

# Unified Payment Interface- An Advancement in Payment System

Sourabh Khaire<sup>1</sup>, Prof. Chandani Patel

<sup>1</sup>Department of MCA, VIVA SCHOOL OF MCA, Virar  
Email: khairesaurabh919@gmail.com

<sup>2</sup>Department of MCA, VIVA SCHOOL OF MCA, Virar  
Email: chandaniapatel@gmail.com

**Abstract**—In this study the researcher aims to identify the customer preference towards unified payment interface and to know the impact of unified payment interface in customer satisfaction. Unified Payment Interface (UPI) is a payment system which facilitates the instant fund transfer between two bank accounts on the mobile platform. UPI is launched by National Payments Corporation of India (NPCI) and regulated by the Reserve Bank of India (RBI). UPI is built to extend Immediate Payment Service (IMPS) for transferring funds using account number with IFS Code, virtual payment address (a unique ID provided by the bank), Aadhaar Number, or a one-time use virtual ID, mobile number with MMID (Mobile Money Identifier). An MPIN (Mobile banking Personal Identification number) is compulsory to confirm each payment. UPI has made digital transaction for each and every individual very easy like sending simple text messages. This service is available 24x7, not like RTGS or NEFT which don't work during non-banking hours or on holidays. This will bring extensive efficiency in the system and help India to become a truly cashless economy. It is secure, easy, cheap and more user friendly.

**Keywords**—Aadhaar Integration, Cashless Transactions, E-commerce, Instant-transfer, Unified Payment Interface

## I. INTRODUCTION

The Indian economy has traditionally been heavily dominated by cash, over the fifteen years, India has made little slow but steady progress in E-Payments. Till now many methods are invented in E-Payments to digitize the current Banking system, including National Electronic Funds Transfer (NEFT), Real Time Gross Settlement (RTGS) and Immediate Payment Service (IMPS). So UPI is one of them. India is large scale country and so many are unbanked or don't know how to avail the banking services which are easy and secure. But due less literacy people facing difficulties in using banking services. So we needed to overcome these difficulties to make payment process easy.

An important contributor to the Indian digital payments market was the arrival of India's real-time payments platform, Unified Payments Interface (UPI). Government started NPCI (National Payments Corporation of India) in 2009, which controls all E Payments in India and it is setup with guidance and support of Reserve bank of India (RBI) and Indian bank association (IBA). This collaborative effort was focused on making India as a cashless economy.

## II. EXISTING PAYMENT SYSTEM VS UPI

UPI, allows users to take the cashless path and transact digitally. It offers Instant Transfer of Money within few seconds, so it's practically real time money transfer, unlike NEFT or RTGS which works in batches and takes time in money transfer. It allow money transfer even on Holidays and outside working hours unlike NEFT or RTGS, where it doesn't allow money transfer on holidays or even Sundays.

The NCPI launched this payment system in between demonetization to encourage cashless transactions in the India and make mobile-based payments easier. Here the question is, what makes UPI better? This question especially arises when comparisons are made between UPI and IMPS, which offers similar features and benefits that are available through the UPI application.

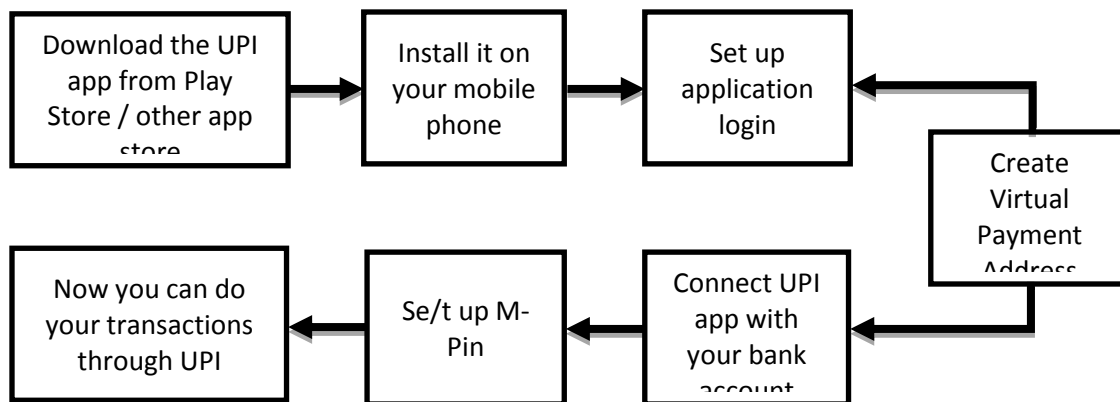
The major differences between UPI and IMPS is the convenience that UPI gives to the customers, compared to IMPS. UPI allows complicated and lengthy information to be integrated into a simple virtual address. So, only that you need for a UPI transaction is a Virtual Payment Address (VPA). However, this is not the case with IMPS, where one needs the name of the account holder, the name of the bank, branch, IFSC code, and account number. Not just this, if a payment is being made for the first time to a payee, he/she needs to first be added as a beneficiary, but this is not the case with UPI.

**TABLE 1**  
**COMPARISON BETWEEN UPI AND OTHER EXISTING SERVICES**

		UPI	Net Banking	Cards
For customers	Payment information needed for authentication	UPI ID – simply like email id (4 digit MPIN)	Bank Login Bank Password OTP or PIN	16 digit card number CVV Card expiry Cardholder name OTP or ATM PIN
	Mobile friendly design	High	Low	Low
For businesses	Settlement to business account	1 Day	1-2 Days	1 Day
	Success Rates	70-95%*	70%-90%	70%-95%

### III. WORKING MECHANISM OF UPI

UPI can be used to dotransactions of money, who have internet enable smart phone and bank account. Below figure shows complete mechanism to use UPI.



**FIGURE 1: Process mechanism to download and use UPI application**

1. To get started with UPI, the users has to download UPI application from Google play store or from any other third party source. It is not mandatory that you should download app with respect to your bank account, you can download any other UPI application.
2. Now to use this application an authentication will be done for your respective bank account. For this authentication a request message will be send using your mobile number. Here we to remember that the SIM card of that mobile number should be already inserted inside your smart phone and that mobile number should be linked with bank account. Then by entering last 6 digits of debit card number, your bank account will get registered with UPI application.
3. Now in the next step VPA (virtual payment address) is to be created by user. VPA is the unique address like email id and every user will get unique id and it will get attached to their bank account and M-Pin is set for Bank account. For example if you are using PhonePe application, then you will get VPA as usernoldemo@ybl or 93215xxxx9@ybl.
4. User can now send and receive payment worth minimum ₹ 1 up to ₹ 100000 per day. Currently NPCI is not charging any money for the transactions of UPI.

#### IV. BENEFITS

**Simplicity & ease of transacting:** Most people get bored if they have to fill in lengthy payee details, add a beneficiary and then make a fund transfer. Also, a bank cannot process a fund transfer using IMPS until and unless the beneficiary is added. Some banks, also have a waiting period up to 30 minutes, after which, user is allowed to make a fund transfer. This is not required in UPI as one does not need to provide any other details except the VPA to make a fund transfer.

**A single application with multiple bank accounts:** The UPI app gives users a convenient way to link all their existing bank accounts with one single application. Therefore, there is no need to download multiple applications for different bank accounts. All existing bank accounts can be linked in the application.

**Security:** The UPI application is also backed by the RBI and hence comes with many security features. UPI is safer than IMPS or other net banking service. Since here no bank account details or other account related data is provided, it is very safe and reliable. UPI works on a single click with two factor authentication system. It means that with a single click, the transaction will be verified at two levels. Every user will need a mobile phone along with a mobile pin known as M-PIN and virtual id. On a single click, the transaction is checked and if the mobile pin is matched with the virtual id, then only the transaction will going to be proceed.

**No charges are needed for transaction like IMPS:** Most banks do not charge a transaction fee for UPI transactions, unlike IMPS where a set fee is applied depending on the amount of money that is transferred.

#### V. CONCLUSION

UPI is a great step towards making the cashless payments easier, smoother and faster. It is a complete set to become an efficient alternative to mobile wallets. It is a fantastic value based suggested scheme as it includes simple upgradable & acquiring infrastructure, simple authentication process and real- time money transfer, which makes the fund transfer experience user-friendly and hassle free. As we know that our most of the small transactions are still in done through cash. Hence the ease and convenience way of UPI offers the individuals to pay their day- to- day expenses like fund transfer, bill payments, etc. digitally.

UPI is a clear step towards breaking the hurdles that exist in the BFSI industry by removing the multi-step authentication processes with one-click process. UPI will definitely have an advantage over the existing digital wallets and streamlines the entire process.

On the other side, the ATM sector will further become stronger along with the existence of UPI as it will bring on more users into the digital age while hold on to their ATM accounts. Moreover, this will also help in the rise and adoption of card less ATMs, Aadhaar ATMs, with innovative new age technologies, where the ATMs will give cash without inserting ATM cards.

#### REFERENCES

- [1] What is UPI and its complete history: <https://www.aciworldwide.com/insights/expert-view/2019/july/how-upi-is-driving-india-shift-from-cash-to-digital-payments>
- [2] Difference between UPI and other payment services: <https://yourstory.com/mystory/aec4c02249-how-upi-is-better-than>
- [3] Comparison table: <https://blog.cashfree.com/upi-integration>
- [4] How it works: <https://blog.cashfree.com/upi-india-growth-trend-real-numbers-factual-analysis>
- [5] Benefits of UPI: <https://myinvestmentideas.com/2016/09/what-is-a-unified-payment-interface-upi-and-how-it-works/>
- [6] Other references : <https://www.npci.org.in>, [https://en.wikipedia.org/wiki/Unified\\_Payments\\_Interface](https://en.wikipedia.org/wiki/Unified_Payments_Interface), <http://cashlessindia.gov.in/upi.html/>