

Developments in digital payments

Definition of Digital Payment

A digital payment, sometimes called an electronic payment, is the transfer of value from one payment account to another using a digital device or channel. This definition may include payments made with bank transfers, mobile money, QR codes, and payment instruments such as credit, debit, and prepaid cards. Digital payments can be partially digital, primarily digital, or fully digital.

MICR clearing in the early 1980s : MICR code is a code printed on cheques using MICR (Magnetic Ink Character Recognition technology). This enables identification of the cheques and which in turns means faster processing. An MICR code is a **9-digit code** that uniquely identifies the bank and branch participating in an **Electronic Clearing System (ECS)**

Electronic Clearing Service (ECS) and Electronic Funds Transfer (EFT) in the 1990s: ECS is an electronic mode of payment / receipt for transactions that are repetitive and periodic in nature.

Issuance of credit and debit cards by banks in the 1990s
ATMs, Mobile and Internet Banking in early 2000s

National Financial Switch (NFS) in 2004: NFS is the largest network of shared ATMs in India. It was designed, developed and deployed by the Institute for Development and Research in Banking Technology (IDRBT) in 2004, with the goal of inter-connecting the ATMs in the country and facilitating convenience banking. It is run by the National Payments Corporation of India (NPCI).

The acronym "**NEFT**" stands for **National Electronic Funds Transfer**. It is an online system for transferring funds from one financial institution to another within India usually the banks). The system was launched in November 2005.

The acronym "**RTGS**" **Stands For 'Real Time Gross Settlement'**. RTGS is a funds transfer system where money is moved from one bank to another in 'real-time', and on gross basis.

The **Cheque Truncation System (CTS)** in 2008: Truncation is the process of stopping the flow of the physical cheque issued by a drawer at some point by the presenting bank en-route to the paying bank branch. In its place an electronic image of the cheque is transmitted to the paying branch through the clearing house, along with relevant information like data on the MICR band, date of presentation, presenting bank, etc.

IMPS: Nov 2010: Immediate Payment Service (IMPS) of National Payments Corporation of India (NPCI) is an important payment system providing 24×7 instant domestic funds transfer facility and is accessible through various channels like internet banking, mobile banking apps, bank branches, ATMs, SMS and IVRS. The per-transaction limit in IMPS, effective from January 2014, was capped at ₹2 lakh but its is now 5 lakh for channels other than SMS and IVRS. The per-transaction limit for SMS and IVRS channels is **₹5000**.

AEPS: Nov 2010: Aadhaar Enabled Payment System (AEPS) is a payment service that allows a bank customer to use Aadhaar as his/her identity to access his/her Aadhaar enabled bank account and perform basic banking transactions like balance enquiry, cash withdrawal, remittances through a Business Correspondent.

Rupay : March 2012: It is card network of India. It the product of NPCI

NACH: december 2012: National Automated Clearing House, introduced by National Payments Corporation of India, is a centralised clearing service that aims at providing interbank high volume, low value transactions that are repetitive and periodic in nature. It is the successor of ECS.

National Unified USSD Platform :(NUUP*99#)*99# :August 2014: The NUUP service is a USSD based Mobile Banking service from NPCI using which financial and non-financial transactions can be done using mobile phone without mobile internet connection.

UPI: August 2016: Unified Payment Interface is an immediate real-time payment system that helps in instantly transferring the funds between the two bank accounts through a mobile platform.

NETC, FasTag: December 2016: National Electronic Toll Collection (NETC) program has been developed to meet the electronic tolling requirements of the Indian market as it offers an interoperable nationwide toll payment solution including clearing house services for settlement and dispute management. FASTag is **an electronic toll collection system**, operated by the **NHAI**. Based on radio frequency identification (RFID) technology.

Bharat Bill Pay: October 2017: Bharat Bill Payment System (BBPS) is a RBI mandated system which offers integrated and interoperable bill payment services to customers across geographies with certainty, reliability and safety of transactions.

NCMC: National Common Mobility Card is an inter-operable transport card conceived by the Ministry of Housing and Urban Affairs of the Government of India. It was launched on **4 March 2019**.

To consolidate the innovation in the payments industry, the Government established the **National Payments Corporation of India (NPCI)**, a not-for-profit umbrella organization was founded in 2009 to manage India's retail payment systems. NPCI has sharply focussed on bringing innovations in retail payment systems through the use of technology for achieving greater efficiency in operations and widening the reach of payment systems.

Prepaid Payment Instrument(PPI)

PPIs are instruments that facilitate purchase of goods and services, conduct of financial services, enable remittance facilities, etc., against the value stored therein. PPIs can be issued by banks and non-banks. Banks can issue PPIs after obtaining approval from RBI. The non-bank PPI issuers are companies incorporated in India and registered under the Companies Act, 1956 / 2013. They can operate a payment system for issuing PPIs to individuals / organisations after receiving authorisation from RBI.

PPIs that require RBI approval / authorisation prior to issuance are classified under two types:

- a. Small PPIs (or minimum-detail PPIs): These PPIs are issued by banks and non-banks after obtaining minimum details of the PPI holder. These PPIs can be used for purchase of goods and services at a group of clearly identified merchant locations / establishments which have a specific contract with the issuer (or contract through a payment aggregator / payment gateway) to accept the PPIs as payment instruments. Funds transfer or cash withdrawal from such PPIs is not permitted.
- b. Full-KYC PPIs: The PPIs are issued by banks and non-banks after completing Know Your Customer (KYC) of PPI holder. These PPIs can be used for purchase of goods and services, funds transfer or cash withdrawal

Offline digital payments

The **Offline Digital Payments** by RBI is a recent decision taken by the Reserve Bank of India to promote innovative digital payment solutions without Internet access. RBI has prescribed an offline digital payment of up to 200 INR without enabling any active Internet connection. With that movement, central banks allow payment solution providers to ignore the secondary authentication elements, such as UPI pins.

This helps merchants to accept varied payment solutions, for example:

- Unstructured Supplementary Service Data (USSD), which will have Unified Payments Interface (UPI) as its key
- SIM overlays with Sim cards as its key, wherein payments can be processed without data plans.
- Near-Field Communication (NFC).

CBDC

CBDC is a digital or virtual currency that is the same as a fiat currency. The full form of CBDC is Central Bank Digital Currency. The regulation of CBDC is done by the Central Bank of the country. Central Bank Digital Currency can be used for payment purposes, a unit of account and can be stored as a value. It is a digital payment instrument that can be stored, transferred, and transmitted by all kinds of digital payment systems and services. RBI has launched two projects- retail model and whole sale model.