

NPCI: GOVERNMENT INITIATIVE TO ENABLE DIGITAL INDIA

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Abstract: Unified Payments Interface (UPI) is an instant real-time payment system developed by National Payments Corporation of India facilitating inter-bank transactions. The interface is regulated by the Reserve Bank of India and works by instantly transferring funds between two bank accounts on a mobile platform. The UPI has been witnessing growth since its launch in August 2016. UPI has been widely adopted by various digital payment applications including Paytm, Flipkart's PhonePe, Google Tez and WhatsApp. NPCI follows internationally acclaimed technologies, processes, and practices designed to protect networks, devices, applications, and data from attack, damage, or unauthorized access to enhance customer and stakeholders confidence.

Keywords: NPCI, UPI, Paytm, BHIM, Security.

I. Introduction

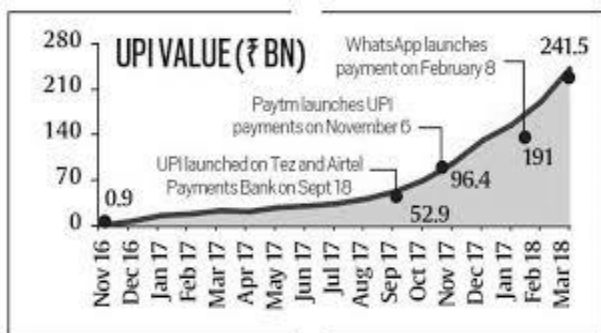
Founded in 2008, National Payments Corporation of India (NPCI) is a non-profit organisation registered under section 8 of the Companies Act 2013. The organisation is owned by a consortium of major banks and has been promoted by the Reserve Bank of India. The NPCI was incorporated in December 2008 and the Certificate of Commencement of Business was issued in April 2009. Presently, there are ten core promoter banks (State Bank of India, Punjab National Bank, Canara Bank, Bank of Baroda, Union Bank of India, Bank of India, ICICI Bank, HDFC Bank, Citibank and HSBC). NPCI launched Unified Payments Interface (UPI) with member banks on 25th August, 2016. UPI allows account holders across banks to send and receive money using a unique id known as UPI id or payment address. UPI allows users the facility to generate their own UPI ID. Unified Payments Interface is a real time interbank payment system with sent or request money. Any UPI client app may be used for single bank account or multiple bank accounts may be linked to single app.

Through UPI Money transactions can be done with following methods.

- VIRTUAL PAYMENT ADDRESS (VPA): Sent or request money from/to bank account mapped using VPA.
- Mobile number: Sent or request money from/to bank account mapped using mobile number.
- Account number&IFSC: Sent money to bank account.
- Aadhaar: Sent money to bank account mapped using Aadhaar number.
- QR code: Sent money QR code which enclosed VPA, Account number& IFSC or Mobile number.

II. Architecture of UPI

A payment service provider (PSP) offers online services for accepting electronic payments by a variety of payment methods including credit card, bank-based payments such as direct debit, bank transfer, and real-time bank transfer based on online banking. Typically, they use UPI as a service model and form a single payment gateway for their clients (merchants) which supports following multiple payment methods.



RuPay

RuPay is a domestic card scheme of India.

Immediate Payment Service[edit]

Immediate Payment Service is a real time inter bank payment system.

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USSD channel of Unified Payments Interface.

National Automated Clearing House

A centralised clearing service providing interbank transactions

that are repetitive and periodic.

Cheque truncation system

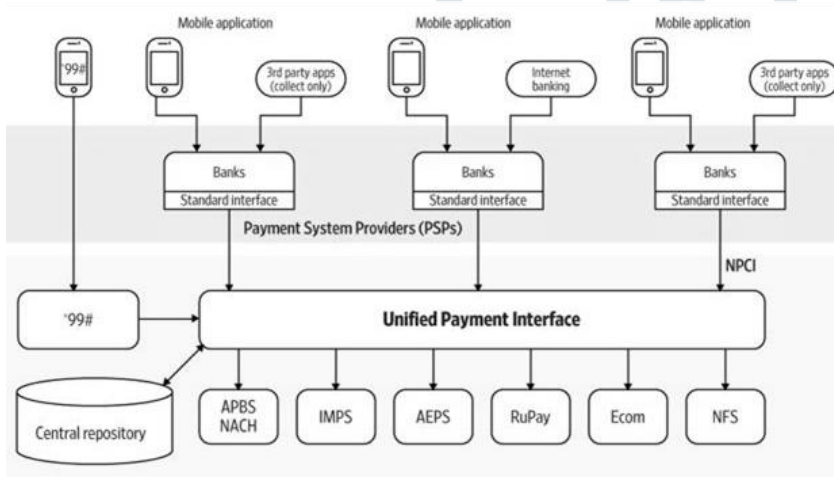
CTS is based on a online image-based cheque clearing system

National Financial Switch

Network of shared automated teller machines in India.

Aadhaar Enabled Payment System[edit]

A network of Micro ATM using Aadhaar authentication.



III. Growth in UPI

The volume of transactions on the Unified Payments Interface (UPI) has reportedly reached a staggering number of 190 Mn in April, with a nearly 7% month-on-month growth rate. However, while the M-o-M growth rate for the April transactions is significantly higher from the month of February, which registered a monthly growth rate of 4%, it is much lower than the 13% M-o-M increase which was witnessed in January, as per an ET report.

Along with the number of transactions, the value of the UPI transactions also surged in April. The transactions in April saw a nearly 12% increase in value from March, reaching over \$4 Bn (INR 270Mn) from \$3.62 Bn (INR 241 Mn), according to the National Payments Corporation of India (NPCI). The UPI has been witnessing growth since its launch in August 2016. The cumulative number of UPI transactions since the inception of the digital platform stands at 1.12 Bn at the end of April 2018. The growth can be attributed to the availability of its 24*7 platform which has been largely adopted by various digital payment applications including Paytm, Flipkart's PhonePe, Google Tez and WhatsApp amongst others which provide a number of incentives, including cashback offers in return of digital transactions.

UPI's journey

	Number of transactions (in crore)	Amount handled
UPI		
Aug 2016-March 2018	93.05	₹1.16 lakh cr
2017-18 share	91.35	₹1.09 lakh cr
BHIM		
Dec 2016-March 2018	9.41	₹31,823 cr
2017-18 share	8.79	₹30,018 cr

In March 2018, Paytm claimed to be the largest contributor to the overall volume of UPI transactions in the country. The digital payments giant claimed that 40% of all the UPI transactions made in February 2018, amounting to 68 Mn, were made at its platform.

Other digital payment mediums have emerged besides Paytm in the recent time, such as Google-owned Tez which claimed that it recorded over 250 Mn transactions since its launch in the middle of September 2017.

However, the share of the government-backed BHIM app has sunken in comparison to the other UPI apps over time. The BHIM platform registered nearly 12 Mn transactions in March 2018 for a value of \$719 Mn (INR 480 Cr). In order to increase its adoption, the NPCI-led BHIM rolled out a number of incentive plans for both customers and merchants last month. The incentives can be availed at each interaction with the app, be it downloading the app or making transactions.

IV. Security Issues in UPI

Being certified PCI DSS v3.2, ISO 27001:2013 and ISO 22301:2012, NPCI has implemented a suitable set of controls including policies, processes, procedures, organizational structures and software & hardware functions. NPCI displays a commitment to cyber security at all levels throughout the organization. An effective cyber security implementation protects data and information throughout the life span, from its initial creation to its final disposal. NPCI follows internationally acclaimed technologies, processes, and practices designed to protect networks, devices, applications, and data from attack, damage, or unauthorized access to enhance customer and stakeholders confidence.

Recently though Pune-based Cosmos Bank was affected by a cyber attack in which hackers allegedly hacked the server and transferred over Rs 94 crore to overseas accounts, the National Payments Corporation of India (NPCI) claimed that its systems are "fully secure" and the cyber fraud happened due to a malware-based attack on the bank's IT system.

V. Conclusion

However, despite large volumes of digital transactions happening inside the country, the dream of a complete digital India is still far. Still, a majority of the small retailers and customers in Tier II and Tier III cities prefer cash transactions over online exchanges. Sufficient measures are required to onboard them, educate them and encourage them to adopt and adapt a digital approach for financial transactions. Similarly to handle various security issues, NPCI strongly believes that Cyber Security is imperative and has implemented robust processes for protecting the intellectual property of the organization.

References:

- [1] UPI Transactions Touch 190 Mn Mark In April 2018: NPCI
<https://inc42.com/buzz/upi-transactions-touch-190-mn-mark-in-april-2018-npci/>
- [2] NPCI | <https://www.npci.org.in/>
- [3] National Payments Corporation of India - Wikipedia
https://en.wikipedia.org/wiki/National_Payments_Corporation_of_India
- [4] Mobile money transfer fee cut to 10p. Indianexpress.com. Retrieved 2011-03-16.
- [5] GoelS., Gupta D.K., A Review on Unfied Payment Interface [UPI], IJSRD - International Journal for Scientific Research & Development| Vol. 5, Issue 04, 2017 | ISSN (online): 2321-0613

