Recent Developments on Financial Inclusion in India

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Introduction

Payment systems are a vital for financial institution in any country. They enable the transfer of money and financial instruments. The efficient functioning of payment system allows transactions to be completed safely and in a timely manner contributing to overall economic performance. Safety, security, soundness and efficiency of the payment systems assume critical importance from the point of systemic stability. Efficient payment systems bring substantial benefits to the economy. The study on “The virtuous Circle: Electronic Payment and Economic Growth” outlines the various benefits of electronic payments in the form of cost saving of 1 per cent of India’s Gross Domestic Product (GDP). It is estimated that migration to electronic payments can result in could free upto US$6.3 bn. Furthermore, it is estimated that the total cost of a cash-based system in developing economies is expected to be between 5 and 7 per cent. The study by National Council for Applied Economic Research estimate more than 90 per cent of consumer spending on cash basis in India. India will move towards electronic transactions for a variety of reasons. India’s US $1.2 trillion economy and is among the fastest growing economy of the world.

While the growth of electronic payments through National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS) has been impressive, electronic payment systems are yet to reach all sections of society and span the length and breadth of country. This can be achieved through standardization, interoperability, consolidation, common infrastructure coupled with innovation in products and delivery channels. 145 million households are excluded from banking services in India. The total number of no frill accounts (139 million) will need not only the enhanced banking services but a robust, cost effective payment and settlement system. There is huge potential to migrate government transactions in electronic form. Government subsidies constitute more than Rs. 2.93 trillion which will translate into about 4.13 trillion electronic transactions. The number of non cash payments per citizen at 6 is low when compared to other emerging countries. Internet and Mobile Association of India (IAMAI) projects healthy growth for expected e-commerce, expected at Rs. 465 billion by end of the year 2011.

The following statistics provide a glimpse present payment infrastructure for India.

- India’s population: 1.2 Billion (2.3% of world land area / 17.5% of world population)
- India Personal Consumer Expenditure (PCEt) : US$ 898 billion i.e ₹ 49,39,000 crores
- Purchase spends on Cards is : ₹ 143,819 crores ( est as on Mar 2013) i.e. usage of Payment cards for purchases is at 3.9% of total PCE est. as on Mar’13
- 41% of India’s population is unbanked .
- 14.6% of the India’s population has a debit card.
- Debit cards in the country: 362 million (as on August 2013 RBI)
- Credit cards in the country: 18.5 Million (as on August 2013 RBI)
- Automated Teller Machines (ATMs) in the country : 126,000+ (August 2013)
- Point of Sales (POS) in the country : 965,000 + (August 2013)
These statistics illustrate the need for improved retail payments.

- Only 52 of 1,787 banks in India issue cards to their customers due to prohibitive costs by the year 2010.
- 360 million debit cards have been issued by banks in India against bankable population of over 800 million. With over expected 2 cards holding, only 155 million cardholders have cards.
- 0.96 million POS terminals have been deployed against a 15 million merchant base in India.
- Terminalisation is highly skewed towards Metro, Urban and select tourist locations.
- Over 92% of transactions through cards are for cash withdrawals at ATMs. That means only for 8%, Debit Card is used at point of sales.
- About Rs. 28 billion is spent in printing of currencies by Reserve Bank of India.

Recent initiatives have played an important role in moving towards less cash economy. Various initiatives are taken by Reserve Bank of India, Government, Finance Ministry and from Unique Identification Authority of India (UIDAI). Various novel approaches such as giro payments are under consideration. Many initiatives are taken in this direction in recent years towards usage of less cash which will contribute a lot in terms of savings to economy and providing convenience to customers. For example, it is estimated that Rs. 2.93 trillion is routed through various subsidies. If these payments are effected by electronic means, it may translate into annual transactions of 4.13 billion. The present method is characterized by inordinate delays, leakages and too much reliance on manual work.

The task for moving towards less cash economy is enormous for Country like India with a diversified, multi cultured, spread out geographical terrain. Presently, there are 6,00,000 villages of which 35000 have a bank branch with a brick and mortar presence. Reserve Bank of India has allowed the use of low cost distribution channel in the form of Business Correspondents and Ultra Small Branches. In India, Reserve Bank of India vide its regulation in the year 2006 allowed banks to use the services of third party, non bank agents to extend the services at customer’s doorsteps. Ultra small branch is a intermediate brick and mortar structure and is set up between the base branch and Business Correspondents so as to provide service to 8-10 Business Correspondents at a reasonable distance of 3-4 kms. Reserve Bank of India has set a target to cover 74000 villages which are above 2000 population to have a formal banking presence. These villages will get a banking facility in the form of business correspondents and ultra small branches. These new model will make use of robust technology and offer service at their doorstep. This will boost the confidence of villagers in formal banking system by providing door step service at the last mile. It helps in improving saving habits and provide financial literacy. In the next phase, villages below population of 2000 will be covered by hub, consisting of ultra-small branches and spoke, consisting of business correspondents (BC). In India, Reserve Bank of India has allowed banks to use Business Correspondent as intermediaries to extend Banking service in areas where they do not have a branch. The BC will provide banking services at the point of customer interface and a retail outlet. Business Correspondent can engage (i) identification of borrowers; (ii) collection and preliminary processing of loan applications including verification of primary information/data; (iii) creating awareness about savings and other products and education and advice on managing money and debt counseling; (iv) processing and submission of applications to banks; (v) promoting, nurturing and monitoring of Self Help Groups/ Joint Liability Groups/Credit Groups/others; (vi) post-sanction monitoring; (vii) follow-up for recovery, (viii) disbursal of small value credit, (ix) recovery of principal /collection of interest (x) collection of small value deposits (xi) sale of micro insurance/ mutual fund products/ pension products/ other third party products and (xii) receipt and delivery of small value remittances/ other payment instruments.
Adoption of technology in clearing operations: from manual to mainframe

India has made rapid strides in adoption and leveraging of technology, especially in financial sector. A couple of decades ago, banking and payment systems in India were driven by manual processes – there were clearing houses at district levels where bankers would sit across tables and conduct the cheque clearing operations. With the advent of Core Banking Solutions (CBS) and other innovative measures which leveraged technology, clearing operations have been computerised and a wide array of products, such as MICR (magnetic ink character recognition) based clearing and speed clearing, have been introduced. Core Banking Solution is networking of branches by which customer becomes a bank’s customer. It enables to operate the bank account from other branch. It leads to Anywhere and AnyTime banking. Another innovative clearing mechanism is the grid based Cheque Truncation Project (CTS) which is operational in three grid centres, viz., New Delhi, Mumbai and Chennai. Cheque Truncation is a process of stopping the physical movement of cheques. Reserve Bank of India implemented the pilot project for cheque truncation system NCR region. Since 1st July 2009, CTS replaced the MICR clearing in the New Delhi Banker’s Clearing House. In the year 2009-10, around 12% of cheques are processed in CTS environment. RBI has mandated NPCI to operationalize CTS in Chennai. The grid based CTS clearing operations are heavily dependent on technology and has little scope of manual intervention. Further, in order to bring homogeneity in the security features of cheques and reduce incidence of frauds in the CTS clearings, new cheque standards - CTS 2010 have been implemented. Over the years a number of electronic products have gained popularity. Similarly, there have been a number of developments in manner of processing electronic payments viz., moved from ECS (local) to NECS (centralised). The other electronic payment systems which have gained popularity are the NEFT and RTGS.

Encouraging electronic payments

Reserve Bank remains committed towards providing a safe, efficient, accessible, inclusive, interoperable and authorised payment and settlement systems for the country. Today, payment systems in India are driven by demands of convenience and ease of use & access. This necessitates convergence of e-payment products by leveraging on innovation, capabilities and integration of various systems through unified solution architecture and technology. Payment System Vision Document 2012-15 of the Reserve Bank of India articulates the orientation of overall regulatory policy stance towards promoting a less cash/less paper society, the “green” initiative which is also echoed by the Reserve Bank’s IT Vision document 2011-17. This places greater emphasis on the use of electronic payment products and services that can be accessed anywhere and anytime by all at affordable prices.

The growing volumes of electronic payments reflect customer acknowledgement of convenience and trust. Electronic payments, whether Person to Person (P2P) or Person to Business (P2B), generally take one of the two forms - online payments carried out through internet, and, proximity payments facilitated by the use of cards (card payments). Internet and mobile banking channels are very widely used and are increasingly becoming popular. These channels are used by customers for both account information services and payment initiation services. Data collected from a few banks indicates that substantial number of customers are registering for internet banking facility and there has been a significant growth in the usage of internet banking for funds transfer through National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS).

The growing popularity and acceptance of the NEFT system for the interbank funds transfers is reflected in the volume and value handled by the system, which increased by 74% (volume) and 62% (value) in the year 2012-13 compared to the year 2011-12. NEFT handled record volume of 47.61 million transactions during August 2013. Given that NEFT has become a flagship domestic
remittance system in the country catering to the needs of individuals, corporates and governments alike, many efficiency enhancements have also been made in the system. Hence, NEFT at present processing 12 batches on weekdays and six batches on Saturdays. With the introduction of the feature of continuous release of credit messages, the participants have been given additional time window to process the transactions.

Similarly, there has also been a surge in the customers registered for mobile banking. The mobile payments in 2012-13 have reached 53.30 million in volume terms and Rs 59.90 billion in value terms. The growth rate in 2012-13 has been 108% in volume and 229% in value terms. The overall share of mobile payments in the payment system, however, is minuscule. Given the huge potential of mobile banking to be game changer, Reserve Bank of India has constituted a Technical Committee on Mobile Banking, chaired by Shri B. Sambamurthy, Director, IDRBT. The Committee will examine the challenges faced by banks in increasing the usage of mobile banking including the usage of USSD (Unstructured Supplementary Service Data) channel. The Committee was formed on 9th October, 2013. The Committee will examine various options such as feasibility of using encrypted SMS based applications for funds transfer that can run on any type of handset for expansion of mobile banking in the country, challenges faced by banks in taking mobile banking to desired level, study the challenges faced by banks in introducing Unstructured Supplementary Service Data (USSD and examine the optimum solution that would take mobile banking to every nook and corner of the country.

Table 1. Retail Payment System Indicators, Annual Turnover

<table>
<thead>
<tr>
<th>Item</th>
<th>Volume (million)</th>
<th>Value (Rs billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Retail Paper Clearing (1+2+3)</td>
<td>1387.4</td>
<td>1341.9</td>
</tr>
<tr>
<td>1. CTS</td>
<td>160.4</td>
<td>180.0</td>
</tr>
<tr>
<td>2. MICR clearing</td>
<td>994.6</td>
<td>934.9</td>
</tr>
<tr>
<td>3. Non-MICR clearing</td>
<td>232.3</td>
<td>227.0</td>
</tr>
<tr>
<td>Total Retail Electronic Clearing (4+5+6)</td>
<td>406.3</td>
<td>512.3</td>
</tr>
<tr>
<td>4. ECS Debit</td>
<td>156.7</td>
<td>164.7</td>
</tr>
<tr>
<td>5. ECS Credit</td>
<td>117.3</td>
<td>121.5</td>
</tr>
<tr>
<td>6. EFT/NEFT</td>
<td>132.3</td>
<td>226.1</td>
</tr>
<tr>
<td>Total Cards (7+8)</td>
<td>502.2</td>
<td>647.5</td>
</tr>
<tr>
<td>7. Credit cards</td>
<td>265.1</td>
<td>320.0</td>
</tr>
<tr>
<td>8. Debit cards</td>
<td>237.1</td>
<td>327.5</td>
</tr>
<tr>
<td>Total Retail Payments (1 to 8)</td>
<td>2295.9</td>
<td>2501.7</td>
</tr>
</tbody>
</table>

Source: Reserve Bank of India

1. At the end of April 2013, MICR clearing was available at 64 centres (66 centres during the previous year). At two centres, namely New Delhi and Chennai, Cheque Truncation System (CTS) has been implemented. Grid-based CTS has commenced operations since April 2012 in Chennai, in which banks from 82 locations are participating, encompassing the states of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, West Bengal (Kolkata) and the Union Territories of Puducherry and Chandigarh.

2. The figures for cards are for transactions at POS terminals only.

3. Transactions for a value of Rs 79 billion (representing 0.01 per cent of total non-cash transactions during 2012-13) used pre-paid instruments issued.

4. Transactions for a value of Rs 4.3 billion (representing 0.0003 per cent of total non-cash transactions during 2012-13) used Instant Money Payment Services (IMPS).
The volume of electronic transactions has increased to 1.7 billion in 2012-13 from 1.2 billion in 2011-12, indicating a growth of 36 per cent. The total value of electronic transactions has increased to Rs 1212.37 trillion in 2012-13 from Rs 967.52 trillion in 2011-12 registering a growth of 25.31 per cent. In the year 2012-13, the share of electronic payments in the overall non-cash payments, at 56.4 per cent, has surpassed the paper based payment systems. During the previous year (2011-12) the electronic payments represented 48.2 per cent of over-all non-cash payments. The trend clearly indicates rising consumer acceptance for the e-modes of payments. On the flipside, however, the growing importance and usage of electronic payments has increased the vulnerability towards risks and threat of frauds. The following Table 1. provides indicator for retail payment system.

Securing electronic payments

In 2011, a Working Group on Information Security, Electronic Banking, Technology Risk Management and Cyber Frauds (Chairman: G Gopalakrishna) made comprehensive recommendations for enhancing security in internet banking. The recommendations included authentication methodologies, changes in mobile phone numbers, beneficiary management aspects, etc. Based on these recommendations, instructions have been issued to banks offering electronic banking services to their customers. Taking cognizance of the recent developments and attendant unpredictability of cyber-attacks and vulnerability of electronic payments to misuse, Reserve Bank instructed banks to introduce certain minimum checks and balances to mitigate the impact of such attacks. We present the card frauds in India.

Total card frauds reported by banks to Reserve Bank of India is about Rs. 680 million. Banks have also been instructed to put in place customer induced caps on value of transactions, limit on number of beneficiaries to be added in a day, sending alerts when beneficiary is added, velocity check on number of transactions, introduction of additional factor of authentication, etc. Banks have also been instructed to consider feasibility of using digital signatures for large value payments in RTGS and capture of IP address as an additional validation check. The Reserve Bank has mandated additional factor of authentication for all Card Not Present (CNP) transactions. Several measures have already been initiated to secure the Card Present (CP) transactions through implementation of recommendations of the “Working Group on Securing Card Present transactions” (Chairperson: Gowri Mukherjee) in a time bound manner.

It becomes the responsibility of all the stakeholders to ensure timely completion of all tasks
mandated towards fool-proofing the ecosystem for electronic payments. One of the measures for securing card present transaction is implementation of UKPT (Unique Key Per Terminal) or DUKPT (Derived Unique Key Per Transaction) and TLE (Terminal Line Encryption) to secure the technology infrastructure. While most banks have implemented these measures, 100 per cent achievement is likely to materialize soon leading to a safe and secure environment for electronic payment systems in India.

**Challenges in Indian Payment Systems ecology Ecosystem**

There are several issues which need to be addressed to make the electronic payment system infrastructure in India more efficient and integrated; the crucial ones being building dexterity of payment systems through standardisation, interoperability, and creation of common infrastructure.

In India, there are different types of messaging solutions and formats specific to each of the payment systems. Consequently, banks/system participants are required to develop application specific APIs (Application Program Interface) to integrate with these payment systems. In the current system, however, it may be a challenge to achieve portability, i.e., a seamless switchover in the case of failure of one payment system into another. Portability is a facility that allows customer to switch service provider by retaining its existing number. In India, Portability exists in Telecom industry. It is in this context that adoption of common message format and messaging solution, assumes a lot of importance in developing portability and interoperability. Interoperability is the ability of one system to work with another system in a seamless manner and without much effort to customer.

RBI has taken several steps to promote interoperability and development of common infrastructure such as ATMs in India are national infrastructure and are connected through ATM networks (National Financial Switch). National Financial Switch (NFS) has allowed a customer from one bank to use ATM from another bank. RBI has permitted interoperability of Business Correspondents. The micro-ATMs used by the BCs have been standardised to facilitate interoperability. There is, however, a lot of scope for further developments, such as, linking the non-bank payment systems with the inter-bank payment networks, etc. RBI is working towards putting in place girogiro payment systems which will integrate common infrastructure for bill payments.

RBI recognizes the importance of standardisation, portability and interoperability which will not only lead to harmonisation of payment processing across systems but also will bring several benefits. Convergence of various payment systems could make payments truly channel agnostic.

**Financial intermediaries and financial inclusion contributing to the economic growth of the country**

Developed economies have already reached a level of market maturity in terms of retail payments and are looking for the next generation of efficiencies in these systems by re-discovering their relevance in the society. However, in the case of emerging markets, retail payments have been on the policy radar as the central bank try and get away from cash based and paper based payments. The challenge of the central bank has been to enable such systems to `develop`, `consolidate` and `converge` with innovation at each stage.

So in India RBI has continued to focus on both paper based and electronic payment systems. But realizing the rapid scale of innovations and for focus, RBI decided to encourage the formation of a separate organization - a non-profit organization called the NPCI (National Payments Corporation of India) as the umbrella organization for retail payment systems in India. 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 25 company under Companies Act 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 (US $48 million) and paid up capital is Rs 100 crore (US $16 million) 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. This entity is now spear-heading the innovations in retail payments in India and has introduced several products and payment services such as the inter-operable inter-bank mobile payments with 24 x 7 real-time transfer of funds (IMPS - Immediate Payment Systems), payments based on Aadhaar (Unique national id based on biometrics), a domestic card network – RuPay which is being used for various purposes viz. enhancing financial inclusion, food procurement, farmer credit, etc. Besides, NPCI has also enabled ISO compatible National Automated Clearing House (NACH) systems.

It is a well-accepted fact that a well-functioning payment system contributes to monetary and financial stability and ensures economic efficiency. In the emerging market context, such a system must ensure users’ trust in these payment methods similar to the trust they have in cash transactions. There is always the “fear of unknown”. One bad experience in the beginning can make them rush back to cash usage. This is even a bigger challenge particularly when we are reaching out to the financially excluded to adopt electronic payments.

It must be appreciated that financial inclusion has been accorded high priority in policy hierarchy in recent times as the advent of technology has enabled increased reach and delivery of financial products in a cost effective and viable manner. So more appropriately what is being aimed is technology led financial inclusion. Business correspondents play an important role in this effort since the lack of penetration of brick and mortar bank branches could be attributed to financial exclusion. Different countries have adopted different models but in any model business correspondents are important entities in the chain. Further, alternate payment models are the hallmark of the FI efforts across the countries.

In this regard, various studies have shown that customers who have quick and reliable access to payment points and customers who use alternate non-cash payment methods tend to keep more funds in their accounts for larger periods of time. Therefore, provision of safe, accessible and efficient alternate payment channels assumes critical importance. This is crucial for the banking systems in India when the savings and loan spreads are high. So financial inclusion makes huge commercial sense. In fact, a CGAP report also highlights the beneficial impact of financial inclusion through increased deposit and lending to GDP ratios on national income (Handoo 2013).

Financial inclusion aims not merely at remittances but also aims at savings product, a loan/credit product, remittance product as also insurance product. Thus, in India, financial inclusion has the potential to bring in the unbanked individuals into the formal banking system, could lead to increased savings, provide cheap and timely credit and all these positive externalities would lead to inclusive economic growth. The efforts to channelize the government benefits and subsidies through direct benefit transfers programs to beneficiaries’ bank accounts directly would not only be helpful in plugging the leaks in distribution but also help in inculcating banking habits.

India has adopted a structured, planned and an integrated approach towards FI by focusing on both the demand and supply side constraints. RBI has permitted non-bank entities to partner with banks for their FI initiatives. The technological advancement has made it possible to think of novel and innovative ways to approach the objective of financial inclusion. For example, handheld devices, used by bank agents to draw people living in remote areas into the banking fold. Mobile technologies are trying to reach out to the populace starved of banking services as well. Financial institutions are also joining forces with network operators in providing access to mobile based payment services even to those who do not have bank accounts.

Statistics on India’s financial inclusion initiatives are notable:

- Nearly 268,000 banking outlets have been set up in villages as on March 13 as against 67,694 banking outlets in villages in March 2010
• About 7400 rural branches opened during this period
• Nearly 109 million Basic Savings Bank Deposit Accounts (BSBDAs) have been added, taking the total no. of BSBDAs to 182 million. Share of ICT based accounts have increased substantially – Percentage of ICT accounts to total BSBDAs has increased from 25% in 2010 to 45% in 2013.
• With the addition of nearly 9.48 million farm sector households during this period, 33.8 million households have been provided with small entrepreneurial credit as at the end of March 2013
• 3.6 million households have been provided with small entrepreneurial credit by the end of March 2013, of whom 2.25 million were added during the last three years.
• About 490 million transactions have been carried out in ICT based accounts through BCs during the three year period.

Now, we look at the recent initiatives in India for promoting retail electronic payments.

About the Organization- National Payments Corporation of India (NPCI)

National Payments Corporation of India has been incorporated as a sequel to Reserve Bank of India’s vision to create an umbrella organization for all retail payments. It was in December 2007 that “Not for profit” payment system utility was envisaged by Indian Banks Association. NPCI was set up with the support of 10 member banks. NPCI received certificate of incorporation on December 19, 2008 and certificate of commencement of business on April 20, 2009. Reserve Bank of India permitted to take over the National Financial Switch, which connects various member banks, from Institute of Development and Research in Banking Technology. In addition Reserve Bank of India directed NPCI to operationalise cheque truncation system in Chennai by 31st March, 2011.

Rupay’s entry into the Indian Card Payment system is intended to capture the vast opportunity which remains untapped as there are only 6,00,000 point of sales terminals against the potential of more than 10 million merchant locations when Rupay entered the India Networks Market, competing with global giants like Visa and Master. According to Shri A P Hota, Managing Director & CEO, National Payments Corporation of India (NPCI), “Rupay will be acceptable at all point of sales terminal from January 2013. We hope that many more banks will join the new payment system in the near future. The cost advantage is around 40% lower than the international payment systems. NPCI will focus on debit cards for three years and thereafter, it will look into credit card space. Several banks are in process of testing and certification and we expect all major banks to be part of Rupay network in six months time. Presently, Regional Rural Banks, Co-operative Banks and smaller banks are not in a position to join the card payment system due to high cost of participation fee and quarterly minimum processing fees. Banks will pay only three to four types of fees unlike multiple types of fees under other International Schemes.”

Card Scheme

Before launching the card scheme, the card team at NPCI worked extensively to carry out primary and secondary research in order to comprehend the unique needs of the Indian market. Considering the complexity of the project, it was decided to follow phased approach for implementation of card initiative. All these products will be accessible on all channels like Automated Teller Machine (ATM), Point of Sales (POS), Internet, Money Order Telegraphic Order (MOTO) and Mobile. NPCI intends to create a more secured environment with an intention to enhance the activation and usage of Debit cards. It was envisaged to operationalize Domestic Processing & Scheme Management for Magnetic Stripe Debit & Prepaid Cards with PIN and
signature. In future, the scheme can take advantage of emerging technologies like Chip Based Cards, Contactless Cards.

The Rupay ATM & Micro ATM card offers inter-operability giving the card user access to over 80610 ATMs under the NFS network. In future, it is likely to be accepted at Micro ATMs through biometric verification. In the year 2009-10, it was introduced by Bank of India – a public sector bank, Kashi Gomti Samyut Gramin Bank, the Regional Rural Bank sponsored by Union Bank of India and other two cooperative banks. The Rupay Cards supports Aadhar Enabled Payment System (AEPS). The Rupay Card with Aadhar number and photo can serve as ATM cum Debit ID card. NPCI is also working on acceptance across all payment channels viz. Point of Sales, e-Commerce, Mobile, IVR etc.

Rupay and Regional Rural Banks (RRB)

Regional Rural Banks were created to provide strong focus to rural areas. Therefore, there is immense importance of regional rural banks in providing banking services to rural areas and to achieve the objective of financial inclusion. In India, RRBs are promoted jointly by Public Sector Banks and Government. With the rapid global technological development, there is a view that regional rural banks can provide enormous benefits to customers in terms of increased convenience and lower cost of transactions. It was recommended that regional rural banks need to implement core banking solution. The benefits of core banking solution can be geared towards better management control, monitoring & information, wide range of services offered and enhanced level of satisfaction.

By the March 2011, 50 regional rural banks (RRBs) achieved 100% CBS. As a result of CBS implementation, customers of RRBs can utilize ATMs of its sponsor bank to allow them to withdraw from anywhere in the country. Regional Rural Banks, which remain aloof from costly global card network schemes, can benefit from such a low cost domestic payments network scheme. As a result, customers can benefit from a cost effective, safe, secure, robust and scalable manner. By the March 2011, customers can benefit from 80610 ATMs on NFS network, which is managed by NPCI.

NPCI launched the first Gramin Bank ATM card with the Kashi Gomti Samyut Gramin Bank in association with Union Bank of India on May 23, 2011. The card was named as the Rupay Gramin Card. NPCI issued IIN numbers for 12 regional rural banks.

Various distinguishing features of Rupay Cards are as under:

Rupay intends to play towards development of customized product and service. The Rupay debit cards offered higher security in terms of PIN based cards.

Protection of information related to Indian Consumers Transaction & customer data related to Rupay card transactions will reside in India. That will provide sanctity of data.

Provision of electronic product options to untapped/unexplored customer segments - There is vast majority of population who remains separated from formal financial system. The fruits of technological developments reach them last with the entry of Rupay cards, it is likely that more banks will join in issuing the payment instruments and provide enhanced experience to the customers. Further, competitive pricing of Rupay cards will provide lot of benefits to banks and customers as well. Focused segmenting and positioning will allow the banks to target the untapped consumer segment.

Inter-operability between payment channels & products - Rupay cards is uniquely positioned to offer inter-operability across various payment channels such as ATMs, mobile technology, cheques etc.

Lower cost and affordability – Rupay fee structure is affordable, simple and transparent, Rupay fee structure is around 5-6 basis points (both issuers and acquirers taken together) as against 25 bps
in case of international card scheme. In addition, the banks are less vulnerable to currency fluctuations. The Rupay Debit card supports the transactions types such as Purchase, Purchase with Cash Back, Online Fund Transfer, Refunds, Tips/Surcharging – Cash at Point of Sales, ATM PIN Charge, ATM Balance Enquiry & ATM Cash withdrawals. Rupay offers PIN based SMS/DMS debit card product for totally secured transactions. In future, it will offer EMV Chip & Pin Cards which will allow offering contactless payment options to bank for low value payments that offer efficiency, speed and affordability.

**Rupay Kisan Cards**

The meaning of Kisan is farmer. The Kisan Credit Card was introduced in the year 1998-99 in order to provide adequate and timely credit to the farmers who avail credit from formal financial institutes. As on March 2011, banking sector issued 103.84 million cards. On the advice of the Department of Financial Services, Ministry of Finance, mandate was given to NPCI to design Kisan Credit Cards. Following objectives are covered under the card scheme:

- Empowering the farmers to withdraw their drawing limit through any of the 1,00,000 ATMs under NFS network of NPCI.
- Reducing the transaction costs of the farmers by visiting the branches for cash withdrawals. As a result, there will be saving of precious man-days.
- Enabling the farmer to make cashless payments while making a purchase for agri-inputs.
- Helping the farmers to link their Kisan Credit Card to the Aadhar Number and enable to transact at Business Correspondents in villages.

According to Shri A P Hota, “Several banks are in process of testing and certification and we expect all major banks to be part of RuPay network in six months time. Presently, Regional Rural Banks, Co-operative Banks and smaller banks are not in a position to join the card payment system due to high cost of participation fee and quarterly minimum processing fees. Banks will pay only three to four types of fees unlike multiple types of fees under other International Schemes”.

The RuPay initiative by NPCI is covering entire country with participation of more than 135 banks which have issued 60 lakhs cards. The vision is to achieve 2.5 crore cards and ensure that all the point of sale terminals in the country enabled by RuPay by March 2014. With the growing popularity of E-commerce transactions. RuPay enables online payment across all electronic and mobile channels. RuPay has recently partnered with Discover Financial Services. In addition, a more secured EMV chip card is offered to its customers point of sale is witnessing a growth. The RuPay cards are accepted across ATM, point of sales and e-Commerce Kisan Cards are also issued on RuPay platform. Various types of banks such as Regional Rural Banks and Co-operative Banks which remain uncovered is covered under RuPay platform. NPCI has entered into an alliance with Discover Financial System (DFS), USA allowing DFS card users to access ATMs in India on NFS platform.

The advantages of RuPay. India’s first domestic card scheme, are

- Facilitate payment across all segments including the untapped rural market.
- Provide an ecosystem for all types of institutions and promote electronification.
- Enhance the visibility of Indian banks on integrate with global institutions.

The POS acceptance in India is in the form of 1 million point of sale (POS) terminals deployed by 30 acquiring banks. At present, 18 acquiring banks has been certified by RuPay with a cumulative activation of more than 0.362 million terminals the journey of RuPay is as follows and numbers are on rise:
**Immediate Payment Services (IMPS)**

NPCI’s Immediate Payment Service (IMPS) is an innovative payment mechanism. Initially, it was conceptualized as a round the clock, mobile based, instant and person to person payment. It was started as InterBank Mobile Payment Services (IMPS) and now it has changed the nomenclature as Immediate Payment Services (IMPS) since it has become channel agnostic and lot many value added services are provided. At present, it has evolved into a multi-channel and multi-dimensional remittance platform.

The major hallmark of IMPS is co-creation which allows NPCI’s 57 member bank to transact seamlessly with other members and also allows to connect with non banking customers, using prepaid instrument from telecom companies. IMPS allow payment to a beneficiary with a account number and IFSC code. IMPS is relevant to India as it has more than mobile subscriber population of 84+ out stripping the banking customers.

The evolution of IMPS is as follows:

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Figure 2. Evolution of RuPay
Aadhaar Enabled Payment Services

AEPS is a bank led model, which allows online interoperable financial inclusion transaction at POS (Micro ATM) through the business correspondent of any bank using the Aadhar Authentication with Unique Identification Authority of India (UIDAI) to disburse National Rural Employment Guarantees Act (NREGA) and Swayam Shikshan Priyog (SSP). The objective of Aadhar is to meet the goal of Government of India (GOI) and Reserve Bank of India in furthering Financial Inclusion by way of processing government disbursement using Aadhar number, to promote the electronification of payment and to support various schemes like NREGA (National Rural Employment Guarantee), Social Security Pension, Scheme for Handicapped persons, old age people from either state government and central government to send the financial details to the beneficiary using Aadhar number.

It will enable customer to undertake following transactions using AEPS:

- Cash withdrawal
- Cash Deposit
- Balance Enquiry
- Fund Transfer

Government of India has initiated Unique Identification Project for citizens of India. It is envisaged to use the UID (Unique Identification) to facilitate small payments through a single interface. The interface is targeted to achieve inter-operability between banks for Aadhar enabled financial inclusion transactions. AEPS is a safe, convenient channel suited for micropayments. It is required to have the encryption using UIDAI norms. During the initial launch under “Delhi
Annashree Program”, 12000 RuPay Debit Aadhar Cards were issued. NPCI is ready to offer e-KYC (Electronic – Know your customer).

UID authentication, depicted below at Figure 4, is likely to revolutionize the payment ecosystem in addition to confirming online and real-time biometric authentication. It will reduce cost of acquisition, increase customer convenience and facilitate transition to electronic transactions.

![Flowchart for On-Us MicroATM Transaction with UID Authentication](image)

**Figure 4. Flowchart for On-Us MicroATM Transaction with UID Authentication**

**Grain Procurement Solution – Pun Grain**

It was a unique project undertaken by NPCI. The grain procurement involved the cash transactions in which commission agents (Arthrias) get cash from procurement agencies. In a initiative by NPCI, it involved reverse interchange where in the transaction amount moved from issuer to acquirer. This can be considered as a unique innovation. By such an arrangement, RuPay Debit Card was issued to 8970 commission agents by deploying point of purchase terminals.

It enabled the grain procurement of over 37 lakh tones of paddy with a total settlement value amounting to Rs.50240 million. It provided significant advantages to various stakeholders such as Arthrias, Participating and Non-Participating Banks. Government Procurement Bodies, State Government and Reserve Bank of India. Commission agent received sales proceeds within maximum period of 48 hours as against couple of weeks earlier. Over 28,000 RuPay Debit cards were issued by 11 participating issuing bank and 7 acquiring bank. Encouraged by the response in the first session, second session covered total of ,55,000 transactions covered Rs. 120,000 million. Other states and situation can benefit from the development by replicating Pun Grain Model and by bring suitable chances as Haryana Model is also likely to facilitate procurement from farmers through electronic means. Indeed, it has a potential to extend to other products and services such as milk, spice, cotton, horticulture.
References


