



ROLE OF NATIONAL PAYMENTS CORPORATION OF INDIA (NPCI) IN DEVELOPING ELECTRONIC PAYMENT SYSTEM IN INDIA

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Abstract

National Payments Corporation of India is a regulatory body of retail payments and settlement system in India. Unified Payment Interface (UPI) and Bharat Bill Payment System (BBPS) are the main services provided by the NPCI. This study is exploratory in nature and based on secondary data available from the official website of NPCI, Government reports and previous research works. The objective of the study is to know about the various products and services provided by the NPCI and also to elaborate the role of NPCI in developing and promoting the electronic/digital payment system in India. The study concludes that NPCI plays a very important role in development of digital payment system and UPI is one of the best product/services of NPCI as it enables customer to make a transaction in a single click within seconds.

Keywords: National Payment Corporation of India (NPCI), Retail Payment and Settlement System, Unified Payment Interface (UPI), Bharat Bill Payment System (BBPS), Digital/Electronic Payments.

Introduction

National Payments Corporation of India (NPCI)

National Payments Corporation of India is an organization under which all the retail payments system are covered. It is a not-for-profit organization, established in December 2008 with the support and guidance of the RBI and Indian Banks' Association (IBA) and registered under section 25 of the Companies Act, 2013. There are ten promoter banks of NPCI which regulate its functions. These are SBI, Punjab National Bank, Bank of India, Canara Bank, ICICI Bank, Bank of Baroda, Citi Bank, Union Bank of India, HDFC Bank and HSB.

The main objective of formation of NPCI was to integrate and unite different payment systems with their varied services into nationally uniform and standard business process for all retail payment systems. The other objective was to ease an economical payment system to reach each and every person across the country to improve financial inclusion. NPCI is apex institutions which channelizes and accelerate various financial payments and services. NPCI has many products and services and UPI and BBPS are the most important of them. NPCI play a very important role in financial system of India. The country is at an inflexion point shepherded by government initiatives, fast-changing consumer behavior and increasing entrepreneurial activities. This alliance is untying immense innovation and also this would transform the current financial sector in India.

Digital/ Electronic Payment System

Electronic payment system refers to making payments using digital methods like electronic payment applications, mobile wallets, ATMs, debit or credit cards, etc. In digital payments, transactions are done without using cash. Both the parties involved in digital transactions, use electronic modes. Electronic payments have made a significant contribution in developing and promoting financial inclusion in India.



There is rapid expansion in digital payment methods like e-wallets, card payments, IMPS, UPI, etc. Now-a-days, cash is kept as an economic asset but for making payments, digital modes are preferred. Electronic payments are fast, convenience, economical and secured. The digitalization has grown rapidly after demonetization and advanced technology, innovative methods of payments and Governments' regulatory activities have accelerated the growth of electronic payment systems.

Review of Literature

Shamsher Singh (2017), has studied the consumer perception towards electronic payments. The aim of his study was to know the impact of demographic factors on the consumer's attitude towards digital mode of payment. He collected primary data and applied percentage analysis & ANOVA for data analysis. The study concluded that education is the most important factor that influences the adaptation of electronic payment system.

Somanjoli Mohapatra (2017) studied in her research that the single interface (UPI) is providing superior experience to its customers. The study aims to explore the importance and role of UPI. The study concludes that availability of internet, increased usage of smartphones, universal access to banking and inclusion of biometric sensors in phones has induced the customers to use electronic payment systems and moving the country towards cashless economy.

Anjali R and Suresh A (2019), has done research on consumer satisfaction for Bharat Interface for Money (BHIM). The objective of the study was to know the relationship between the customer satisfaction for BHIM App and its factors. It was the primary data-based study and analysis was done by using correlation and regression analysis. The study showed that the speed and ease of use affects the customer satisfaction positively.

Bijin Philip (2019) has done a study on impact of UPI on customer satisfaction. The main objective of the study is to know the attitude of consumers towards UPI and analyze the impact of UPI on consumers' satisfaction. The study concluded that there is a positive attitude towards usage of UPI and there is positive relation between literacy and use of UPI services. Literate people are more prone to use the UPI services and also encourage other persons to do the same.

Ravish Rana (2019) studied adaptation of electronic payment system and the impact of education level on the adoption of digital payments. The study showed that persons who got higher education are more inclined to use the online mode of payments and they normally belong to urban areas. The availability of electricity, internet and infrastructural facilities eased the acceptance of electronic payment system. The case is opposite in case of rural areas or semi-urban areas.

Objectives of the Study

The primary objective of this study is to look into the role of National Payment Corporation of India in developing electronic payment systems. In this context, following objectives have been made:

1. To study the role of National Payment Corporation of India (NPCI)
2. To study the various products and services provided by National Payment Corporation of India (NPCI)
3. To know the various steps taken by the National payment Corporation of India (NPCI) to develop electronic payment system in India
4. To know the growth of various electronic payment systems in India.



Research Methodology

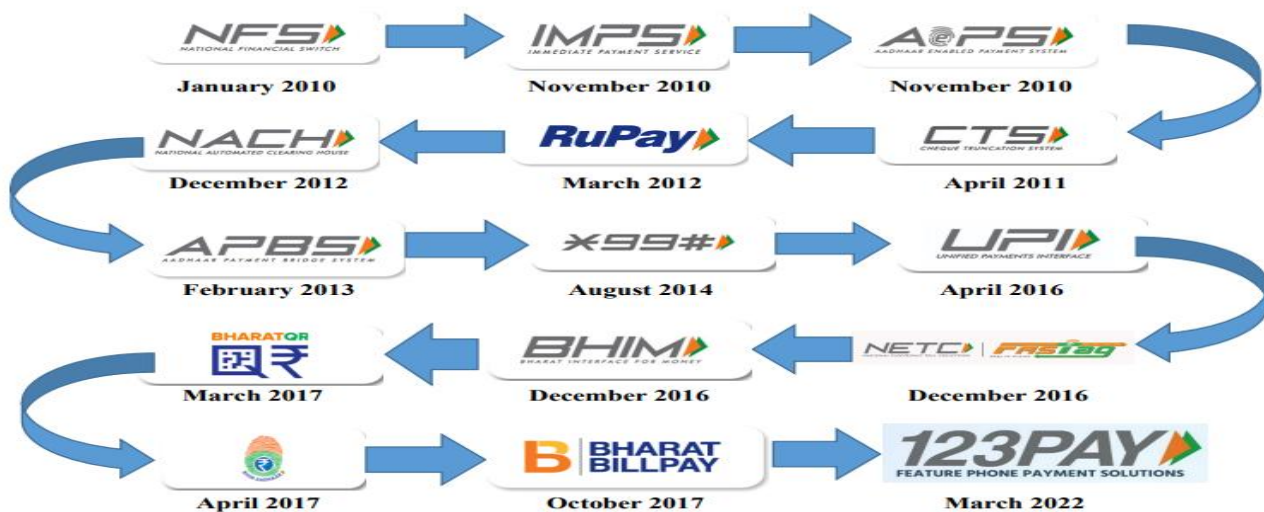
This study is based on an exploratory research method. It is descriptive in nature. The required data has been collected from secondary sources like NPCI statistics, RBI reports, published research works, etc.

Products and Services of National Payment Corporation of India

1. National Financial Switch (NFS) – NFS is an ATM network which was regulated by Institute for Development and Research in Banking Technology (IDRBT). It was taken over by National Payment Corporation of India (NPCI) on December 14, 2009. There is 1229 members using NFS network connected to 2.58 lac ATMs as on 31st August 2022. NFS has introduced an innovative model through which smaller banks and cooperatives can use ATM network. NFS provides various value-added services like interoperable cardless cash withdrawal, mobile banking registration, card-to-card fund transfer, cheque book request, statement request, etc.

2. Aadhaar Enabled Payment System (AePS)- With the aim to speed up the growth of financial inclusion, RBI constituted Two working group on Micro ATM standards and Central Infrastructure & Connectivity. It was done to introduce Aadhaar enabled financial transactions. The members that represented RBI were Unique Identification Authority of India (UIDAI), National Payments Corporation of India (NPCI), Institute for Development and Research in Banking Technology (IDRBT). The working group has submitted its report to RBI and proposed to conduct a lab level Proof of Concept (PoC). This was done to test the efficiency of Micro ATM standards by integrating the authentication and encryption standards of UIDAI using Aadhaar before they are put to use practically in real world. The test was illustrated at different venues successfully. The inputs required for AePS transaction are bank name, Aadhaar number and fingerprint captured during enrollment. The services offered by AePS are cash deposit, cash withdrawal, mini statement, balance enquiry, authentication, etc.

Chart 1: Products of NPCI with their launch year



Source: <https://www.npci.org.in/who-we-are/milestone>



3. RuPay- The word “RuPay” is made up of two words, i.e., Rupee and Payment. The word itself represents that it is Indian initiative. RuPay is the first in the types of electronic payment systems that is widely accepted at ATMs, PoS devices and commercial websites across the whole India. It is one of the most secured methods of payment. RBI introduced RuPay with the objective of making India a “less cash” economy.

4.*99# - It is a USSD based mobile banking service which was launched in November 2012. UPI is now modified and can be used in non-internet phones in the form of dialing option and is called USSD 2.0. This innovated function is launched on 30th of December 2016 along with BHIM. *99# offers some financial, non-financial and value-added services like sending money, requesting money, last 5 transactions, set or change UPI PIN, account balance, etc.

5. Unified Payments Interface (UPI)- UPI is a system where we can use multiple bank accounts in a single mobile application. We can use it anytime, anywhere in a single click for doing a financial transaction. It operates with a Virtual Payment Address (VPA) that generates automatically when we create account in UPI App. There is no need of bank account number or IFSC code for any transaction. We just need mobile number linked with the bank account. It is the very easy mode of online payment.

6. Immediate Payment System (IMPS)- It is also a medium of electronic payment transfer which is available 24*7. It was launched on November 2010. It allows real time transfer of funds instantly across India and is a very economical and secured mode of payment. At present, there are 652 members on IMPS. In IMPS, transfer of funds can be done using mobile number & MMID or account number and IFS code.

7.India’s Cheque Truncation System (CTS)- It is a step taken by the RBI to speed up the process of clearing cheques. CTS is a process in which cheques are cleared electronically. There is no need to present the cheque by the presenting bank to the paying bank branch. Currently it is operational at paramount clearing houses only. It reduced the time for clearing cheques. Also, there is no risk of data manipulation and loosing of cheques.

8. National Automated Clearing House (NACH)- NACH is implemented by National Payment Corporation of India (NPCI) for Government, financial institutions, corporates, banks for doing bulk transactions. These transactions are of recurring or repetitive nature and are done periodically. A modified version of this is NACH Aadhaar Payment Bridge System (APBS). It is a system used by Government and Govt. agencies for making Direct Benefit Transfer using the Aadhaar numbers.

9.BHIM- Bharat Interface for Money (BHIM), is an app that is used to make transactions using UPI Id. It is very simple and easy method of quick payment. Through BHIM, anyone can make the payment by using just a mobile number linked with the bank account or a UPI Id or QR code. It can be used 24*7.

10.National Electronic Toll Collection (NETC)- NPCI has introduced NETC programme to operate toll collections electronically. It enclosed technical specifications and common set of processes that enable a customer to make the payment at any toll plaza by using their FASTag. FASTag is a device that makes the payment directly to the toll plaza while vehicle is moving. It operates through Radio Frequency Identification (RFID) technology. FASTag is stucked to the windscreen of the vehicle and make the payment through the bank account linked to FASTag.



11.BHIM Aadhaar- It is an app to make the digital payment through Aadhaar authentication. For this, both the parties should have android phone, BHIM Aadhaar app and biometric scanner (for the party receiving the payment) and Aadhaar number linked to the bank account. Payment can be done only by scanning the biometric. It is very easy and simple mode of payment.

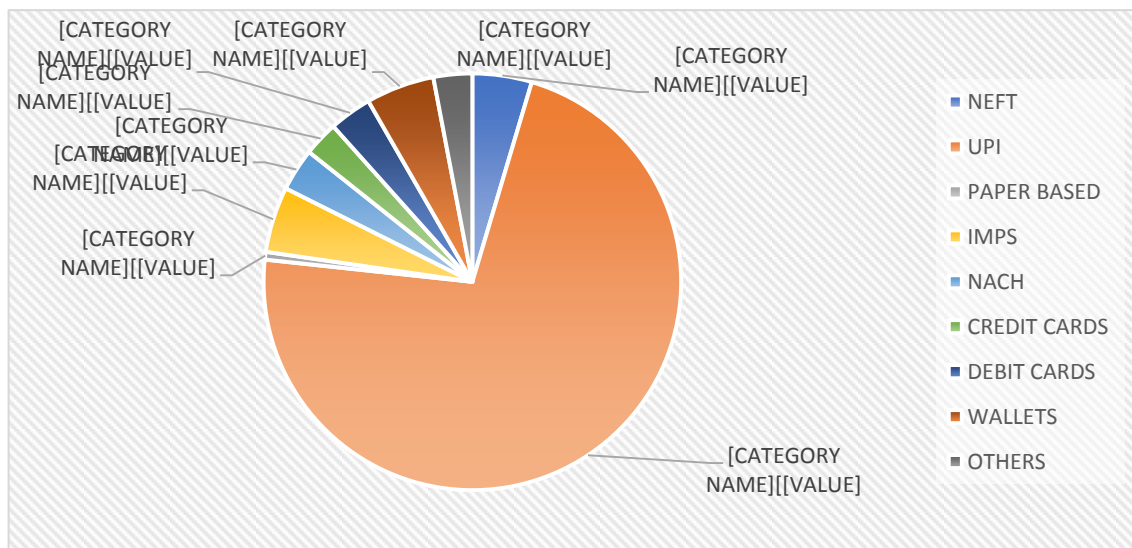
12.Bharat BillPay System (BBPS)- The concept of BBPS was brought by the RBI and developed by the NPCI. It is a system where all types of bills can be paid through a single platform. It can be operated and accessed anytime anywhere across the India. It is a safe, cost-effective and reliable mode of payment.

13.E-Rupi- It is an innovative digital solution launched by the NPCI in association with Department of Financial Services (DFS), National Health Authority (NHA), Ministry of Health and Family Welfare (MoHFW) and some partner banks. It is a one-time payment mechanism. E-Rupi is shared by Government or organizations to beneficiaries for some specific purpose. It can be used without internet, card or any online payment app. It is a secured method as the beneficiaries' details are kept completely confidential.

14.Autopay- It was launched by the NPCI for recurring payments. With Autopay, a customer can pay any bill which is of recurring or repetitive nature, without missing the due dates. There is no need to set reminders for payment of bills. Autopay can be used to pay electricity bills, mobile bills, mutual funds, insurance or OTT subscriptions.

15.UPI123PAY- It is an instant payment system developed for feature phone users to enable them to use UPI. There is no need of smartphone or android phone or internet connection. UPI can be accessed through the basic and simple mobile phone. There are four technology alternatives that can be used to make a payment through UPI in a feature phone. These are- Pre-defined IVR (Interactive Voice Response) number, Missed Call Pay, OEM-Enabled Payments and Sound-Based Technology.

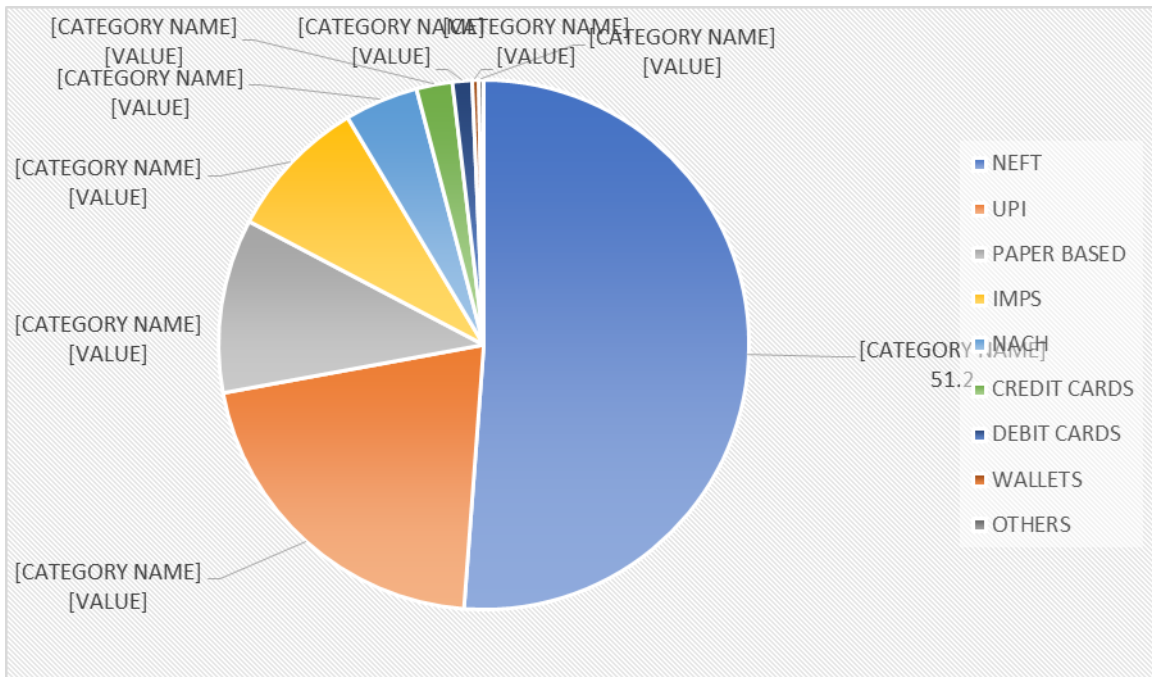
CHART 2: (%) Retail Payments Share for August 2022 (in volume)



Source: <https://www.rbi.org.in/>



CHART 3: (%) Retail Payments Share for August 2022 (in value)



Source: <https://www.rbi.org.in/>

Conclusion

India is known to be one of the world’s fastest developing economies. Past the few years, India’s payment and settlement system has observed drastic changes. Setting of NPCI is one of them. It covers all the methods of retail payment into one single mainstream. The products and services provided by the NPCI are Digi wallets, cards, IMPS, AePS, mobile banking, UPI, etc. In all of them, UPI is preferred by the most of the population because of its amazing services like instant payment through QR code, fund transfers through mobile number, fees and bill payments etc. However, UPI has the largest share (72.1%) while we speak in terms of volume but considering in terms of value, NEFT (51.2%) crosses over the UPI (20.9%). Although, UPI has the second position in retail payments percentage in value. In the near future, the NPCI is likely to perform better in terms of services and quality by adopting advanced techniques which are being used by developed economies. The NPCI has, almost, transformed the Indian Retail Payment and Settlement System by introducing various innovative electronic methods of payment. But still, there are some issues and problems associated with digital payments which require immediate attention like skilled manpower, advanced technology, proper infrastructural facilities which affect the development and growth of payment and settlement system of India.

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