 2016.

It is one of the most widely used payment systems in the world, in terms of number of users and transactions. As of November 2022, the platform had over 300 million monthly active users in India. The proportion of UPI transactions in total volume of digital transactions grew from 23% in 2018–19 to 55% in 2020–21 with an average value of ₹1,849 per transaction. It enabled over 2,348 transactions every second in 2022. In Aug



2023, there were several news reports and articles were published about the BFSI sector. Data from NPCI shows that 10.5 billion transactions were recorded on the platform in August, up from 9.9 billion in July 2023. As of August 2023, UPI has crossed 10 billion transactions. UPI also recorded ₹15.7 lakh crore in August, slightly higher than the ₹15.3 lakh crore record for July. In FY 2023, the value of annual transactions reached \$1.7 trillion, out of which \$380 billion is in merchant payments.

## History

In April 2009, the National Payment Corporation of India (NPCI) was formed to integrate all the payment mechanisms in India and make them uniform for all retail payments. By March 2011, RBI found out that in India, only six non-cash transactions were executed each year by individual citizens while 10 million retailers accepted card-based payments. Around 145 million families had no access to any form of banking. There was also the problem of tackling black money and corruption that happened mostly in cash.

RBI in 2012 released a vision statement for a period of four years that indicated commitment towards building a safe, efficient, accessible, inclusive, interoperable, and authorized payment and settlement system in India. It was also part of the Green Initiative to decrease the usage of paper in the domestic payments market. UPI was officially launched in 2016 for public use.

Under RBI guidance, NPCI became the primary body tasked with developing a new payment system that is simple, secure, and interoperable. UPI works on a four-pillar push-pull interoperable model where there will be a remitter/beneficiary front-end PSP (payment service provider) and a remitter/beneficiary back-end bank that settles the monetary transaction for the users. According to the CEO of Net magic Solutions, UPI became one of the most successful deep-tech financial innovations India has produced. In December 2019, noting the success of UPI, Google suggested that the US Federal Reserve Board should follow UPI as an example in developing Fed Now, a real-time payment system for the United States.

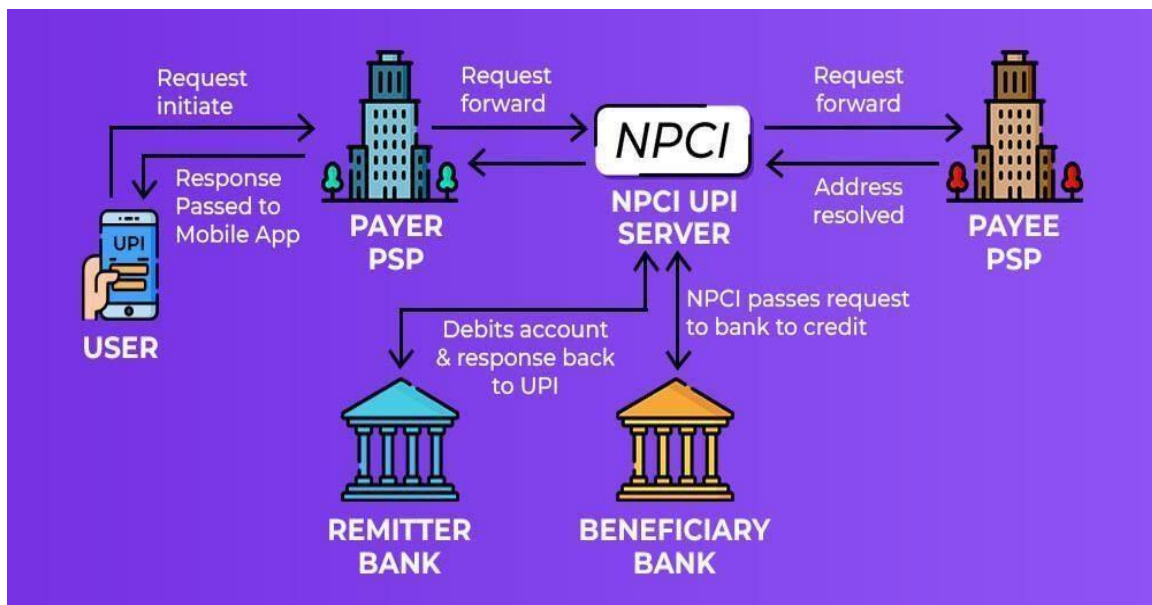
With the exponential growth of UPI, India became the world's largest real-time payment market with 25.5 billion annual transactions in 2020 per data from ACI Worldwide and Global Data. This put the country ahead of China, South Korea, Thailand and the United Kingdom.

## What is UPI Transaction

**Unified Payments Interface (UPI)** is a payment system that allows users to link more than one bank account in a single smartphone app and make fund transfers without having to provide **IFSC code** or account number.

This is a real-time payment system where funds are credited instantly on a real-time basis.

## How Does UPI Work?



UPI offers 2 varieties of transactions i.e. P2P and P2M ~ Peer-to-Peer and Peer-to-Merchant

For every real-time transaction, certain parties are involved and that's why it's also referred to as the 4 Party Model, the models are:

1. Payer – The person who is initiating the payment
2. Payee – The person who receives the payment
3. Beneficiary Bank – Involvement of receiver's bank account
4. Remitter Bank – Involvement of Payer's Bank and attached account

#### STEP – I

- Download the PSP (Payment Service Provider) app (GooglePay, PhonePay, etc.)
- Register
- Add Account details
- Generate UPI PIN

\* For every PSP app, the mobile SDK is provided by NPCI only.

#### STEP – II

For Hard Binding or Device Finger Printing Process (acts as a First-Factor authentication in UPI)

- Download the PSP app and send an SMS for mobile number verification and ensure that you're performing this action with the same mobile number that is registered with the bank.

### STEP – III

#### Customer Registration

- Download the PSP app and select your preferred bank
- Now the request will be sent to the PSP server and it will forward the same request to
- the NPCI (of the same mobile number)
- Now NPCI UPI server will forward the request to the Issuer Bank
- Bank will retrieve the account details to verify whether the number is linked to that person or not
- Now, the UPI will pass the same info to the PSP server

\*PSP stores the IFSC and Account Number of the customer to the mobile apps (including device information)

Now, the customer will get all the linked bank accounts of his/her triggered SMS number and from there he/she can choose the preference

- PSP will now create the VPA to proceed ahead.

## STEP – IV

### PIN Generation

- From your Mobile application, select the option to Generate a PIN
- Now, the PSP server will request an OTP of that bank account to NPCI
- NPCI will forward the same request to the Issuer Bank
- The OTP will be forwarded back to the customer
- The customer will now be required to enter the last 6-digit debit card number (along with the expiry date and OTP)
- \* The performed action will be securely captured by NPCI SDK
- PSP will now forward the OTP validation request
- UPI will decrypt the details (including PIN) from the PSP key and encrypt with the Issuer key
- Now, the Issuer bank will decrypt the data and will start validating the details (such as debit card no.) and OTP and will store the PIN
- \* Neither the PSP server nor the NPCI will have the authentication to save the PIN

## Transaction Flow

There are generally 2 varieties of transactions PUSH and PULL, below we will understand the PUSH method that is majorly used in the market.

### Phase – I

- The customer initiates the transaction either with Payee's mobile number, or VPA / QR
- Now, the Payer PSP will forward the same request to the NPCI
- Following that, the NPCI UPI server will forward the same request to the Payee's PSP for address resolution and authorization
- The payee PSP resolves the address and provides the account details (works with the Remitter bank)

### Phase – II

- The Payee PSP will provide the bank details to UPI and the same will be forwarded to NPCI
- Now, the NPCI will check with the remitter bank to debit funds from the payer's account
- Once money gets debited, a credit request is sent to the beneficiary's bank
- The beneficiary bank credits the Payee's account and later responds to NPCI UPI
- Now, the NPCI UPI server passes the response to the status of the transaction via Payer's PSP to

## **FUTURE OF UPI PAYMENT**

UPI's growing global footprint is also a sign of greater opportunities for the Indian fintech sector, which attracted funding worth \$4.8 billion in 2022 and is expected to be a \$2 trillion industry by 2030.

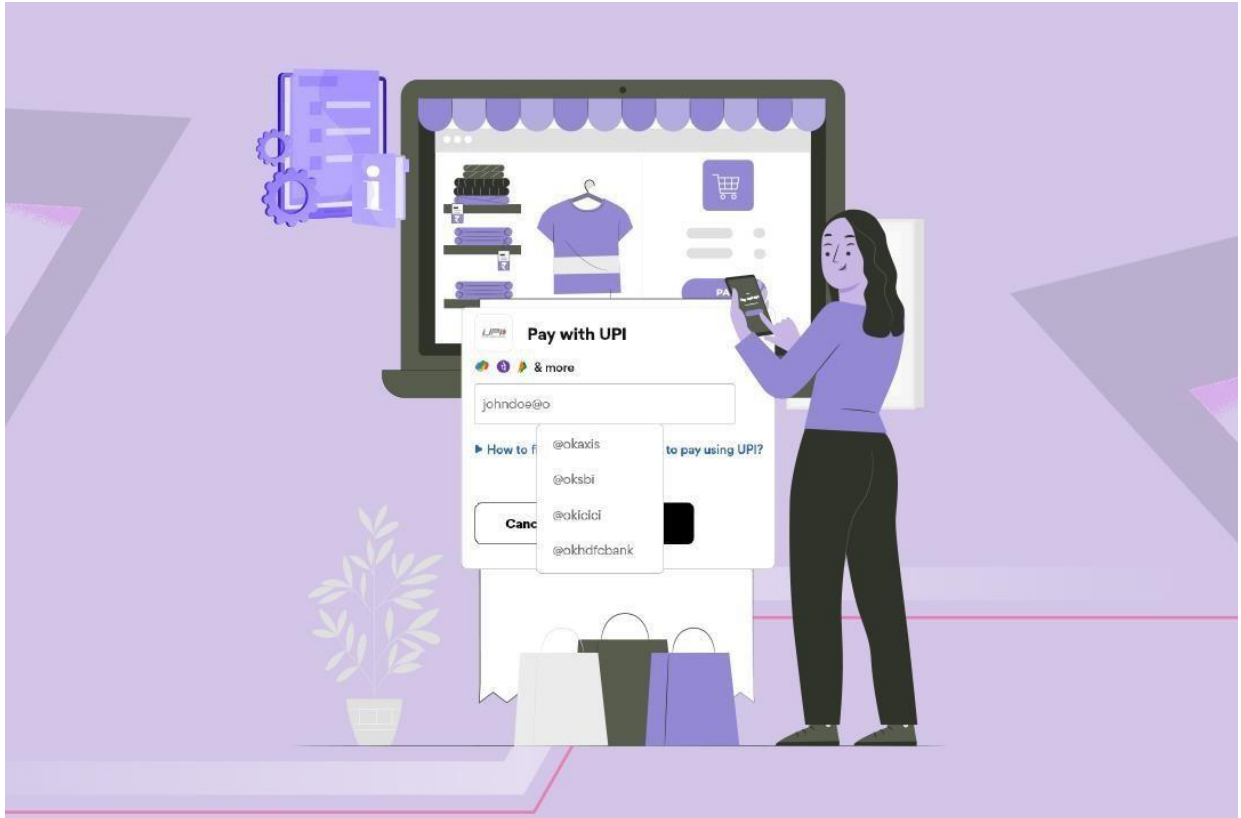
"This global expansion presents significant growth opportunities for the Indian fintech ecosystem to innovate and establish new business use cases that can play a crucial role in driving its adoption

The UPI's future growth looks promising. UPI, comprising 75 per cent of India's digital transactions, is expected to grow four-fold by 2026. A PwC report states that UPI may constitute almost 90% of total transactional volume in retail digital payments over the next five years as it expands to rural areas and tier III and IV cities.

UPI's global expansion, too, holds a lot of promise. Sample this: Indians spent \$10 billion on overseas travel between April and December 2022. Considering the substantial scale of international spending, the internationalisation of UPI can contribute significantly to the growth of the Indian economy.



## What are the business uses of UPI?



Universal uses UPI provides the following capabilities through a set of Application Programming Interfaces (APIs).

Using a personal mobile as the primary device for all payments, including person to person, person to entity, and entity to person.

Using a personal mobile to 'Pay' someone (push) as well as 'Collect' from someone (pull). Using a mobile number, card number, and account number in a unified way. In addition, the ability to pay and collect using 'UPI IDs' that are 'aliases' to the VPA.

Making payments by providing an address without having to ever provide account details or credentials on third party applications or websites.

Sending 'collect' requests to others (person to person or entity to person) with a 'pay by' date, which allows customers to pay at a later date without blocking the money in the account.

Pre-authorising multiple recurring payments (utilities, school fees, subscriptions, etc.) with a one-time secure authentication and rule-based access, similar to ECS.

Enabling all PSPs to use a standard set of APIs for any-to-any push and pull payments. Using PSP bank's sponsored UPI applications, which enable payments from any account using a UPI ID by entering the UPI PIN. Using a fully interoperable system across all PSPs without having silos and closed systems. Making payments with one-click two-factor authentication, using a personal phone, and without any acquiring devices or physical tokens.

## Transaction percentage of UPI Payment App

App	Transaction value (₹)	%	Rank	Transaction number (millions)	%	Rank
PhonePe	5,247,424,900,000	49.25%	1	2,993.83	47.33%	1
Google Pay	3,666,690,900,000	34.42%	2	2,130.63	33.68%	2
PayTM	1,111,496,600,000	10.43%	3	933.88	14.76%	3
Cred	197,164,300,000	1.85%	4	14.89	0.24%	9
Yes Bank Apps	152,360,400,000	1.43%	5	60.80	0.96%	5
ICICI Bank Apps	115,092,900,000	1.08%	6	37.34	0.59%	7
BHIM	78,239,500,000	0.73%	7	24.48	0.39%	8
Amazon Pay	67,518,000,000	0.63%	8	68.77	1.09%	4
Axis Bank Apps	12,139,500,000	0.11%	9	53.99	0.85%	6

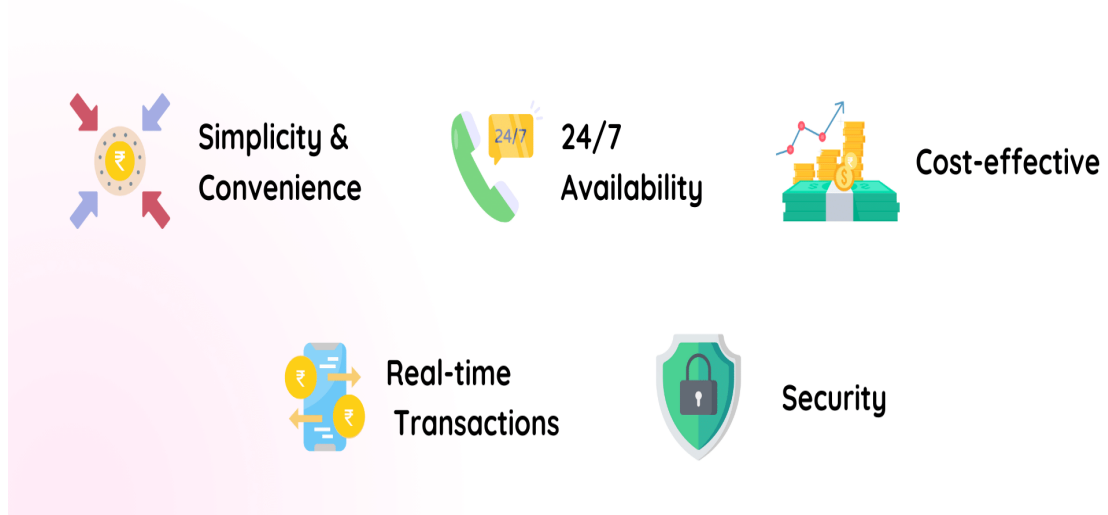
## **How Safe Is It?**

With the growing digitalization, it's just to make sure that the transaction you're doing is safe. While performing any UPI transaction, there are chances that phishers may try to breach and do any fraudulent activities. To answer this here's a quick guide to prevent any unavoids actions.

- You must always avoid sharing your credentials (such as PIN, Password, or any sensitive information)
- Never save your card details (debit/credit) while performing any transaction
- There are a bunch of fraud apps available in the market today, avoid downloading them on your phone as they might get access to your wallet or other related apps.
- If you're about to receive any funds, perform safe methods for doing so (such as QR, Phone numbers only) and ensure that you're not sharing any OTP
- Certain cases have been reported of fraudulent activities (such as cloning, unsecured links, etc.) so it's best to avoid visiting such websites.

## What are the business benefits of UPI?

### Benefits of UPI for Business



Benefits of UPI for Businesses:

#### Simplicity and Convenience

UPI simplifies the payment process by enabling users to make transactions using just their smartphones. It eliminates the need for bank account details or IFSC codes, making payments as easy as sending a text message.

#### Real-time Transactions :

UPI transactions are processed in real-time, ensuring immediate fund transfers. This feature is particularly beneficial for businesses that require quick & timely payments.

#### 24/7 Availability:

UPI is available 24/7, including weekends & holidays, allowing businesses to send and receive payments at any time.

#### Security:

UPI transactions are secured through two-factor authentication, including a unique UPI PIN, making it a secure mode of payment.

#### **Cost effective:**

UPI transactions typically have lower transaction costs compared to traditional methods like NEFT or RTGS, making it a cost-effective choice for businesses.

### **India's UPI Gets A Boost In Its Quest To Go Global**

On January 17, Google India Digital Services Pvt. and National Payments Corporation of India, the creator of UPI, signed a deal to broaden UPI's services beyond India. The tie-up intends to both make payments outside of India convenient for Indian travelers and pave the way for UPI-inspired payment systems in other countries. "This is in alignment with NPCI's endeavor of bolstering India's position in the global digital payment landscape," UPI said in a statement, adding that the agreement will also support the simplification of remittances by reducing dependence on conventional money transfer channels.

By teaming up with UPI, Google not only creates new digital finance opportunities for itself, but also signals to the Indian government that it is an important partner in New Delhi's push to take the homegrown payments rail global – something that Prime

Minister Narendra Modi has personally advocated. For instance, at the BRICS summit in August 2023, Modi noted that UPI has expanded to countries like UAE -0.2%, Singapore, and France. "There are many possibilities of working on this with BRICS countries as well," he said.

## **BENEFITS OF UPI PAYMENT SYSTEM**

**Instant Transfers:** UPI enables real-time fund transfers, making it faster and more efficient than traditional methods like NEFT, RTGS, or IMPS.

**24/7 Availability:** UPI services are available round the clock, allowing users to make transactions at any time, regardless of bank working hours or holidays.

**Simplified Transactions:** UPI uses a UPI ID instead of bank account numbers and IFSC codes, simplifying the transaction process and ensuring a higher level of privacy.

**Multiple Bank Accounts:** Users can link and manage multiple bank accounts from a single UPI-enabled app, making it easier to track and manage finances.

**Low Transaction Costs:** Most UPI transactions are free or have minimal charges compared to other payment methods, making it an affordable option for users.

**Secure Payments:** UPI employs a two-factor authentication system, ensuring that transactions are secure and reducing the risk of fraud.

Get insights into UPI payment trends in India by reading our article on the "[Future of UPI payments](#)"

## **How UPI is Better than Other Payment Methods?**

**User-Friendly Interface:** UPI apps offer a simple and intuitive interface, making it easy for users to navigate and complete transactions.

**QR Code Payments:** UPI supports QR code-based payments, enabling users to make contactless transactions at various merchant outlets.

**Interoperability:** UPI allows for seamless transactions between different banks and platforms, unlike mobile wallets that may be limited to specific networks.

**No Need to Load Wallets:** Unlike mobile wallets, UPI transactions are directly linked to your bank account, eliminating the need to load or maintain a wallet balance.

**Wide Acceptance:** UPI is widely accepted across various merchants and platforms, making it a versatile payment option for users

## **What Are the Advantages of UPI Transaction?**

Here are the advantages of UPI transactions.

- Easy and safe
- No need to add details of a payee
- No hidden or extra charges
- A high upper limit of daily transaction
- Easy transaction method for merchants



- Users can use different bank accounts
- Great help to avoid the hassle of carrying cash
  - Instant Transfers: UPI enables real-time fund transfers, making it faster and more efficient than traditional methods like NEFT, RTGS, or IMPS.
  - 24/7 Availability: UPI services are available round the clock, allowing users to make transactions at any time, regardless of bank working hours or holidays.
  - Simplified Transactions: UPI uses a UPI ID instead of bank account numbers and IFSC codes, simplifying the transaction process and ensuring a higher level of privacy.
  - Multiple Bank Accounts: Users can link and manage multiple bank accounts from a single UPI-enabled app, making it easier to track and manage finances.
  - Low Transaction Costs: Most UPI transactions are free or have minimal charges compared to other payment methods, making it an affordable option for users.
  - Secure Payments: UPI employs a two-factor authentication system, ensuring that transactions are secure and reducing the risk of fraud.
  - Get insights into UPI payment trends in India by reading our article on the “Future of UPI payments”

## What Are the Disadvantages of UPI Transaction?

Here are disadvantages of transactions. .

- Delay in payments due to network or bank server issues
- Deducted money can take up to 48 to be credited again
- Only 6 digit PIN may not be strong enough

Hence, these disadvantages are minor and easily avoidable compared with the huge benefits of a UPI transaction. Therefore, consider this guide to open your account if you are a new UPI user. However, you always need to maintain proper safety measures while transferring money via online mediums.

### Disadvantages of UPI Transaction

The UPI payment is straightforward and accurate, but it does come with a few drawbacks that we have detailed below for your information.

#### 1. Allows small amount of transfers

While UPI is a great option for sending little sums of money, larger payments are better handled through alternative online payment systems.

## 2. Mobile may hang

The UPI support app must be installed on your smart phone and only then can be used to make payments. There is no web browser access available for this app. Your mobile device might hang and also consumes too much data.

## 3. Dependency on smartphones

In order to complete a UPI transaction, the user must have access to both a smart phone and the internet. This can be problematic for those who do not have access to smart phones or the internet. Furthermore, customers may experience issues using their UPI accounts & completing transactions if they lose or damage their phones.

## 4. Server issue

While UPI is a speedy and secure method of payment, it can take a while to process after a server outage at the receiving bank.

Like any other software, UPI systems might have downtime or technical issues. Online customers may become irritated if tech maintenance is performed without warning or during peak shopping hours.

## 5. Online fraud

Cyber criminals are adapting to the growing trend of individuals making and preferring online payments over more conventional ones.

More and more people fall victim to identity theft, phishing scams, and database breaches. Businesses spend a lot of money on payment-security software to protect themselves from these threats and boost security.

Thus, never share your UPI pin with anyone, this can keep you secure and protect against online fraud.

#### 6. Technological illiteracy

The fact that many people, particularly the elderly, are technologically illiterate is a major drawback to UPI online payment systems. They don't feel confident making purchases online due to a lack of understanding on how to use technology or devices.

Many people avoid using electronic payment systems because they find them too complicated. This is particularly problematic in economies in transition, such as India's.



## **Types of transactions supported by UPI**

A. Financial transactions UPI supports the following financial transactions: Pay Request:

A transaction where the initiating customer ‘pushes’ funds to the intended beneficiary. Payment address includes mobile number and MMID, account number with IFSC, and Virtual ID.

Collect Request:

A transaction where the customer is ‘pulling’ funds from the intended remitter by using a Virtual ID.

B. Non-financial transactions :

UPI will support the following types of non-financial transactions on any PSP app.  
Registration for mobile banking \* One Time Password (OTP) generation Set/change PIN Transaction status check Raising disputes/queries \*Mobile banking registration is only possible if the mobile number (which is to be registered) is already registered with the issuer bank for SMS /mobile alerts. UPI can be accessed on all major platforms such as Android and iOS with apps developed by members for versions of Android 4.2.2 and iOS 8.1 and above.

## **NPCI-National Payments Corporation of India (NPCI)**



### **Introduction: NPCI Full Form**

NPCI Full form, National Payments Corporation of India is an enterprise taken by the Reserve Bank of India. It is an Indian Bank's association to run India's market payments

and community systems. The organization was established in 2008 under the Payment and Settlement Systems Act 2007. It is an essential organization devoted to improving and technologizing India's payment systems. Its mission is to provide structured, firm and reachable retail payment solutions to all citizens, promoting financial inclusion and driving the nation towards a cashless economy.

What is NPCI?

The National Payments Corporation of India (NPCI Full form) acts as a parent organization for market amounts in India. Its foremost motive is to encourage effortless digital payments in India. It manages numerous retail payment systems, also the Unified Payments Interface (UPI), Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and others. These structures permit secure, fast, and suitable electronic fund transfers and digital transactions nationwide between discrete businesses and banks. It has played an important role in the quick extension of digital payments in India, donating to the administration's attempt to move toward a cashless economy and encouraging financial growth.

### **Roles and Responsibilities of NPCI**

NPCI owns and operates the Unified Payments Interface (UPI) platform

- a. NPCI prescribes rules, regulations, guidelines, and the respective roles, responsibilities and liabilities of the participants, with respect to UPI. This also includes transaction processing and settlement, dispute management and clearing cut-offs for settlement
  
- b. NPCI approves the participation of Issuer Banks, PSP Banks, Third Party Application Providers (TPAP) and Prepaid Payment Instrument issuers (PPIs) in UPI



- c. NPCI provides a safe, secure and efficient UPI system and network
- d. NPCI provides online transaction routing, processing and settlement services to members participating in UPI
- e. NPCI can, either directly or through a third party, conduct audit on UPI participants and call for data, information and records, in relation to their participation in UPI
- f. NPCI provides the banks participating in UPI access to system where they can download reports, raise chargebacks, update the status of UPI transactions etc.

PSP – PAYMENT SERVICE PROVIDER

### **What are Payment Service Providers (PSPs)?**

PSPs (also called Merchant Service Providers) are third-party companies that help business owners accept a wide range of online payment methods, like online banking, credit cards, debit cards, e-wallets, cash cards, and more. Basically, they make sure your transactions make it from point A to point B, safely and securely.

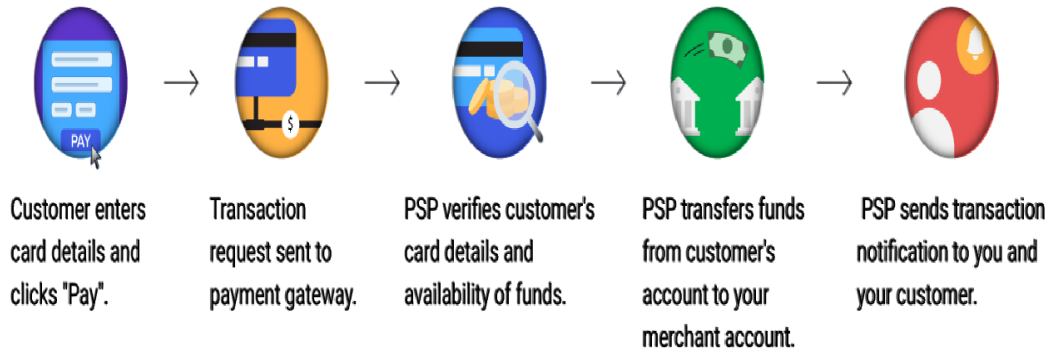
PSPs see to it that transactions are completed — from the start, when a customer enters their details and initiates a payment, to finish, when you receive it.

## **How does a Payment Service Provider work?**

To see how a PSP works, let's go through an example of a basic online transaction — from the moment it's initiated, to the moment you see the funds in your account:

1. After a customer enters his card details and clicks 'pay', a transaction request is sent to the payment gateway you've signed up with.
2. The PSP then verifies the customer's card details and checks whether the customer has enough funds in their card account to make the payment. The PSP does this with the help of a payment processor.
3. Once the customer's card details are verified and it's been confirmed that the customer has sufficient funds in their account, the PSP initiates a transfer of funds from the customer's bank to the merchant account you have associated with your business.
4. Finally, the PSP sends a transaction notification to you and the customer about the completed payment.

## How a PSP works



Zoho Books

In the case of a declined transaction for reasons such as invalid card details or insufficient funds, the PSP will terminate the transaction and send a status message notifying you and your customer of the failed payment.

In summary, a PSP ensures the safe and successful transfer of funds from your customer's account to yours. That being said, there are other benefits that PSPs offer business owners in addition to facilitating payments. Signing up with a PSP offers several advantages, from transaction reporting, to the ability to accept multiple payment methods in multiple currencies.

Let's look at a few additional advantages of using a PSP.

# What are the advantages of using a PSP?

Accept multiple payment methods:

PSPs provide support for several payment methods through a single channel, ensuring your customers can conveniently choose from a variety of options. This level of accessibility helps ensure customer satisfaction. Integrating different payment methods such as online banking, credit cards, debit cards, and e-wallets to your business can incur costs. Signing up with a payment service provider can save you from much of these. There are only two types of fees you need to pay: a one-time set-up fee, and a small monthly fee for enabling payments.

## **Make transactions securely:**

All information sent through a transaction request is controlled by the PSP. This information is heavily encrypted using SSL (Secure Socket Layer) encryption, ensuring only the customer can view their banking or financial information. This provides customers a better sense of security, and encourages them to go through with the payment.

## **Prevent fraud:**

PSPs only initiate transfer of funds once the customer's card details have been verified and if it locates the sufficient funds required for the payment in the customer's account. If not, the transaction is terminated. This helps avoid your business being compromised by fraudulent transactions.

## **Accept multiple currencies:**

In addition to multiple payment methods, PSPs also provide support for multiple currencies. This allows fast and secure payments from customers around the world. This is important if you're planning to expand your business beyond your own country. However, this is only possible if the PSP works with a payment processor that is capable of processing the desired currencies.

## **Get monthly reports on payments:**

Most PSPs offer you monthly reporting features for payments and transactions made to your business. There are some PSPs who offer real-time reporting features, but these can be more expensive.

## **Add new payment methods easily:**

PSPs allow you to add new payment methods, easily. There are increasingly more new payment options being created now, which make it more convenient for customers to make payments. Keeping up-to-date with these novel payment methods ensures that your customers find it convenient and simple to purchase your product or service. PSPs remain up-to-date with the latest payment methods, and typically, automatically make them available to you.

## **Opening accounts with acquiring banks:**

Before accepting card payments, you will have to set up a merchant account for your business with an acquiring bank. PSPs can help with this application process and reduce the usual waiting period you will need to go through when opening a merchant account. PSPs can also have preexisting accounts with acquiring banks that they work with. Once signed up with a PSP, businesses can get sub-accounts under these preexisting accounts, making the process of setting up merchant accounts much easier, as these accounts are already approved and functioning.

## **Reconcile transactions easily:**

PSPs provide complete transaction reports for every one of your payment methods. This makes it easier for you to reconcile transactions in the future.

## **Roles & responsibilities of PSP Bank**

- I. PSP Bank is a member of UPI and connects to the UPI platform for availing UPI payment facility and providing the same to the TPAP which in turn enables the end-user customers / merchants to make and accept UPI payments
  
- II. b. PSP Bank, either through its own app or TPAP's app, on-boards and registers the end-user customers on UPI and links their bank accounts to their respective UPI ID.
  
- III. PSP Bank is responsible for authentication of the end-user customer at the time of registration of such customer, either through its own app or TPAP's app
  
- IV. PSP Bank engages and on-boards the TPAPs to make the TPAP's UPI app available to the end-user customers
  
- V. PSP Bank has to ensure that TPAP and its systems are adequately secure to function on UPI platform
  
- VI. PSP Bank is responsible to ensure that UPI app and systems of TPAP are audited to safeguard security and integrity of the data and information of the end-user customer including UPI transaction data as well as UPI app security

- VII. PSP Bank has to store all the payments data including UPI Transaction Data collected for the purpose of facilitating UPI transactions, only in India
  
- VIII. PSP Bank is responsible to give all UPI customers an option to choose any bank account from the list of Banks available on UPI platform for linking with the customer's UPI ID.
  
- IX. PSP Bank is responsible to put in place a grievance redressal mechanism for resolving complaints and disputes raised by the end-user customer.

## **EXAMPLES OF UPI PAYMENT SYSTEM OF INDIA**

### **1) PHONE PE**



**PhonePe** is an Indian digital payments and financial services company headquartered in Bengaluru, Karnataka, India. PhonePe was founded in December 2015, by Sameer Nigam, Rahul Chari and Burzin Engineer. The PhonePe app, based on the Unified Payments Interface (UPI), went live in August 2016.

The PhonePe app is available in 11 Indian languages.<sup>[1]</sup> Using PhonePe, users can send and receive money, recharge mobile, DTH, data cards, make utility payments, pay at shops, invest in tax saving funds, buy insurance, mutual funds, and digital gold.

PhonePe is accepted as a payment option by over 3.6 crore offline and online merchant outlets, constituting 99% of pin codes in the country. The app served more than 10 crore users as of June 2018,<sup>[20]</sup> processed 500 crore transactions by December 2019, and crossed 10 crore transactions a day in April 2022. It currently has over 50 crore registered users with over 20 crore monthly active users.<sup>[1]</sup>

PhonePe is licensed by the Reserve Bank of India for the issuance and operation of a Semi Closed Prepaid Payment system.



The best thing about UPI is that it is a 24/7 service and can be used even on bank holidays and weekends. The app can be downloaded on both Android and Apple phones.

This is a safe and secure application that will help cater to all your banking needs under one roof in a convenient manner. There will be no need to go through the cumbersome process of registering a beneficiary, entering bank account details such as account number or IFSC code. All that is required is a Virtual Payment Address (VPA), using which money can be sent at anytime and from anywhere.

PhonePe Private Limited is a leading e-commerce payment platform in India. The digital wallet company was founded in December 2015. This platform offers services in over 11 Indian regional languages. As a user, you can use the app and book cabs, book hotel services, order food online, pay for your Redbus tickets, and also pay for your flight tickets.

#### How to Make Payments Through the PhonePe App

You can carry out transactions in the PhonePe app by following any of these methods:

UPI Debit Card

UPI Credit Card

Via linked Bank account

Using PhonePe Wallet.

PhonePe is an Indian multinational digital payments and financial services company headquartered in Bengaluru, Karnataka, India. PhonePe was founded in December 2015, by Sameer Nigam, Rahul Chari and Burzin Engineer. The PhonePe app, based on the Unified Payments Interface, went live in August 2016.

## LATEST NEWS ABOUT PhonePe

PhonePe's Indus Appstore crosses 1,00,000 downloads within 3 days of launch PhonePe's Indus Appstore is aiming to reach an install base of 500,000 users as soon as possible, with one million downloads expected shortly after.

This remarkable feat underscores the Indian market's eagerness for a localised, inclusive, and developer-empowering alternative to existing app stores. "Reaching over a lakh downloads in just three days confirms that India is ready for a homegrown app store that prioritises the needs of its diverse users and fosters a vibrant developer community," said Akash Dongre, Chief Product Officer and Co-founder of Indus Appstore. "This is only the beginning; we're committed to continuously evolving Indus Appstore to make it the go-to destination for apps in India" he added.

The rapid adoption of the Indus Appstore, particularly as a side-loaded application, which requires users to download it directly from the Indus Appstore website and grant additional permissions, is indicative of the strong interest and need for an app store that aligns closely with the preferences of the Indian consumer. App developers, tech enthusiasts, and users have actively downloaded the app, recognising the potential impact of the Indus Appstore on India's digital ecosystem. Early feedback from users and developers has been overwhelmingly positive.



## **Steps to Complete Your PhonePe KYC**

Here are the steps you need to follow to successfully complete your PhonePe KYC process:

Step 1: Open the PhonePe mobile application on your smartphone

Step 2: Using your login credentials, log into your PhonePe account

Step 3: On the bottom of the app interface, tap on the tab called "My Money"

Step 4: Under the menu for Wallets/Gift Vouchers, tap on "PhonePe Wallet"

Step 5: Tap on "Continue" on the "Complete Your KYC" pop-up

Step 6: Click on "Provide Basic Details"

Step 7: A list of documents you can choose as verification option will be displayed under the drop-down menu- select one of them

Step 8: Enter the required details for confirmation

Step 9: Once complete, "Basic Details Updated Successfully" will be displayed on the screen.

You will get a notification on your registered mobile number that confirms that KYC has been successfully completed for your PhonePe account.

## FEATURES OF PHONE PE

PhonePe is undoubtedly one of the most revolutionary apps since it has managed to transform the way cash was carried around in India. Here are some of the top noteworthy features of PhonePe:

- The Country's First UPI Linked E-wallet - PhonePe is known to be among the first apps which have government-backed Unified Payment Interface or UPI interface. Designed and set-up on the Immediate Payment Service (IMPS) infrastructure, PhonePe can be used for transactions involving two parties via respective bank accounts. The app uses unique identifiers like mobile number or VPA, also known as a unique address. The app lets users avoid IFSC or account details to be used during these transactions, thus making it a safe option.
- No Need for Bank Account Details – Users don't need to share any crucial information like bank details or IFSC code while using PhonePe. This is why PhonePe is trusted for providing a secure and guarded environment. Nearly 30 banks are available on this platform including SBI, HDFC, ICICI, etc. All you have to do is link your account with UPI and after verifying the details like your mobile number, you are good to go. UPI then retrieves your account information via a secure channel whenever you make any transaction. It is important to note that in case your bank is not active in UPI, you will not be able to link your PhonePe account with the bank account. However, you can continue to receive the refunds in your account from Myntra or Flipkart.
- Hassle-free Authentication Method - PhonePe is hassle-free to use because it avoids multiple authentications. With PhonePe, you can transfer money from one bank account to another, without providing your card details or waiting for OTPs to complete the transactions. This is applicable even while paying for online or offline shopping.

- No Need for Frequent Top Ups - The benefit of keeping your account linked to the app there is no need for regularly topping up your e-wallet account. After linking your account, you don't have to worry about being out of funds since the money is directly debited from your bank account.
- Easy Transfers, Payments, and Recharges – After your account is linked to PhonePe, you don't need to physically pay your bills. You can simply log on to the app, tap on the requisite icon and pay your bills.
- Increased Limit Per Transaction – PhonePe app is linked to your bank account and hence you can make payments of higher value even running into tens of thousands. PhonePe has increased the single transaction limit to Rs. 1 lakh. You can also enjoy the longevity of the wallet balance with PhonePe. Your account will remain active even if you only make two transactions a year.
- Higher Security – Since PhonePe uses the government-backed platform, you can be assured of heightened safety for all your transactions.

## **Benefits of Using PHONE PE**

- The app is safe to use
- PhonePe is one of the few user-friendly apps which takes very little time to get accustomed to
- The app is available in multiple local Indian languages like Hindi, Tamil, Malayalam, Kannada, Assamese, Gujarati, etc
- The app can be used 24/7
- It allows quick money transfer
- Avail instant discounts and various cashback on your transactions
- No need to remember your bank account details like IFSC code since the app uses UPI

## **Advantages of PhonePe**

PhonePe is a convenient tool for business users. Payment of utility bills, payment of wages, and a payment request from clients can all be done through this app.

1. You can easily set all the utility bill payments like electricity, postpaid mobile bill, landline bill, water tax, house tax, the Insurance premium.
2. This app supports both English and Hindi languages as well as Marathi, Tamil, and Bengali. This makes the app more usable and friendly to operate for all the native who speaks any of that language.
3. Phonepe gives consumers a variety of payment choices to choose from. UPI, bank accounts, credit cards, and debit cards can all be connected to the app, making it a versatile payment system that ensures each source is working properly.
4. The app also offers a much quicker and more reliable form of transaction. The direct transfer of funds from the user's account to the phone wallet eliminates the need for an account or card linking.
5. Phonepe is a single app that also offers a variety of other services on its website. With the switch option, you can quickly and easily access your favourite apps and services.

## **Cons or Disadvantages of PhonePe:**

1. Because when you tap on the PhonePe app on your mobile, the dashboard opens without any authentication. It neither ask your PIN nor password to open.
2. When you pay with the app, it will appear that processing is still in progress. And it lasts for a long time. Due to technical problems, it can take up to 3 days.
3. It also happens when you pay to a merchant, the message is displayed, payment successful. Your account is also debited for that number, but the receiver account is creditless. In certain cases, credit processing can take up to 24 hours. It frequently causes you emotional distress.
4. The ticket should be booked through the phone app the problem arises when there is a refund issue of the cancelled ticket.
5. Phonepe does not give you interest in your wallet deposit. Other UPI apps that have wallet facilities do not give interest as well



## 2. PAYTM



Paytm (acronym for "pay through mobile") is an Indian multinational financial technology company, that specializes in digital payments and financial services, based in Noida, India. It was founded in 2010 by Vijay Shekhar Sharma under One97 Communications. The company offers mobile payment services to consumers and enables merchants to receive payments through its QR code, Payment Soundbox, Android based-point of sale machine and online payment gateway offerings. In partnership with financial institutions, Paytm offers financial services such as microloans and buy now, pay later to its consumers and merchants. Apart from bill payments and money transfer, the company also provides ticketing services, retail brokerage products and online games.

Paytm's parent company, One97 Communications, got listed on the Indian stock exchanges on 18 November 2021 after an initial public offering, which was the largest in India at the time.<sup>1</sup> For the fiscal year 2022–23, Paytm's gross merchandise value (GMV) was reported to be ₹13.2 lakh crore (US\$170 billion). Paytm has been widely implemented in organizations as a payment solution, allowing them to accept payments from customers instantly and with a higher success rate. Customers can use various payment methods like debit/credit cards, prepaid cards, UPI, net banking, and the Paytm wallet on the platform. This versatile application has proven to be highly useful for users, offering features such as recharge, ticket booking, money transfer, UPI integration, and integration as a payment gateway for software and applications.

One of the main use cases of Paytm is increasing sales for businesses by providing an easy payment solution for services and allowing customers to pay all types of bills on its platform. The payment gateway feature enables businesses to create QR codes for instant payment acceptance with notifications. Moreover, Paytm has helped organizations build a digital and cashless economy by easing payments to employees and offering easy account opening with Paytm bank accounts. It has also been used by non-profit organizations for receiving and tracking payments from customers for products and events.

The mobile wallet feature of Paytm is highly valued by users, as it allows them to make digital payments conveniently and securely. Many individuals use Paytm for personal accounts and payments such as UPI or bank transactions, train and bus ticket booking, and making online purchases. It is frequently used for day-to-day transactions, providing a convenient solution for making payments to small vendors who do not have point-of-sale machines.

Businesses also leverage Paytm's versatility as a payment gateway service in partnership with Razorpay pay. It offers multiple payment options such as UPI, credit card, debit card, and Paytm wallet services. E-commerce websites have integrated Paytm as a payment gateway due to its usefulness and the availability of useful documentation and video instructions for developers.

Overall, Paytm is trusted by users as a reliable option for quickly sending and receiving money securely with its 128-bit encryption SSL security. Whether it's organizing events, sending gift cards, settling informal lunches, or paying office expenses like electricity bills, Paytm proves to be a versatile and convenient platform for various financial transactions.

Digital wallets, also known as e-wallets or wallets, have become popular for their convenience and ease of use. With the ability to make transactions in seconds, use the wallet both online and offline, and eliminate the need to carry physical cash or a wallet, it's no surprise that these payment applications are widely used.

One such digital wallet is the Paytm wallet, which requires minimal information to activate the wallet for a certain amount of transactions and full KYC for more extensive online and offline transactions. This split in transaction limits is for security purposes. The Paytm wallet also boasts a user-friendly interface, making for a seamless and easy transaction experience.



## **Pros of “PAYTM”**

**Diverse Payment Options:** Users have found the payment options offered by Paytm to be diverse, with multiple options available for making payments. This has been mentioned positively by a significant number of reviewers, indicating that they appreciate the flexibility and convenience provided by Paytm.

**Low Payment Charges:** The low payment charges of Paytm have been appreciated by users, as it allows them to save money on transactions. Many reviewers have specifically mentioned this aspect in their feedback, suggesting that they value the cost-effectiveness of using Paytm for their payments.

**Instant Settlement of Funds:** Users are impressed by the instant settlement of funds to their bank accounts when using Paytm. Several reviewers have highlighted this feature, indicating that Paytm provides a fast and efficient payment system. This quick processing time has contributed to a positive experience for many users.

## **Cons of “PAYTM”**

**Customer Support Quality:** Some users have mentioned that they are not satisfied with the customer support quality on Paytm. They have experienced delayed responses or sometimes no response at all, which has affected their overall experience.

**Inconvenient Verification Process:** The verification process on Paytm requires users to visit physical offices, which can be inconvenient for those who were seeking a virtual service to save time and effort.

**Poor Product Quality on Paytm Mall:** A number of users have reported receiving poor quality or even fake products from sellers on Paytm Mall. This has resulted in a negative customer support experience as users struggle to resolve issues related to these purchases.

## **What are the Advantages of a Paytm**

Unlike UPI, debit cards, credit cards, and other banking instruments that require detailed information to complete transactions, digital wallets only require a single click. Some of the numerous benefits of using digital wallets include:

### **Easy to use:**

- The Paytm wallet is popular and easy to use.
- Transactions with the Paytm wallet do not require a lengthy or time-consuming process.

### **Eliminating the need for extra things:**

- The Paytm wallet eliminates the need to carry cash, debit cards, credit cards, and other items.
- The Paytm wallet is sufficient for various transactions, such as utility bill payments, recharge, fuel payments, and more.

### **Secure payment mode:**

- Paytm is governed by RBI (Reserve Bank of India) rules.
- Paytm has divided the use of its wallet based on KYC (Know Your Customer) requirements.
- There are two types of KYC for Paytm: minimum KYC and maximum KYC.
- Users with minimum KYC can:
  - Pay merchants who accept Paytm.
  - Pay online on any app or website.
  - Maintain a balance of up to Rs. 10,000 in their Paytm wallet.
- Users with maximum KYC can:
  - Pay merchants online and offline.
  - Maintain a balance of up to Rs. 1,00,000 in their Paytm wallet without any restrictions.

### **No screenshot or video recording:**

- The user is not allowed to record the screen or take screenshots during a transaction.
- This protects the user's banking information from misuse by third parties.

### **Use in Offline and online use:**

- A Paytm wallet can be used for a variety of online and offline payments.
- Examples of online payments include electricity bill payments and mobile recharge.
- Examples of offline payments include subscription plans and payments at Kirana stores and mother dairy outlets.

### **Passbook overview:**

- The Paytm wallet passbook allows users to track their payments.
- Users can apply filters to view specific types of payments, such as paid, received, added, or on-hold payments.

### **Payment request statement:**

- Users can request a payment statement for a specified time period.
- The statement will be sent to the user's email address.

### **Send money to the bank:**

- Paytm wallet allows users to send money directly to a recipient's bank account.
- To complete the payment, the sender needs to complete the KYC process and enter the recipient's account details.
- The money will be transferred from the sender's preferred payment method to the recipient's bank account.

### **Automatic add money:**



- The Paytm wallet has a feature that automatically adds money to the wallet when the balance falls below a certain threshold.

**Send gift voucher:** Paytm wallet users can send gift vouchers to friends and family.

**No PIN need:** Paytm wallet users do not need to enter a PIN to complete a transaction.

**Cash deposit points available:**

- In addition to online payment methods, users can add money to their wallet by visiting a cash deposit point.
- Users can search for nearby cash deposit points within the Paytm app.

## **INTERNATIONAL EXPANSION**

### **Janpan**

Paytm established a joint venture with SoftBank and Yahoo Japan, called PayPay Corporation, to offer services in the Japanese market. Paytm launched the PayPay app, a QR-based payment settlement service, in Japan on 22 October 2018.

### **Canada**

Paytm Labs Inc. was established in Toronto, Ontario in 2014 as a research and development division.<sup>[73]</sup> It recently launched a fraud risk management platform called Pi for fintechs and digital marketplaces where transaction value is high.

## Paytm Insider

Paytm Insider is a mobile app that helps to book tickets for Cricket matches, live entertainment shows and sports games online

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## **2. BHIM PAY:**



BHIM (Bharat Interface for Money) is an Indian mobile payment app developed by the National Payments Corporation of India (NPCI), based on the Unified Payments Interface (UPI). Launched on 30 December 2016, it is intended to facilitate e-payments directly through banks and encourage cashless transactions.

The application supports all Indian banks which use UPI, which is built over the Immediate Payment Service (IMPS) infrastructure and allows the user to instantly transfer money between 170 member banks<sup>l</sup> of any two parties. It can be used on all mobile devices. It aims to simplify cashless transactions through instant bank-to-bank

transfers. Named after Dr. Bhimrao Ambedkar, the architect of India's Constitution, BHIM embodies the vision of inclusive financial growth.

#### Key Features of BHIM

The BHIM app was launched in December 2016 by the National Payments Corporation of India (NPCI). A new and modified version of Bharat Interface for Money (BHIM), BHIM 2.0 has been launched under the Ministry of Electronics and Information Technology. Under BHIM 2.0, the existing cap of Rs. 20,000 has been increased to Rs. 1,00,000, from verified merchants.

The BHIM app can replace the existing mobile wallets and can appear as a comparatively reliable option for the bank to bank transfers, unlike other e-wallets. Since the transactions happen directly from the bank accounts, there is no need to recharge the wallet and no commissions/hidden charges are required for using the app. With the BHIM UPI app, the upper limit of a single transaction is Rs. 10,000 and one can transfer Rs. 20,000 in 24 hours.

Some of the key features of BHIM are mentioned below:

1. The BHIM app is tied to the mobile number and device ID. So using the app on a different handset will require a separate authentication process.
2. Three-point authentication via mobile number, device ID, and UPI PIN.
3. Fingerprint-based biometric verification of transactions via Aadhaar will prevent fraudulent transactions.
4. UPI PIN is needed for both opening the app as well as for transactions.
5. Resetting UPI pin requires debit card details and OTP SMS to authenticate.

## **Advantages of BHIM**

The Bharat Interface for Money (BHIM) is an innovative payment system developed by the Government of India. BHIM provides an easy and secure mode of money transfer for users on a mobile platform. It provides the facility to easily send or receive money from other customers using the Unified Payment Interface (UPI). Some of the benefits provided by the Bharat Interface for Money (BHIM) to the users are mentioned below:

- Allows easy money transfer without the hassle of knowing the recipient's bank or account number. The entire transaction can be done in under a minute.
- Instant money transfer at all times. It does not require prior beneficiary registration, unlike net-banking.
- Allows the use of Unstructured Supplementary Service Data (USSD) to access bank account details, since it is UPI-based. USSD does not require an internet connection.
- Customers who don't have UPI accounts can also receive money via the Indian Financial System Code (IFSC) and Mobile Money Identifier (MMID) codes.
- It is available in English and Hindi, with other language interfaces in the pipeline.
- A fixed amount can be transferred by generating a QR code, in case the receiver does not want to share their phone number. Useful for merchants and vendors.
- A Virtual Payment Address is generated. Flexibility to transfer money either via the receiver's mobile number, the VPA, or the UPI ID.
- Nearly all commercial banks support BHIM. Unlike e-wallets, money can be directly transferred to bank accounts via BHIM.
- Aadhaar based payments at the scan of a "thumb" (biometric authentication) are also possible by the app

- **Seamless Transfers:** Send and receive money instantly 24/7 using just a Virtual Payment Address (VPA) or scanning a QR code. No more account numbers or IFSC codes!
- **Cost-Effective:** Enjoy zero transaction charges for most operations, making it affordable for everyday use.
- **Multiple Bank Accounts:** Link multiple bank accounts to one BHIM app, eliminating the need for multiple apps and logins.
- **Simplified Bill Payments:** Pay utility bills, mobile recharges, and other dues directly through the app, saving time and effort.
- **Merchant Payments:** Make quick payments at shops and merchants displaying UPI QR codes, leaving bulky wallets behind.
- **Secure:** Secure transactions with two-factor authentication using your PIN and mobile banking credentials.
- **Aadhaar Integration:** Securely link your Aadhaar card for additional authentication options.
- **Multilingual:** Access the app in 20 Indian languages, catering to diverse users across the country.
- **Open Source:** BHIM's open-source architecture allows for innovation and integration with other platforms.
- **Government Initiative:** Backed by the NPCI, BHIM promotes financial inclusion and digital literacy in India.

### **Disadvantages OF BHIM PAY:**

- **Smartphone Dependence:** Requires a smartphone and reliable internet connection for operation, potentially excluding those without access.
- **App-Specific:** Limited functionality compared to comprehensive banking apps, might not cater to all financial need.
- **Initial Learning Curve:** Setting up and familiarizing oneself with the app's features might require some initial effort.
- **Security Concerns:** As with any online platform, potential vulnerabilities and phishing attempts require user vigilance.
- **Merchant Adoption:** Wider adoption of UPI QR codes across smaller merchants is still ongoing.
- **Limited Offline Functionality:** Transactions primarily rely on internet connectivity, limiting offline usage.
- **Technical Glitches:** Occasional app crashes or server issues can disrupt transactions, although improvements are continuous.
- **Fraudulent Activities:** While rare, instances of UPI-based fraud highlight the need for cautious usage and awareness.
- **Privacy Concerns:** Data sharing and storage practices might raise concerns for some users, requiring transparency from the app developers.

BHIM Pay offers a convenient and affordable way to manage finances in India. Its ease of use, security features, and government backing make it a compelling option for individuals and businesses alike. However, limitations like smartphone dependence and potential security concerns require consideration. Ultimately, BHIM's effectiveness depends on individual needs and preferences. By weighing the advantages and disadvantages, users can decide if BHIM is the right digital payment solution for them.





## SHAREHOLDING OF “BHIM PAY”

BHIMPAY mobile payment app developed by the National Payments Corporation of India (NPCI), which is a non-profit organization under the Indian government

Shareholder	Stake (%)
State Bank of India	12.65
Union Bank of India	9.99
Punjab National Bank	9.99
Canara Bank	9.15
Bank of Baroda	9.15
Bank of India	7.12
HDFC Bank	7.12
ICICI Bank	7.12
Other Indian Banks	27.76

How to access BHIM: First Time User:

Step 1: Download and Install BHIM app from Google Play store

Step 2: Select your preferred language.

Step 3: Select SIM which has mobile number that is registered with bank CBS 4

Step 4: Login by setting a 4 digit application password

Step 5: Link your bank accounts using bank account option

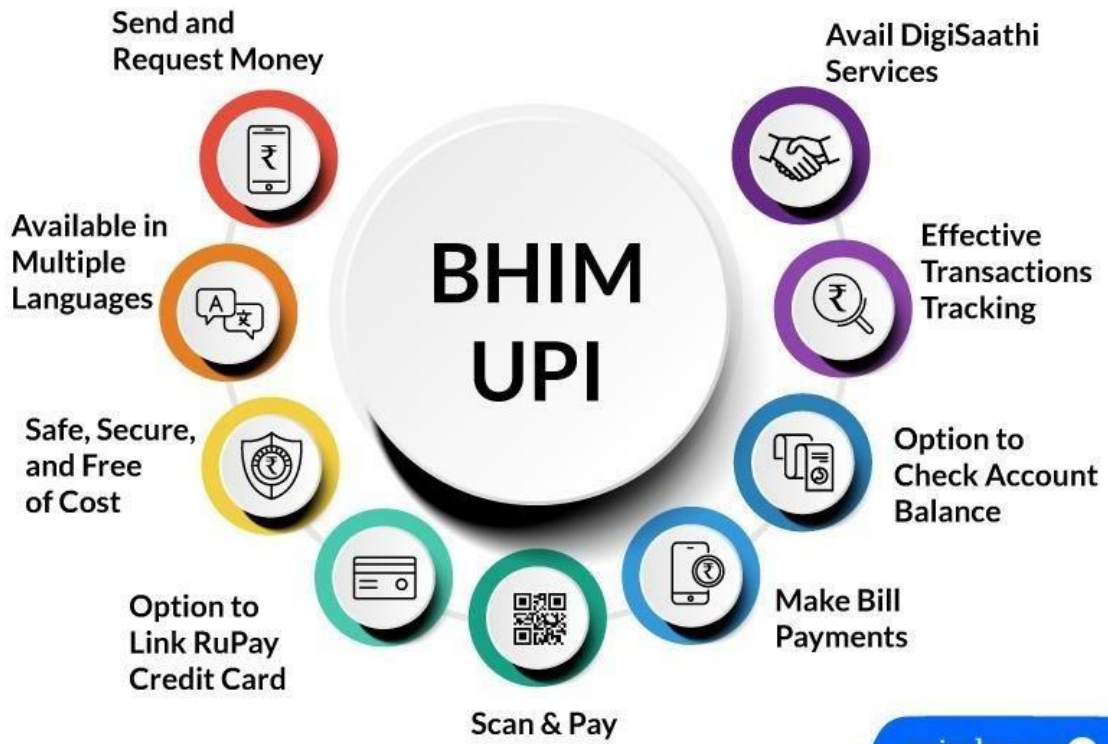
Step 6: Set your UPI PIN by providing last 6 digits of debit card and expiry date of debit card

Step 7: Visit Profile option and set virtual payment address (VPA)s (2 virtual payment address (VPA)s are allowed per user 1. Mobno upi, 2. Name upi)

Step 8: Set one virtual payment address (VPA) as a primary virtual payment address (VPA) ( Ex. Name upi can be primary virtual payment address (VPA) making it easy to share with others)

Step 9: QR code feature is available, by using Scan and Pay option send and collect money anytime

Step 10: Send, receive, collect money using virtual payment address (VPA), Account number + IFSC ,Scan and Pay option



### 3) GOOGLE PAY



# Google Pay

#### ORIGIN

Google Pay (stylized as G Pay; formerly Android Pay and Google Wallet) is a digital wallet platform and online payment system developed by Google to power in-app, online, and in-person contactless purchases on mobile devices, enabling users to make payments with Android phones, tablets, or watches. Users in the United States and India can also use an iOS device, albeit with limited functionality. In addition to this, the service also supports passes such as coupons, boarding passes, campus ID cards, car keys, event tickets, movie tickets, public transportation tickets, store cards, and loyalty cards.

As of January 8, 2018, the old Android Pay and Google Wallet have unified into a single pay system called Google Pay. Android Pay was rebranded and renamed as Google Pay. It also took over the branding of Google Chrome's autofill feature. Google Pay adopts the features of both Android Pay and Google Wallet through its in-store, peer-to-peer, and online payments services.

Google pay is a digital payment app all over India. It was the previous name for the app and it was recently renamed. However, In addition, to the change in name lot of additional features are added to this app to increase popularity. It also offers pre-approved loans on the go in go in association with ICIC bank and HDFC bank.

### **Pros or Advantages of Google Pay:**

1. It is faster to pay for things
2. Most importantly It is very secure
3. There are no extra charges for using the service.
4. It is easy to use.
5. Fast and secure mobile payment.
6. Most importantly it is almost free
7. However, this app can also be used for business purposes. The API makes integration simple and there is no cost involved.
8. It eliminates the need for certain people to bring a wallet around with them.
9. Money can be sent and received quickly and easily.
10. This app allows you to pay your utility bills, recharge your phone, and shop online.
11. Google uses encryption and several layers of authentication to protect transactions.

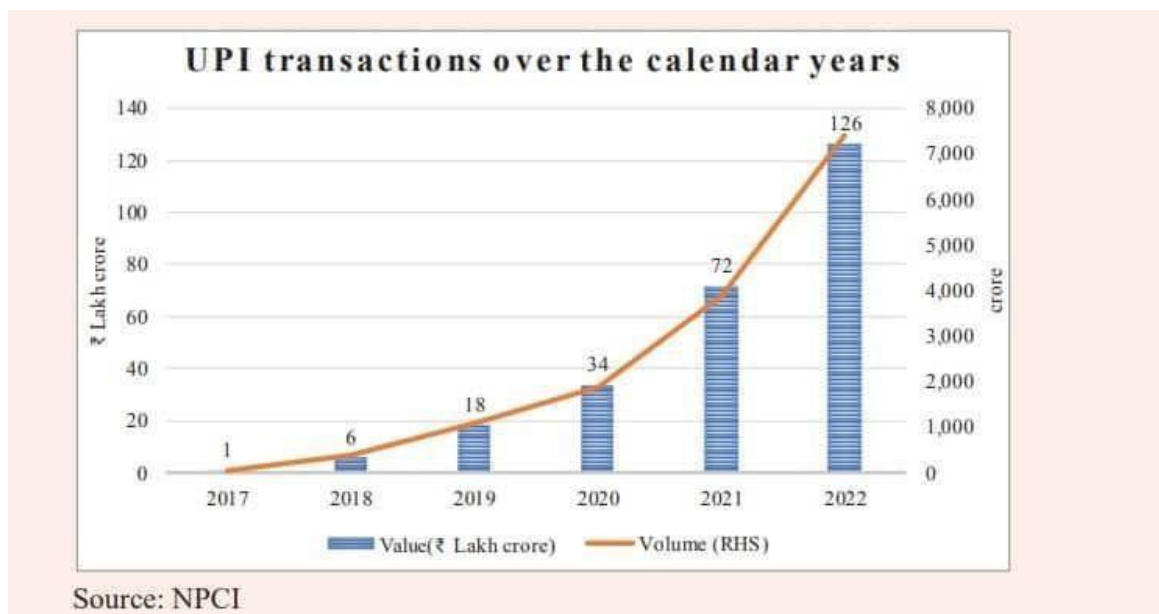
## **Cons or Disadvantages of Google Pay:**

1. It doesn't work with some credit cards
2. It is not usable at every single store
3. Poor customer services
4. The support center is not able to assist you.
5. To pay for stuff, one will have to take out his or her phone more often.
6. Moreover, the virtual money source will allow people to spend more money than they have. As a result, People are more likely to look over and steal your pin number if you have a virtual money source.



**AS PER REPORTS, PhonePE , GOOGLE PAY , PAYTM CONTROL 96.5% OF THE MARKET SHARE OF TRASACTION VOLUMES IN INDIA .**

## BAR GRAPH ANALYSIS



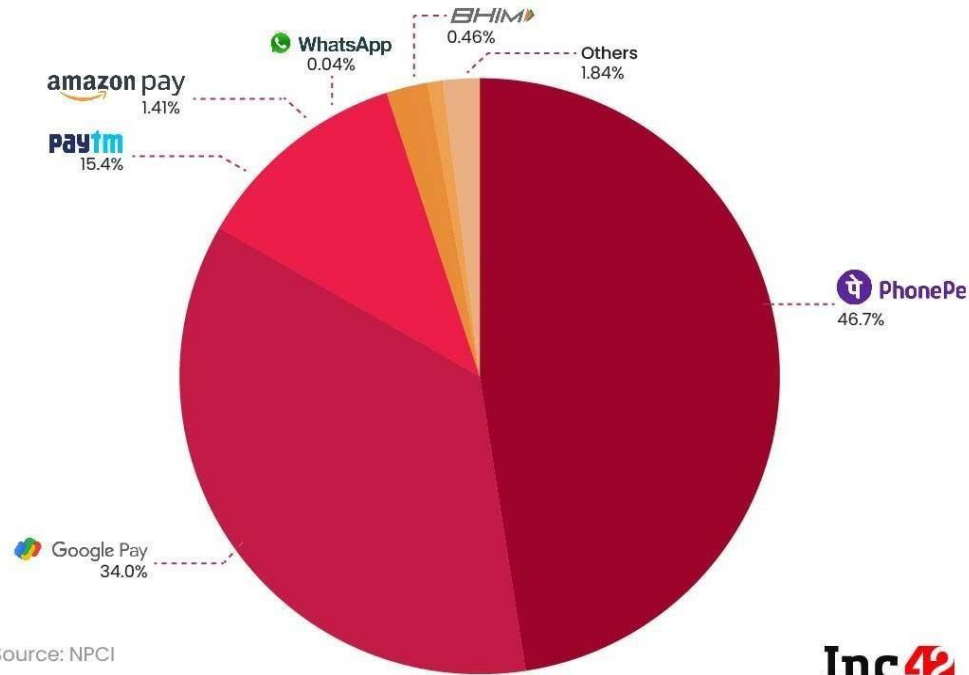
On average, between FY19-22 (calendar year), UPI transactions grew 121 percent in terms of value and 115 percent in terms of volume, the survey noted. In December 2022, UPI touched its highest-ever mark with 782 crore transactions worth Rs 12.8 lakh crore, according to the Economic Survey.



## SURGE IN TRANSACTION VOLUME OF UPI

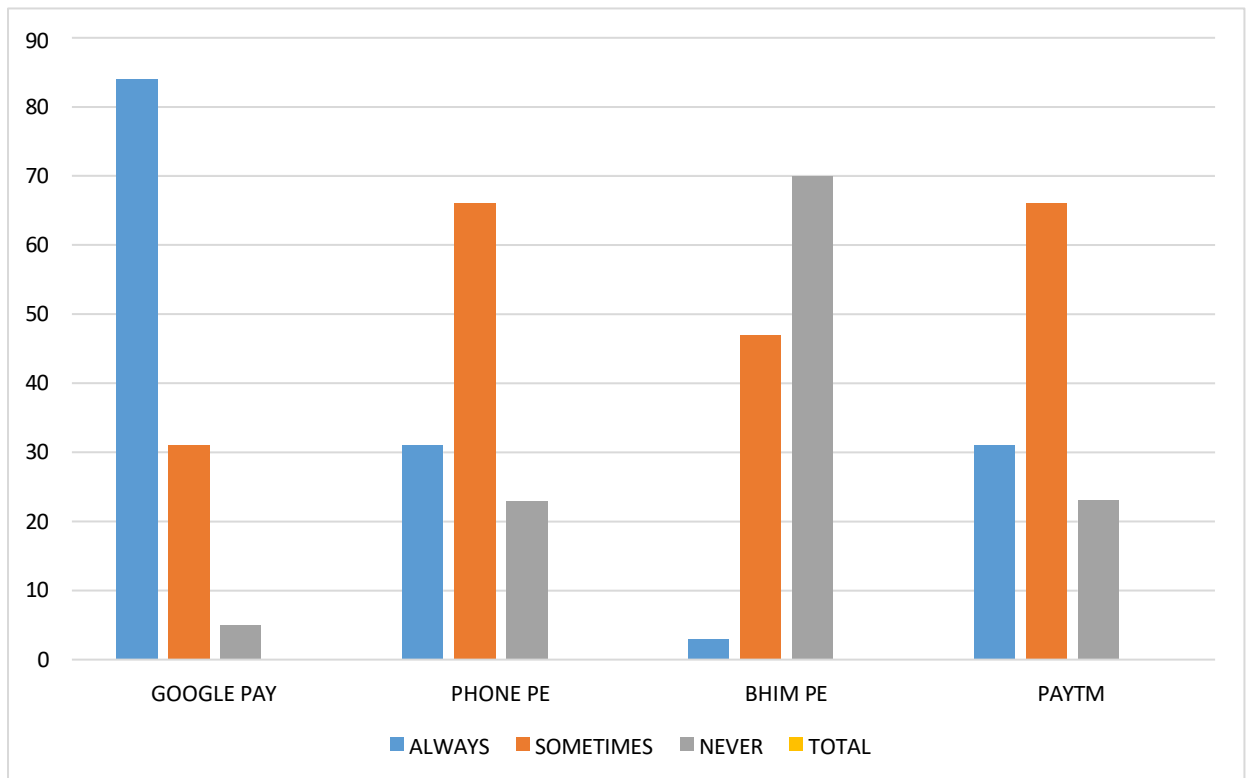
Year	No. of Payment Partners on UPI	Transaction volume (in mn)	INR value (in mn)	USD value (in bn)
2023	522	117,675.97	182,844,068.2	2,994.30
2022	382	74,044.48	125,948,187.3	1,699.71
2021	282	38,744.55	71,592,858.0	966.17
2020	207	18,880.89	33,877,447.2	457.19
2019	144	10,787.54	18,366,381.8	247.86
2018	129	3,746.32	5,857,104.5	79.04
2017	67	418.8	570,208.7	7.7
2016	35	2.65	8,930.7	0.12

## App Wise UPI Transaction Count - March 2022



PhonePe has been leading the industry on all key metrics including count and volume of transactions, registered users as well as merchant coverage. The startup has been the market leader in UPI with over 49% market share in the volume of transactions processed in March 2022.

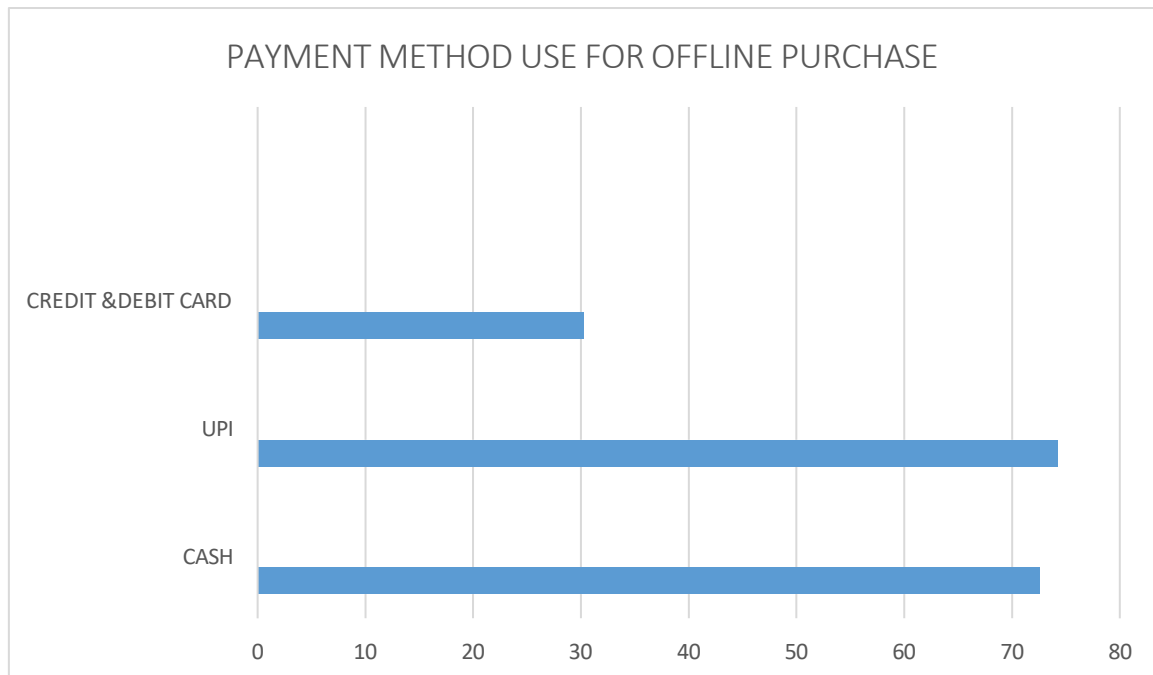
PEOPLE USE WHICH UPI APP MOST



#### INTERPRETATION:

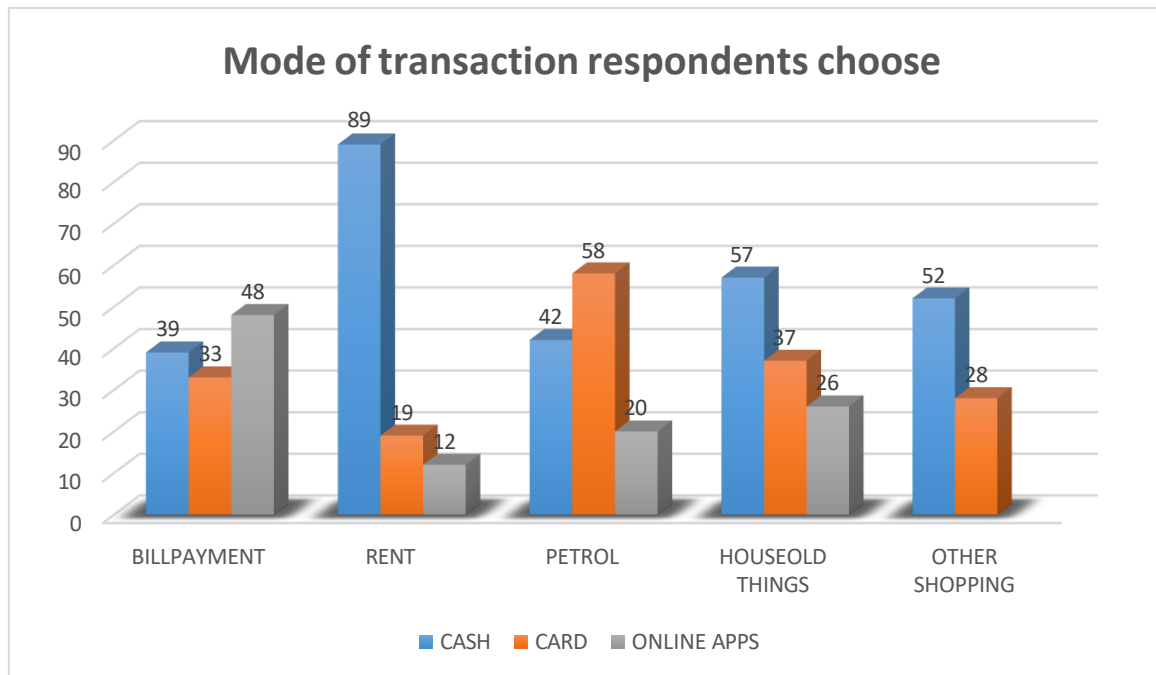
From the above table it is interpreted that 84% of respondents always use google pay and 42% of respondents always use phone pe and 31% of respondents always use paytm.

**INFERENCE:** Majority (84%) of respondents always use google pay



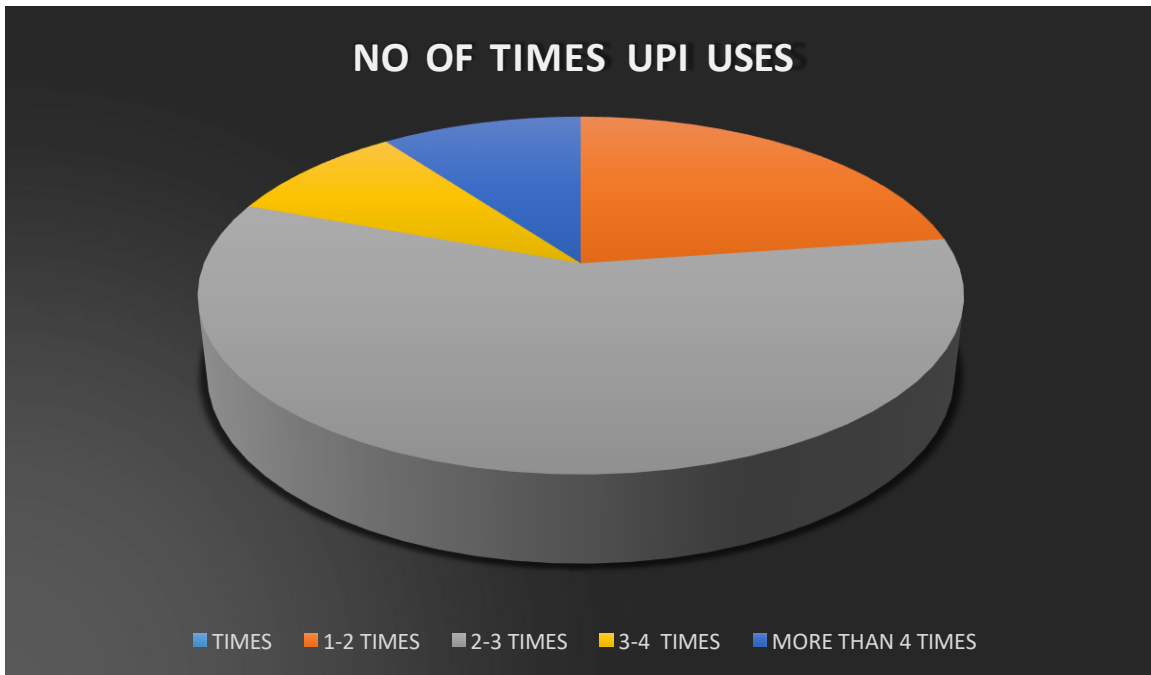
**INTERPRETATION:** According to the above bar graph, 74.3% of the respondents use UPI for offline purchase and 72.6% also uses cash for offline purchase and only 30.3% prefer to use credit or debit card for offline purchase.

**INTERPRETATION: MOST PEOPLE PREFER UPI WITH 74.30% FOR OFFLINE PURCHASE**



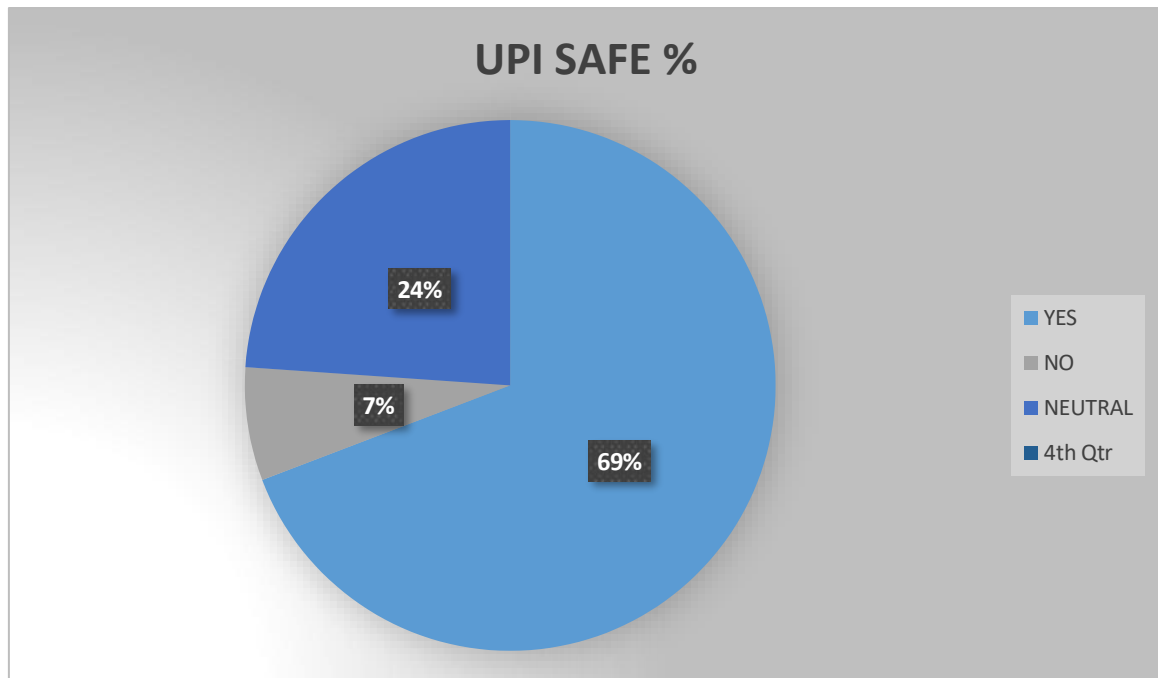
**INTERPRETATION:** From the above table it is interpreted that 48% of respondents often use online payment apps for mobile phone bill payment and 47% of respondents use online payment apps for entertainment (restaurant, theatre, etc.)

**INFERENCE:** Majority (48%) use online payment app for mobile phone bill payment



**INTERPRETATION:** From the above table it is interpreted that 58% of respondents often use online payment apps 2-3 times and 22.7% of respondents often use 1-2 times

**INFERENCE:** Majority 58% often use 2-3 times

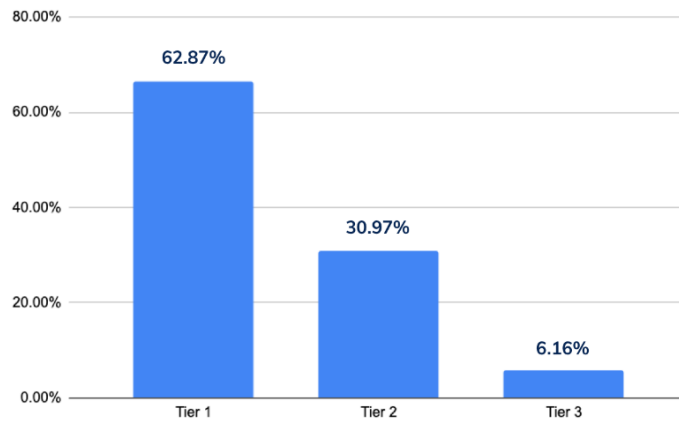


According to the above pie chart, 69.2% of the respondents think that UPI is safe and 6.9% think it is not safe and 23.9% are neutral on this topic.

**INTERPRETATION :** 69.2% respondents thinks its safe.

## TIER WISE UPI PENETRATION

Tier wise contribution



Razorpay

### INTERPRETATION :

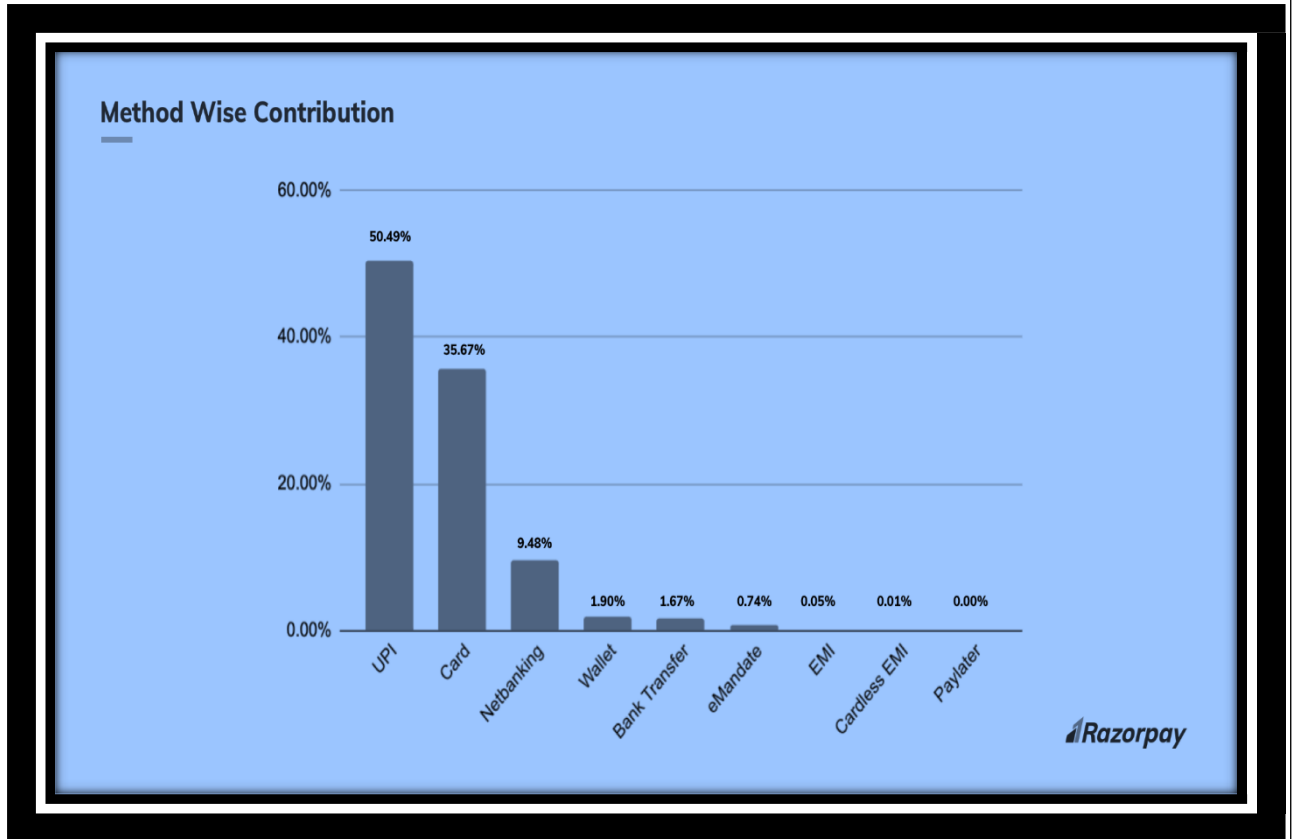
Tier 1 cities like Bengaluru, Hyderabad, Mumbai (6.78%), Chennai (5.86%), Kolkata (3.74%), Delhi (6.41%) and New-Delhi (3.81%) drawing a mark in terms of UPI transactions, which totals to 62.87%. Tier 2 and 3 cities contributed 30.97% and 6.16% respectively.

### METHOD WISE CONTRIBUTION:

INTREPRETATION: cards contributed 42.56% of digital transactions, but in October it fell by 6.89%, which amounts to 35.67%.



UPI transactions platform has maintained a consecutive growth of 11.02%, month-on-month



## Finding and suggestions

UPI has reshaped digital transactions across the nation, with UPI scanners now ubiquitous, enabling online payments at retail stores, shopping malls, and street vendors, thereby propelling the thriving digital economy.

As of 2023, it has been found that nearly 83 billion UPI transactions take place every year. By 2027, it will skyrocket to 1 billion daily transactions. With UPI usage set to skyrocket, it is the responsibility of merchants to offer users a seamless and fraud-proof experience. In this blog, we discuss some proven strategies for UPI merchants to adopt.

worldline payment services

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Mastering UPI Payments: Ensuring Safe and Secure Digital Transactions

01 / 11 / 2023

UPI (Unified Payments Interface) has revolutionized India's digital payments landscape, simplifying financial transactions immensely. However, this convenience has also brought along an increase in financial fraud. In this blog, we will explore the best practices to ensure secure transactions.

Mastering UPI Payments: Ensuring Safe and Secure Digital Transactions  
Payments

UPI has reshaped digital transactions across the nation, with UPI scanners now ubiquitous, enabling online payments at retail stores, shopping malls, and street vendors, thereby propelling the thriving digital economy.

As of 2023, it has been found that nearly 83 billion UPI transactions take place every year. By 2027, it will skyrocket to 1 billion daily transactions. With UPI usage set to skyrocket, it is the responsibility of merchants to offer users a seamless and fraud-proof experience. In this blog, we discuss some proven strategies for UPI merchants to adopt.

10 UPI Payment Best Practices You Must Follow

Here are the top 10 UPI payment tips that will help you avoid scams and embrace digital transactions without any fear:

**Always Use Secure Payment Gateways:** First and foremost, make sure you always use secure and trusted payment gateways to facilitate transactions. While choosing a payment gateway, have a look at their past records, reviews, and reputation. Never choose a gateway simply because they charge less than the others. Worldline is one of the most reputable payment gateways in the country.

**Security First:** Ensure that your website and app are up-to-date all the time. Identify existing bugs and unveil security patches to fix them. Sometimes, hackers try to intercept the communication between your servers and the user's device. Implementing SSL (Secure Sockets Layer) can prevent that.

**Two-Factor Authentication (2FA):** Bypassing a single authentication layer is easy for scammers and hackers. But you can ramp up the security of your network by implementing 2FA for user logins and transactions. This is something cryptocurrency exchanges have already implemented. By asking users to input an OTP sent to their registered e-mail or number, you can easily validate the authenticity of a request.

**Strict Password Policies:** Passwords containing a user's contact number, date of birth and other common information are easy to guess and thus easier to break. You must encourage users to use a strong password. Provide suggestions such as 'use a combination of alphanumeric and symbols.'

**Make Transaction Monitoring A Habit:** The best way to prevent a large-scale breach of complication is to monitor transactions on your network regularly. It helps you detect and flag suspicious activities on the network. Consider automating transaction monitoring to do all this in near time and make your network hack-proof.

**Make KYC Mandatory:** Implement a robust Know Your Customer (KYC) process to authenticate user identity. It will help you keep a check, if not entirely eliminate fraudulent transactions. Further, it will aid your efforts to adhere to regulatory guidelines.

**Leverage Data Encryption:** Online servers are always on the radar of hackers, who are in an endless pursuit of sensitive and valuable user data, including personal details and payment information. Thus, data encryption is a necessity. Invest in strong encryption methods to safeguard sensitive user data.

**Conduct Security Audits:** As robust security systems come to the fore, hackers

continue to invent innovative ways to breach network security. You must conduct security audits of your systems and infrastructure to identify vulnerabilities and address them.

**Seamless Customer Support and Query Resolution:** Despite implementing multiple layers of security, a payment network may still fall prey to sophisticated online attacks. Thus, you must provide users with channels to report suspicious transactions or unusual activity on their accounts. Build a team of skilled customer support executives to simplify the process.

**Educate Your Customers:** Finally, educate your customers about secure UPI transactions through social media, press releases, webinars, and other available mediums. Create tutorials and infographics to educate them about popular hacking attempts like phishing. Ask them to never share sensitive information such as OTP with anyone.

### Wrapping Up

To ensure safe and secure digital transactions, as a business you must prioritise security by using reputable payment gateways, maintaining up-to-date systems, and implementing two-factor authentication. While UPI itself is highly secure, enforce strict password policies, regularly monitor transactions for suspicious activity, and make Know Your Customer (KYC) procedures mandatory. Invest in data encryption, conduct security audits, and provide seamless customer support. Educate your customers about secure practices to contribute to a favourable environment for digital transactions in the booming UPI landscape. By doing so, you can actively contribute to a secure and favorable environment for the continued rise of digital transactions.

Wondering how to offer secure digital transaction services to your customers? Leverage Worldline's personalised suite of payment solutions to reach customers in 5000+ cities and towns across India.

## **CONCLUSION:**

Even though users may not use internet banking, most people believe that digitization has benefited them in some way, whether it be about payments, transactions, aadhar schemes, or even shopping. The study also derived that more than 90% of the respondents were aware of the UPI and the spread of UPI has been through word of mouth and the internet and television. The study showed that people have not just accepted UPI but made it a part of their daily life. Cash seemed to be the least preferred option by youngsters Housewives, business owners, and doctors seemed to prefer cash. Cash is still one of the popular choices for offline purchases but UPI is also as preferred as cash. UPI has become a popular option of payment for online purchases. The perception of the people that UPI is a safe option for the transaction of money has played a significant role in the adoption of UPI. Ease of use is one of the main factors why people prefer to use Google Pay over other apps and preference for using other apps is also mainly due to ease of use.

According to the growing trend of digital payments and technical improvements,

the majority of users favored a cashless economy. The transition to a cashless

economy is being made gradually.

## Questionnaire

1) I find it helpful as I can use it to transfer money from anywhere

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree

2) I have been able to maintain a better transactions history due to UPI system

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree

3) I have been able to contribute my part to cashless economy

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree

4) I feel there is privacy protection to my transactions

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

5) I find it easier to use due to its ability to make transactions through multiple accounts

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

6) I find rewards and cash backs helpful

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

7) I find it helpful for small transactions

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

8) I feel it is helpful as UPI is supported by various apps

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

9) I fear delay in payment due to network issues

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

10) I feel it insecure due to it having only 6 Digit PIN

a) Strongly agree

b) Agree

c) Neutral

d) Disagree



11) I sometimes forget about my bank balance and overspend because there is no physical representation

a) Strongly agree

b) Agree

c) Neutral

d) Disagree