

# UPI: A Handy Digital Initiative

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## ABSTRACT

On July 1, 2015 Prime Minister Narendra Modi launched the Digital India campaign to make sure that the government services are available online via electronic platforms. The aim was to increase the internet connectivity, to focus on e- governance and to provide information for all. Another important motive was eradication of shadow economy which can be achieved by enabling digital payments. The Government of India has been taking many initiatives so as to endorse digital payments in the country. By means of this paper, one of the Digital Payments mode called the Unified Payments Interface (UPI) has been studied in depth. An attempt has been made to study the mechanism of UPI. It has been found that this initiative towards digitalisation has both strengths as well as pitfalls. It is evident from the data that despite of all pitfalls, the Indian economy has experienced manifold growth in the volume of transactions via UPI.

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## 1. Preface

India is moving towards a digital economy by means of innovation in the field of technology as well as tactics. Monetary transactions have changed intensely in India with the introduction of digital payment methods. The chief reason behind the influx of this new technology is to mould Indian economy into a cashless economy. The digital India programme which is in much hype nowadays is a crown jewel of the much desired move of government of India to revamp India into a cashless society. The role assigned to this programme is to make India "Faceless, Paperless, Cashless". India after being a cashless economy is going to enjoy several benefits like decrease in the flow of black money, reduction in the cost associated with hard cash, reduction in the problems pertaining to counterfeit currency and many more. A number of mechanisms are available to facilitate digital payments like banking cards, USSD (Unstructured Supplementary Service Data), AEPS (Aadhaar Enabled Payment System), UPI (Unified Payments Interface), mobile wallets, banks prepaid cards, point of sale, internet banking, mobile banking and micro ATMs.

As per a RBI document, before the introduction of unified payments interface, the number of non-cash transactions merely stood at 6 transactions per person and merely 6% of the retailers in India have infrastructure to accept payment via cards. As on march 2011, only one lac villages were facilitated with banking services. Approximately, 1450 crore households were deprived of the banking facilities.

Paying heed to this need and to the fact that Smartphone users are multiplying on a very large scale, national payment corporation of India (NPCI) decided to introduce this new mode of making payments known as Unified Payments Interface (UPI).

This mechanism was introduced by the National Payment Corporation of India (NPCI) in August 2016. Subsequent to its introduction, government of India decided to undertake

demonetisation in November 2016. Within two months after demonetisation, the UPI transaction volume multiplied almost six times i.e. from 90 crore to 700 crore.

By getting an amazing response after introduction of this interface, the NPCI decided to launch its own UPI app called BHIM – Bharat Interface for Money on 30 December, 2016. Just 15 days after its launch, the app got over 50 crore downloads. By March, 2017, the app got downloaded 190 crore times. So, it is evident that the move of demonetisation has triggered a significant rise in the digital payments.

## 2. Objectives of the Study

1. To delve deep into the theoretical aspects and working of UPI.
2. To assess the strengths and the weakness of this system.
3. To analyse the present scenario of this initiative in Indian economy.

## 3. Scope Of The Study

This study is descriptive in nature. Here, we have thoroughly studied the pre-requisites and working of the unified payments interface. An effort has been made to throw a light on the strengths and the pitfalls associated with it. The present scenario with regard to Indian Economy is also studied.

## 4. Research Methodology

### Data Collection

For this study, secondary data has been collected through different articles, research papers and reports published about the unified payments interface. Data on no. of banks live on UPI, volume and amount of transactions has been fetched from the website of NPCI.

### Statistical Tools & Techniques

To analyze the data various charts have been drawn. These operations have been carried on the data with the help of MS-Excel.

## 5. Introduction to Unified Payments Interface

A system which enables a user to open multiple bank accounts in a mobile phone via a single mobile application which may be sponsored by any of the participating bank is known as Unified Payments Interface (UPI). This system facilitates flawless fund transfers along with multiple banking facilities. Each of the participating banks administers its own separate UPI app for various mobile platforms like android, windows, iOS. This mode of digital payments was introduced in April 2016 just few months before the whole episode of demonetisation. The money transactions became much easier during the period of cash crunch.

## 6. What are pre-requisites to procure UPI service?

In order to get the unified payments system enabled, the following are the requirements:

- A Bank account
- A mobile number which is linked to the above mentioned bank account
- A smart phone which has internet facility
- A debit card for resetting the MPIN Mobile banking Personal Identification Number (which is a four digit secret code)

## 7. How to activate the Service?

The whole process will fetch a maximum of 5-7 minutes. The service can be easily actuated by following the given steps:

- First of all download the app for UPI
- Register on the app with your account details
- Create an ID
- Set MPIN

## 8. How to undertake a transaction?

Most of the banks don't charge a fee for this mode of fund transfer. However, the customer has to pay for the data charges applicable for using internet facility. Maximum one lac rupees can be transferred per transaction. Given are the requirements for a transaction:

- A Smartphone with internet facility
- A device which is registered for UPI
- The registered MPIN

## 9. How the Unified Payments System works?

Before UPI, the user had to type credit/ debit card details, IFSC code, account number, or internet banking passwords and usernames etc. While using internet banking after filling all the details, bank normally take 12 to 24 hours to register the account and only after that the money can be transferred to the registered account. Fortunately, UPI has changed the system in revolutionary way.

National Payments Corporation of India (NPCI) that developed UPI system made sure that UPI enables transfer of money from the sender's bank account to receiver's bank account by using mobile phone, Aadhaar card or virtual payment address without using bank account details. UPI makes use of existing systems such as Aadhaar Enabled Payment System (AEPS) & Immediate Payment Service

(IMPS) to ensure uninterrupted experience for the users during account settlement. The mechanism involved in the UPI identifies bank account linked with the mobile number or Aadhaar number and then with the use of that bank account number, the money gets transferred. It can also make use of barcode to further ease the process of making payments digitally.

Let's take an example to understand the concept better. You have purchased something from store. Now to pay the bill you need to type the mobile phone number of shopkeeper which is linked with UPI. After typing the amount and entering the password, the amount gets debited from your account and credited in the account of the shopkeeper. The process nowhere involves typing account number or any other details of any of the parties involved.

The whole process is real time and works 24\*7 without any breakage. It is same as Whatsapp Messenger like you transfer messages in Whatsapp, you transfer money in UPI.

## 10. Strengths associated with the service

There are many benefits associated with this mode of digital payments which make use of mobile phone for two factor authentication, makes use of virtual addresses and third party portable authentication schemes like Aadhaar here.

### • Painlessness:

The basic idea behind the creation of such a digital payment method is to make it as simple as possible so that more and more people find it easy to make use of UPI. The idea which was kept in mind has now achieved a shape where funds can be transferred without making use of bank account details of the receiver.

### • Newness:

The chief motive behind the development of this digital payment interface was to make use of the advancement in the mobile technology and also of two factor authentication. It was made so that the prevailing payment interface need not be changed completely.

### • Adoption:

This interface was developed to take into consideration large scale adaptability by masses. It was desired by way of this medium to ensure interoperability between various Aadhaar number, mobile number and electronic payment addresses. It has also enabled monetary transactions between a Smartphone user and a feature phone user and also to one who does not even use any mobile application.

### • Security:

This interface offers one click and two factor authentication, making it very convenient for the users. As this interface does not make use of any personal information of the user like bank account number etc. so this mode of digital payment is quite safe.

### • Cost:

Majority of the population of India belongs to the middle class segment of the society and are quite price conscious.

Price is a key determinant for them before purchasing any product or availing any service. So keeping this very fact in mind, it was desirous of this interface to involve low cost in undertaking the transaction via this medium.

### 11. Pitfalls linked with the Service

Every coin has two faces, after specifying the major advantages associated with UPI, it is necessary to specify its pitfalls as well.

#### • **Restrictions:**

Each payment system has its limits regarding the maximum transfer of amount. Likewise, via UPI only rupees one lac can be transferred in a transaction.

#### • **Cyber Risk:**

### 12. Unified Payments Interface- Present Scenario

Month	No. of Banks live on UPI	Volume (in Cr)	Amount (Rs. in Cr.)
August-2016	21	0.0093	3.10
September-2016	25	0.0085	32.60
October-2016	26	0.0103	48.60
November-2016	30	0.0285	100.50
December-2016	35	0.1967	706.20
January-2017	36	0.4153	1658.80
February-2017	44	0.4156	1902.10
March-2017	44	0.6161	2391.40
April-2017	48	0.7005	2240.80
May-2017	49	0.9168	2765.40
June-2017	52	1.0155	3067.10
July-2017	53	1.1444	3381.20
August-2017	55	1.6608	4127.20
September-2017	57	3.0778	5293.40
October-2017	60	7.6772	7057.80
November-2017	61	10.4841	9640.60
December-2017	67	14.5463	13144.30
January-2018	71	15.1833	15571.20
February-2018	86	17.1400	19126.20
March-2018	91	17.8050	24172.60
April-2018	97	19.0080	27021.85
May-2018	101	18.9480	33288.51
June-2018	110	24.637	40834.03
July-2018	114	23.565	45845.64
August-2018	114	31.202	54212.26
September-2018	122	40.587	59835.36
October-2018	128	48.236	74978.27
November-2018	128	52.494	82232.21
December-2018	129	62.017	102594.82
January-2019	129	67.275	109932.43
February-2019	139	67.419	106737.12

Source: NPCI site

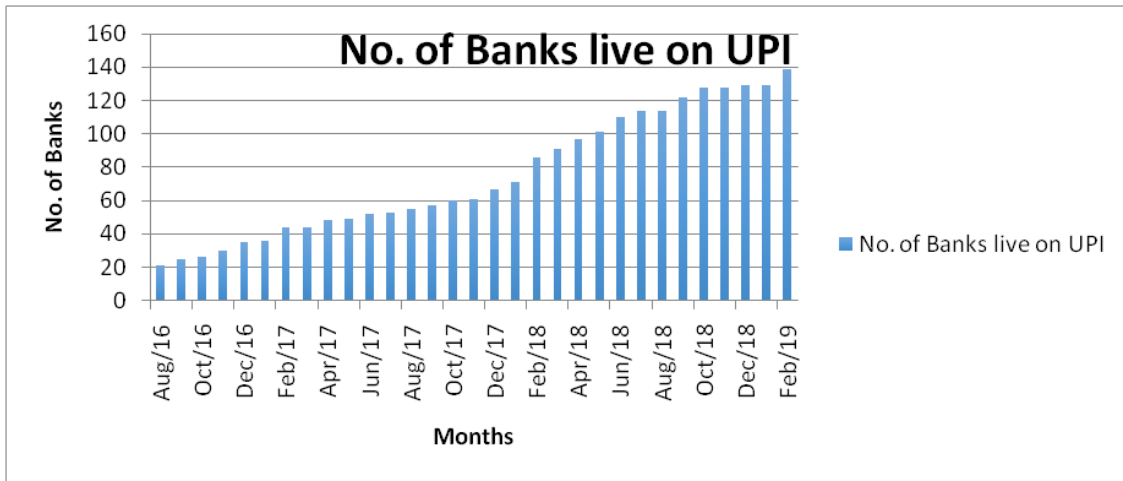
All the digital payments possess the risk of leakage of personal data like account number, card details etc. of the parties involved. Although UPI doesnot make use of plastic cards, but the threat of scandals still engulfs it.

#### • **The lack of anonymity:**

All the information pertaining to the transactions carried on by UPI is stored in a database of the payment system. Hence the intelligence agency has the access to such information threatening the privacy of the users.

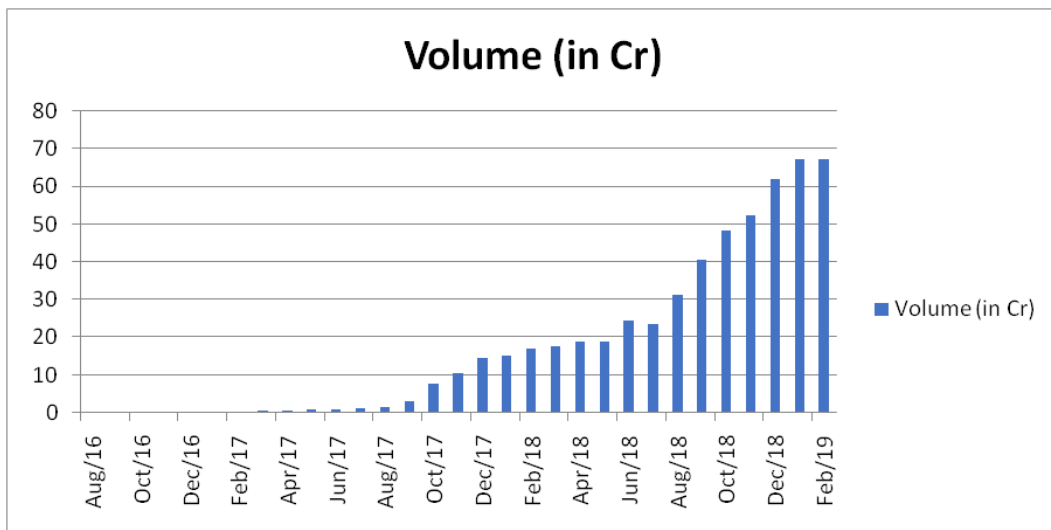
#### • **The necessity of Internet access:**

It is mandatory to have an internet connection if one wants to transact via UPI. If the internet connection fails, the user cannot get access to its online account.



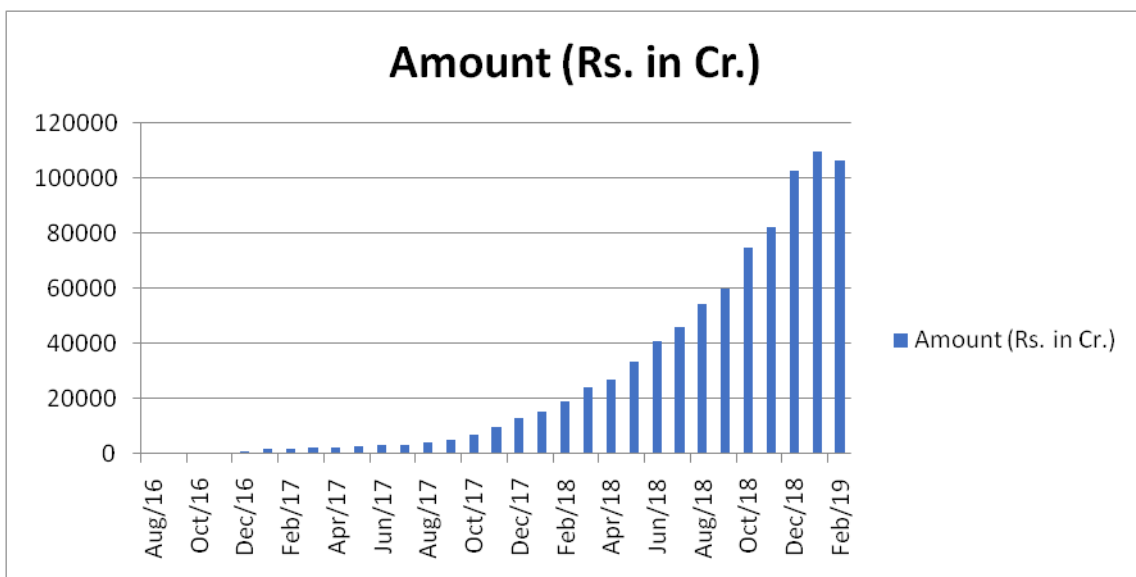
It is evident from the data portrayed above that with passage of time, the numbers of banks live on UPI kept on increasing. There were 21 banks in August 2016 at the time of introduction of UPI. After one year i.e. in August 2017, the

number went up to 55 banks. In another one year on August 2018, a total of 114 banks were live on UPI. The figures are still rising and as a result, there are 139 banks live on UPI as on February, 2019.



The volume of UPI transactions has also increased manifold. In August 2016, it was restricted to 0.0093 crore. After one year of its launch, it went up to 1.6608 crore. In

August, 2018, it was 31.202 crore exhibiting almost 30 times increase in the volume of transactions. As per data provided by NPCI, it is 67.419 crore in February, 2019.



The amount of monetary transactions has also increased as a consequence of increase in the volume of transactions. In August 2016, UPI transactions worth rupees 3.10 crore were undertaken. After one year, in August 2017, it went up to 4127.20 crore. In August, 2018 the amount involved was rupees 54212.26 crore. In February 2019, it has further increased to rupees 106737.12 crore.

### 13. Conclusion

Indian economy is growing at a very fast pace with increase in GDP and per capita income. Contrary to it, social perils like unemployment, illiteracy are intertwined in our economy. The money and capital market need more advancement and refinement. To translate, dream of cashless

economy into reality, the Government of India is progressively working on its Digital India initiative. Illiteracy, poverty, tele-density, security concerns and low IT penetration are the stumbling blocks in way of smooth transition of economy from cash to cash less. Despite of these hazards, India is galloping towards currency free economy at a very high pace. India is the youngest country of the world with its youth that is euphoric for smart phones. The overuse of smart phones can be used to revamp the traditional Indian economy into a digital one. On one hand, this IT revolution can be used to bridge the gap between the deprived and the affluent. On the other hand, it will help India to make a giant leap to become an economic superpower.

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