



## Unified Payment Interface (UPI): A Cashless Indian e-Transaction Process

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### Abstract

Going cashless is trending in India nowadays. After the Demonetization move by the government, people have gone digital and starting to adopt modern ways of cashless payments. A Cashless Economy is an economy in which all types of transactions are carried out through digital means. It includes e-banking (Mobile banking or banking through computers), debit and credit cards, card-swipe or point of sales (POS) machines and digital wallets. The sole purpose of Demonetization is not only to remove black money from the economy but also to encourage people for adopting cashless payment options. Instead of standing in a queue for the withdrawal of money, it is much better to adopt cashless payment options for the transactions. A cashless method can be traced easily as it leaves its footprints and hence is more transparent. UPI (Unified Payments Interface) is a mobile payment system, which allows you to do various financial transactions on your Smartphone. UPI allows you to send or receive money with the help of virtual payment address without entering the bank information of the other person. A merchant has to enroll with the banks in order to accept payments through UPI. One of the main areas of concern among online users is security. The application should be able to provide a solution for end-to-end strong security and data protection. Security meaning not to reveal too much data likes banking or personal details, which could be misused by someone. For the convenience of the customers, the solution had to offer 1-click 2-factor authentication, which can help in protecting against phishing, risk scoring, loss of data etc.

**Keywords:** UPI, cashless, demonetization, black money.

## **Introduction**

UPI is a system that powers multiple bank accounts into a single mobile application of any participating bank, merging several banking features, seamless fund routing & merchant payments into one hood. It also caters to the “Peer to Peer” collect request which can be scheduled and paid as per requirement and convenience. The Unified Payment Interface is intended to enable peer-to-peer immediate payment via a single click two factor authentication process. UPI will use existing systems such as Immediate Payment Service (IMPS) and Aadhaar Enabled Payment System (AEPS) to ensure seamless settlement across accounts. It would facilitate push (pay) and pull (receive) transactions and even work for over-the-counter or barcode payments as well as for multiple recurring payments such as utility bills, school fees, other subscriptions.

## **Objectives**

- To study about unified payment interface (UPI)
- To analyze the features of unified payment interface (UPI)
- To understand the e-transaction process of unified payment interface (UPI)
- To know about security measures of unified payment interface (UPI)
- To know about how unified payment interface will change other payment methods

## **Methodology**

The present study is descriptive in nature, and used only secondary data. Secondary data have been collected from various websites, different journals etc...

## **Unified Payment Interface (UPI)**

A Unified Payment Interface (UPI) is a single window mobile payment system launched by the National Payments Corporation of India (NPCI). The system is designed to provide a simple, secure and convenient “single interface” to enable sending and receiving of money using smartphones through a "single identifier" which can be a virtual address like an email ID, mobile number or Aadhaar number (like the Social Security Number). It eliminates the need to enter bank details or other sensitive information each time a customer initiates a transaction.

## **Feature's of UPI**

### **Simplicity**

Paying and receiving payments should be as easy as swiping a phonebook entry and making a call on mobile phone. An account holder should be able to send and receive money from their mobile phone\_ with just an identifier without having any other bank/account details. All they need to do is to "pay to" or "collect from" a "payment address." with a single click.

### **Innovation**

It should allow application providers to take advantage of enhancements in mobile devices, provide integrated payments on new consumer devices provide innovative user interface features, take advantage of newer authentication services, etc. UPI is built over IMPS, leveraging the present robust technology.

### **Adoption**

It should allow gradual adoption across smartphone and feature phone users and provide full interoperability across all payment players, phones, and use cases. People using smartphone should be able to send money to others who are not yet using any mobile application and vice versa. Similarly, it should allow full interoperability between multiple identifiers such as Aadhaar number, mobile number, and new virtual payment addresses.

### **Security**

One of the key areas of concern among users is security. The solution had to provide end-to-end strong security\_ and data protection. The trick here was not to reveal too much data like banking or other personal details which could be misused. You just need a Virtual Payments Address to do a payment. For convenience, the solution also had to offer 1-click 2-factor authentication, protection from phishing, risk scoring, etc.

## Cost

India is a cost-conscious country and any product with a high cost is likely to have a short life. Since mobile phone\_number is used as an authentication (credential capture) device, use of virtual payment addresses, and use of third party portable authentication schemes such as Aadhaar\_ should allow both acquiring side and issuing side cost to be driven down.

## E-Transaction Process on Unified Payment Interface

### How to Register for UPI

The registration process is pretty simple. Head over to the Google Play Store and download the UPI app of your bank. For instance, if you have an account in ICICI Bank, you can download 'Pockets' from the Play Store.

**Step One:** Once the installation is complete, open the app. You will have to enter your mobile number and create a four-digit secured pin number of your choice. This secured pin will be required every time when you open the app.

**Step Two:** You will see an option called UPI, tap on it. You will then be asked to create a virtual payment address (VPA).

**Step Three:** The VPA can be as simple as your name or mobile number followed by the address, Yes Bank has 'VPA,' whereas ICICI Bank has 'pockets.

**Step Four:** Once your VPA is created, in the next window, you will be asked to link your bank account. Just choose the bank from the list, and it will automatically fetch all the details.

### How to Send Money Using UPI

The process for transferring funds is pretty simple. But to make UPI based transfers, the recipient also needs to be on the service and have a VPA. Talking about transaction limit, you can transfer as low as Rs50, to as much as Rs1 lakh.

**Step One:** Open the UPI and tap on UPI icon. If you have already created a VPA, you will directly be taken to manage screen. Here, you will have options such as — send money, collect money, respond to collect request and scan QR code.

**Step Two:** Tap on send money. The next screen will ask you for VPA of the recipient, amount and transaction remark. Enter these details and tap on next. Confirm the requested details and tap on confirm. The money will be transferred to the recipient's VPA.

### **How to Collect Money Using UPI**

You have given some money to your family or friend and they want to transfer it back to you, this is the time when collect money option comes into play. Here's how you can request money from the recipient.

**Step One:** Tap on collect money and enter the required details - recipient's VPA, the amount and remark. You can even schedule a transaction to collect later, say after 10 days or so. Once all details are entered, tap on next.

**Step Two:** You will be asked to confirm details, just cross check and tap on confirm. This will also send a notification to the recipient on this smartphone along with an SMS, requesting for the funds. The recipient then has to open the app and tap on collect request. This option may be called something else, like on PhonePe app, it will appear in pending transactions. Upon tapping on this, user can either tap on Pay to send the funds, or decline.

**Step Three:** After tapping on Pay, the user will be asked to enter the four digits secured PIN and tap on submit. That's it, funds will be instantly sent and you will get a notification about the same after you receive it.

Among the options one gets in UPI, one of it is scan QR code. Say, you are at the grocery shop, a mall or a food court and the establishment accepts UPI payments. You can open the app, scan the QR code at the payment counter and the money will be transferred from your account to the merchant, thus allowing for cashless transaction.

## Security Measures

- Beware of Mobile phishing: always download legitimate UPI applications from bank's official website, and be cautious before you download it from App store.
- Keep strong passwords for your phone as well as for your UPI application.
- Do not share MPIN with anybody (not even with bank), and be suspicious of unknown callers claiming to be from your bank.
- Use biometric authentication if possible.
- Update your mobile OS and applications as often as possible to be secure from vulnerabilities.
- It is advisable for users to enable encryption, remote wipe abilities and anti-virus software on the phone.
- Keep your SIM card locked with a Pin to avoid misuse, in case of loss or theft of the mobile device; you can contact your subscriber to block the subscription of the SIM card.
- Avoid connecting phones to unsecured wireless networks that do not need passwords to access.

## How It Will Change Other Payment Methods

- **Cards:** Credit cards and debit cards are not going away in one shot. Even when the UPI comes out, people will need cards to make purchases on international websites.
- **Net banking:** Net banking is a local instrument, so there will be no significance of using net banking once you have UPI.
- **Wallets:** The UPI will threaten the business of wallets as it effectively turns a bank account into a wallet. In the original draft document of the UPI, wallets were to be included in the architecture. “The UPI would also allow interoperability of wallets that has not been launched in the current scheme right now” Interoperability means that a user could transfer funds from a Paytm wallet to another.

## Links to Download UPI Apps

1. SBI Pay: Android
2. HDFC Bank Mobile Banking: Android, IOS

3. ICICI Pockets: Android, IOS
4. Axis Pay UPI App: Android
5. Union Bank UPI App: Android
6. PNB UPI: Android
7. PhonePe: Android
8. Canara Bank UPI – eMpower: Android
9. United UPI: Android
10. Andhra Bank ONE – UPI App: Android
11. UCO UPI: Android
12. Bank of Maharashtra – Maha UPI: Android
13. Vijaya UPI: Android
14. South Indian Bank – SIB M-Pay (UPI Pay): Android
15. KBL SMARTz (UPI): Android
16. OBC UPI PSP: Android
17. UPI Bank Transfer with Friends: Android
18. DCB Bank UPI App: Android
19. Lotza – UPI: Android
20. TranZapp – UPI: Android
21. CSB UPI: Android

## **Conclusion**

UPI is a great step in right direction and it is set to become an efficient alternative to mobile wallets and make cashless payments faster, easier and smoother for millions of people in India. UPI withdraws and deposits funds directly from the bank account whenever a transaction is requested. It uses Virtual Payment Address (a unique ID provided by the bank), Account Number with IFS Code, Mobile Number with MMID (Mobile Money Identifier), Aadhaar Number, or a one-time use Virtual ID. An MPIN (Mobile banking Personal Identification number) is required to confirm each payment. It has potential to make micro payments cashless which will benefit both buyers and sellers.

## **References**

<https://en.wikipedia.org>

<https://www.google.co.in>

<https://www.britannica.com>

<http://www.encyclopedia.com>