

## A STUDY ON THE OVERVIEW OF NATIONAL PAYMENTS CORPORATION OF INDIA WITH SPECIFIC REFERENCE TO PRODUCTS AND SERVICES

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### Abstract

As we know that over the years India's has witnessed a significant and drastic change in the payment and settlement system, by transforming the physical cash based economy to digital cash based economy payments and settlement system. Moreover the role of NPCI in transforming the physical cash based Indian economy to digital cash based economy payments and settlement system has been seen as a remarkable and milestone achievement in the area payments and settlement system. In this context it is significant to study the overall picture and various products and services which are being rendered by National Payments Corporation of India.

### Introduction

**National Payments Corporation of India** (NPCI) is the umbrella organization for all retail payment systems in India, with a vision to enable citizens of the country to have access to e-payment services at anyplace and anytime.

Founded in 2008, NPCI is a not-for-profit organization registered under section 25 of the Companies Act, 2013. The organization has been promoted by the country's central bank, the Reserve Bank of India.

It has successfully completed the development of a domestic card payment network called RuPay, reducing the dependency on international card schemes. The RuPay card is now accepted at all the ATMs

(2,22,278+)\*, Point of Sale (PoS) terminals (12,20,763+)\* and most of the e-Com merchants (30,000+)\* in the country. More than 300\* Cooperative banks and the Regional Rural Banks (RRBs) in the country have also issued RuPay ATM cards.

More than 250 million\* cards are being issued by various banks, and it is growing at a rate of about 3 million per month. A variant of the card called 'Kisan Card' is now being issued by all the Public Sector banks in addition to the mainstream debit card which has been issued by 43 banks. RuPay cards are also issued under the Pradhan Mantri Jan Dhan Yojna Scheme.

NPCI aims to create infrastructure which rests on the principle of large scale and high volumes resulting in payment services at a fraction of the present cost structure. NPCI operates on an asset-light business strategy in the payment industry in India. The industry is at an inflexion point led by fast-changing consumer behavior, government/regulatory initiatives, ever-increasing entrepreneurial activity and strong investor appetite. This synergy is unleashing tremendous innovation and would transform the financial services/ payment sector in India.

### **Objectives of the study**

1. To study the inception of National Payments Corporation of India.
2. To study the various products and services which are being rendered by National Payments Corporation of India (NPCI)

### **Research Design**

The above study is purely based upon descriptive in nature.

### **Data Collection**

The study is purely dependent upon secondary data from various sources like Government reports, websites, Journals, articles, Magazines, etc

### **Products and services of National Payments Corporation of India**

#### **1. National Financial Switch**

Reserve Bank of India, after setting up of the Board for Payment and Settlement Systems in 2005, released a vision document incorporating a proposal to set up an umbrella institution for all the RETAIL PAYMENT SYSTEMS in the country. The core objective was to consolidate and integrate the multiple systems with varying service levels into nation-wide uniform and standard business process for all retail payment systems. The other objective was to facilitate an affordable payment mechanism to benefit the common man across the country and help financial inclusion.

IBA's untiring efforts during the last few years helped turning this vision a reality. National Payments Corporation of India (NPCI) was incorporated in December 2008 and the Certificate of Commencement of Business was issued in April 2009. It has been incorporated as a Section 8 company under Companies Act, 2013 and is aimed to operate for the benefit of all the member banks and their customers. The authorized capital has been pegged at Rs 300 crore and paid up

capital is Rs 100 crore so that the company can create infrastructure of large dimension and operate on high volume resulting payment services at fraction of the present cost structure.

National Financial Switch (NFS) which connects 1, 98, 953 ATMs of 449 banks (91 Member Banks, 358 Sub- Member)\* [4]. Immediate Payment Service (IMPS) provided to 84 member banks\*, with more than 8.49 crore MMID\* (Mobile Money Identifier) issued, and crossed 10 million transactions\*.

## **2. Unified Payments Interface (UPI)**

Unified Payments Interface (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.

### **How is it unique?**

- Immediate money transfer through mobile device round the clock 24\*7 and 365 days.
- Single mobile application for accessing different bank accounts
- Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines, yet provides for a very strong feature of seamless single click payment.
- Virtual address of the customer for Pull & Push provides for incremental security with the customer not required to enter the details such as Card no, Account number; IFSC etc.
- Bill Sharing with friends.
- Best answer to Cash on Delivery hassle, running to an ATM or rendering exact amount.
- Merchant Payment with Single Application or In-App Payments.
- Scheduling PUSH and PULL Payments for various purposes.

- Utility Bill Payments, Over the Counter Payments, Barcode (Scan and Pay) based payments.
- Donations, Collections, Disbursements Scalable.
- Raising Complaint from Mobile App directly.

### **Participants in UPI**

- Payer PSP
- Payee PSP
- Remitter Bank
- Beneficiary Bank
- NPCI
- Bank Account holders
- Merchants

### **UPI - Benefits to the Ecosystem participants**

#### **Benefits for banks:**

1. Single click Two Factor authentication
2. Universal Application for transaction
3. Leveraging existing infrastructure
4. Safer, Secured and Innovative
5. Payment basis Single/ Unique Identifier
6. Enable seamless merchant transactions

#### **Benefits for end Customers:**

1. Round the clock availability
2. Single Application for accessing different bank accounts
3. Use of Virtual ID is more secure, no credential sharing
4. Single click authentication
5. Raise Complaint from Mobile App directly

#### **Benefits for Merchants:**

- Seamless fund collection from customers - single identifiers
- No risk of storing customer's virtual address like in Cards
- Tap customers not having credit/debit cards
- Suitable for e-Com & m-Com transaction
- Resolves the COD collection problem

- Single click 2FA facility to the customer - seamless Pull
- In-App Payments (IAP)

## **Product**

A. Financial Transactions: UPI supports the following financial transactions viz.

**a) Pay Request:** A Pay Request is a transaction where the initiating customer is pushing funds to the intended beneficiary. Payment Addresses include Mobile Number & MMID, Account Number & IFSC and Virtual ID

**b) Collect Request:** A Collect Request is a transaction where the customer is pulling funds from the intended remitter by using Virtual ID.

B. Non-Financial Transactions: UPI will support following types of non-financial transactions on any PSP App viz.

- a. Mobile Banking Registration\*
- b. Generate One Time Password ( OTP)
- c. Set/Change PIN
- d. Check Transaction Status
- e. Raise Dispute/ Raise query

\* Mobile Banking Registration is possible only if the mobile number (which is to be registered) is registered with the Issuer Bank for SMS Alerts/mobile alerts.

UPI can be accessed on all platforms viz. Android / iOS & Windows – As of now, the Apps have been developed by members only on Android platform.

### 3. **Immediate Payment Service (IMPS)**

IMPS offer an instant, 24X7, interbank electronic fund transfer service through mobile phones. IMPS is an emphatic tool to transfer money instantly within banks across India through mobile, internet and atm which is not only safe but also economical both in financial and non financial perspectives.

Currently majority of interbank mobile fund transfer transactions are channelized through NEFT mechanism. Under NEFT, the transactions are processed and settled in batches, hence are not real time. Also, the transactions can be done only during the working hours of the RTGS system.

With the above context in mind, NPCI conducted a pilot study on the mobile payment system with the banks like SBI, BOI, UBI and ICICI in August 2010. Also the banks like Yes bank, Axis and HDFC bank joined this league in the month of September, October and November 2010 respectively.

### 4. **\*99# Service**

One of the innovative payment service launched by NPCI includes \*99# service, which works on Unstructured Supplementary Service Data (USSD) channel. This service was launched envisioning the potential of Mobile Banking and the need for immediate low value remittances which will help in financial deepening and inclusion of under banked society in the mainstream banking services. \*99# service was dedicated to the nation by the Honorable Prime Minister of India as part of Pradhan Mantri Jan Dhan Yojana (PMJDY).

99# service has been launched to take the banking services to every common man across the country. Banking customers can avail this service by dialing \*99#, a “Common number across all Telecom Service Providers (TSPs)” on their mobile phone and transact through an interactive menu displayed on the mobile screen. Key services offered under \*99# service include, interbank account to account fund transfer, balance enquiry, mini statement besides host of other services. \*99# service is currently offered by 43 leading banks & all GSM service providers and can be accessed in 12 different languages including Hindi & English. \*99# service is a unique interoperable direct to consumer service that brings together the diverse ecosystem partners such as Banks & TSPs (Telecom Service Providers).

It is a common technology platform developed by NPCI which allows the Banks and TSPs to seamlessly integrate with each other to provide banking services to the customers at large over the mobile phones (basic as well as Smartphone).

##### **5. NACH (National Automated Clearing House)**

National Payments Corporation of India (NPCI) has implemented “National Automated Clearing House (NACH)” for Banks, Financial Institutions, Corporates and Government a web based solution to facilitate interbank, high volume, electronic transactions which are repetitive and periodic in nature. NACH System can be used for making bulk transactions towards distribution of subsidies, dividends, interest, salary, pension etc. and also for bulk transactions towards collection of payments pertaining to telephone, electricity, water, loans, investments in mutual funds, insurance premium etc.

National Automated Clearing House (NACH) is a centralized system, launched with an aim to consolidate multiple ECS systems running across the country and provides a framework for the harmonization of standard & practices and removes local barriers/inhibitors. NACH system will provide a national footprint and is expected to cover the entire core banking enabled bank branches spread across the geography of the country irrespective of the location of the bank branch.

With the implementation of NACH system, NPCI intends to provide a single set of rules (operating and business), open standards and best industry practices for electronic transactions which are common across all the Participants, Service Providers and Users etc. NACH system also supports Financial Inclusion measures initiated by Government, Government Agencies and Banks by providing support to Aadhaar based transactions.

The NACH system facilitates the member banks to design their own products and also addresses specific needs of the banks & corporates including a refined Mandate Management System (MMS) and an online Dispute Management System (DMS) coupled with strong information exchange and customized MIS capabilities.

NACH's Aadhaar Payment Bridge (APB) System, developed by NPCI has been helping the Government and Government Agencies in making the Direct Benefit Transfer scheme a success. APB System has been successfully channelizing the Government subsidies and benefits to the intended beneficiaries using the Aadhaar numbers. The APB System links the Government Departments and their sponsor banks on one side and beneficiary banks and beneficiary on the other hand.

## 6. Aadhar Enabled Payment System

In order to further speed track Financial Inclusion in the country, Two Working Group were constituted by RBI on MicroATM standards and Central Infrastructure & Connectivity for Aadhaar based financial inclusion transactions with members representing RBI, Unique Identification Authority of India, NPCI, Institute for Development and Research in Banking Technology and some special invitees representing banks and research institutions.

The working group on MicroATM standards & Central Infrastructure & Connectivity has submitted its report to RBI. As a part of the working group it was proposed to conduct a Lab level Proof of concept (PoC), integrating the authentication & encryption standards of UIDAI, to test the efficacy of MicroATM standards and transactions using Aadhaar before they are put to actual use. The PoC was successfully demonstrated at various venues.

AEPS is a bank led model which allows online interoperable financial inclusion transaction at PoS (MicroATM) through the Business correspondent of any bank using the Aadhaar authentication.

## 7. Rupay Cards

RuPay, a new card payment scheme launched by the National Payments Corporation of India (NPCI), has been conceived to fulfill RBI's vision to offer a domestic, open-loop, multilateral system which will allow all Indian banks and financial institutions in India to participate in electronic payments.

“RuPay”, the word itself has a sense of nationality in it. “RuPay” is the coinage of two terms Rupee and Payment. The RuPay Visual Identity is a modern and dynamic unit. The orange and green arrows indicate a nation on the move and a service that matches its pace. The color blue stands for the feeling of tranquility which is the people must get while owning a card of the brand ‘RuPay’. The bold and unique typeface grants solidity to the whole unit and symbolizes a stable entity.

### Benefits of RuPay Card

#### 1. Lower cost and affordability:

Since the transaction processing will happen domestically, it would lead to lower cost of clearing and settlement for each transaction. This will make the transaction cost affordable and will drive usage of cards in the industry.

#### 2. Customized product offering :

RuPay, being a domestic scheme is committed towards development of customized product and service offerings for Indian consumers.

#### 3. Protection of information related to Indian consumers :

Transaction and customer data related to RuPay card transactions will reside in India.

4. **Provide electronic product options to untapped/unexplored consumer segment :**

There are under-penetrated/untapped consumers segments in rural areas that do not have access to banking and financial services. Right pricing of RuPay products would make the RuPay cards more economically feasible for banks to offer to their customers. In addition, relevant product variants would ensure that banks can target the hitherto untapped consumer segments.

5. **Inter-operability between payment channels and products :**

RuPay card is uniquely positioned to offer complete inter-operability between various payments channels and products. NPCI currently offers varied solutions across platforms including ATMs, mobile technology, cheques etc and is extremely well placed in nurturing RuPay cards across these platforms.

8. **Rupay global card**

**Rupay Global card**

RuPay Global card- launched in association with the international network partner is a testimony of NPCI's commitment to its mission. To offer a complete bouquet of card payment services at par with leading International Card Schemes, NPCI has formed global alliance with Discover Financial Services (DFS) in March 2012. This marks RuPay's foray in to the premium Indian payment card scheme with RuPay Global Card offering state-of-the-art technology that is secure, robust, scalable, simple and cost effective.

This alliance provides RuPay valuable access to Discover's global acceptance footprint to deliver value to customers globally. It also enables acceptance of Discover & Diners cards at about 2 lakh ATMs in NFS network & about 5 lakh merchants in India

Currently, RuPay Global Card is issued in two variants- RuPay Global Classic Debit Card & RuPay Global Platinum Debit Card.

## 9. Rupay on- line transactions

### Rupay on- line transactions

RuPay E-commerce solution from National Payments Corporation of India (NPCI) enables RuPay cardholders to transact online. It not only provides a platform for online transactions but also gives the customers a unique shopping experience. RuPay card can be used at all ATMs and most of the merchant establishments in India for Point of sale and online payments as well.

### Key features

1. **Highly secure:**
  - a. Enhanced security measures in addition to Two-Factor Authentication mandated by RBI
  - b. Anti-Phishing: Display of a pass phrase and bank themed (Looks exactly similar to the card that the customer is holding) PIN pad
  - c. Protection against Data Logging: The pad shuffles each time a digit is entered as an additional security measure.
2. **User friendly:** The cardholder has to enter the ATM PIN, no need to remember additional PIN.
3. **Enhanced User Interface:** Single-screen checkout.
4. **Faster transaction processing**

### **Conclusion**

India is considered to be as one of the world's fastest and developing economies in the world. Over the year's country's payments and settlement system has witnessed drastic amount of changes like setting up of an umbrella organization like National Payments Corporation of India, which acts as an intermediary in channelizing countries all payments and settlements system into one mainstream. In years to come National Payments Corporation of India can perform much better in terms of quality and service by adopting advanced innovative techniques, which are being adopted by other developed countries, like fully automating the cash based economy into cashless economy in upcoming future course of action. But, still are many issues which require immediate address like proper availability of advanced technology, right amount of skilled manpower and adequate amount of infrastructure facilities which directly or indirectly affects the development of India's payments and settlement system in long run future course of action.

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