

## *Indian Payments System Kaleidoscope\**

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Shri. M. Balachandran, Chairman, National Payments Corporation of India (NPCI); Shri A.P.Hota, MD & CEO, NPCI; members of the NPCI Board, other distinguished guests, delegates to the Conference from India and abroad; ladies and gentlemen! It is a privilege to be in the midst of this distinguished gathering to deliver the valedictory address at the "International Conference on National Payment Schemes" this afternoon. Indeed, this is a unique initiative by NPCI, the first of its kind to be held in India, which has provided a forum for interaction amongst the market participants and institutions from various jurisdictions engaged in various payment system related activities.

2. I observe that over the past day and a half of the conference, representatives from various countries- both developed and developing- have made presentations about innovative ways in which they have been making a difference to the payment systems in their respective countries through diverse product and service offerings. I understand that evolution and growth of card payment mechanism and mobile payments have been deliberated upon and so also, the issues of cyber security, innovation in payment systems, challenges/opportunities faced by the global payment systems, *etc.* I am sure all of you present here must have immensely benefitted from this experience sharing exercise and I believe that you have a better appreciation of the national payment schemes operating in different economies across the

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\* Valedictory address delivered by Shri S. S. Mundra, Deputy Governor, Reserve Bank of India at the International Conference on National Payment Schemes organised by NPCI on May 22, 2015.

globe. What I propose to do in my address is to briefly trace the recent developments in the area of payment systems in India, highlight some of the issues and challenges that are likely to assume importance in the foreseeable future and the way forward in dealing with these challenges. Let me, however, begin with emphasising the importance of the payment system for the economy.

### **Importance of Payment Systems**

3. We all know that safe, secure and efficient payment systems are vital for the working of financial markets and more generally for the economy itself. Any disruption to the payment system has the potential to disrupt the functioning of the financial markets and lead to systemic instability. When we talk about such large scale disruption probably we have in mind the bigger and systemically important payment infrastructure and larger payment system members, *viz.* Financial Institutions, Exchange Settlement System, Central Counter Parties and so on. At the other end of the spectrum, the payment system has to also serve the retail customers. In that sense, the payment systems also have an inclusion mandate so that the day to day needs of the people like remittance of funds and small value payments are met. It is also important to emphasise here that the Central Bank and the Government are also interested in weaning people away from cash and induce them to use cashless mode of payments like card, mobile, direct debit *etc.*

### **Role of payment system in promoting financial inclusion**

4. Let me briefly touch upon the role of payment system in promoting financial inclusion. There is a strong linkage between financial inclusion and the payment systems. The financial inclusion in its simplest form refers to banking inclusion where the

endeavour is to link the unbanked population with the formal banking system by opening their bank accounts. To inculcate the banking and savings habit amongst the people, it is important that all individuals have bank accounts where funds could be held - which initially could be through remittances in form of direct benefit transfers under the Central/State Government schemes.

5. The PMJDY scheme launched by the Government of India has achieved stupendous success in linking the unbanked with the banking system. Bank accounts have been opened for nearly 99.99 per cent of the households in India which has brought in 150 mn new customers coming into the banking system fold while nearly 135 mn RuPay debit cards have also been issued. These are huge numbers on a standalone basis and the payment system must be geared to handle this multi-fold increase in transaction volume. The payment system would need to be robust enough to process, settle and reconcile millions of new transactions day in and day out. I am sure that the Indian participants present here would leverage upon the intricacies of a wide variety of payment system infrastructure learnt during the course of the conference to improve the payment system infrastructure in the country to be able to cater to the needs of a billion people.

#### **Evolution of payment systems in India**

6. I now turn to some of the important developments that have taken place in the area of payment system in India under the guidance and oversight of Reserve Bank of India.

- Introduction of MICR clearing to mechanise the cheque clearing system in early 1980s
- Setting up of the Institute for Development and Research in Banking Technology (IDRBT)

in 1996 with an aim of technological upgradation and development of a reliable communication network

- Introduction of Electronic Clearing Service and Electronic Funds Transfer in the 1990s
- Permitting issuance of Credit and Debit cards by the banks in 1990s
- Interconnectivity of ATMs across the country by introducing the National Financial Switch in 2003
- Following the improvement in the Information Technology and introduction of CBS by banks, RTGS and NEFT introduced by the RBI in 2004
- Introduction of Cheque Truncation System (February 2008) and new RTGS with enhanced features (October 2013)
- The second factor authentication for the 'card not present' transaction, the first of its kind in the world, introduced by the RBI (February 2009)
- Launch of RuPay – a domestic card payment network (March 2012)

7. Let me also give you a sense of the manner in which the volume and value of payment system transactions have gone up in recent years. In volume terms, the no. of transactions handled in the RTGS has gone up to 92.77 mn as at the end of March 2015 from 68.51 mn as at the end of March 2013. During the same period, in value terms, these transactions have gone up from ₹677 tn to ₹754 tn. Under the retail payments (including paper clearing and retail electronic clearing), the volume handled more than doubled from 694 mn as at the end of March 2013 to 1687 mn as at the end of March 2015. Similarly, in

value terms also, this has more than doubled to ₹65 tn from about ₹32 tn. Further, the volume and value of card payments have also more than doubled in both volume and value terms during this period. The volume handled as at the end of March 2015 was 1,737 mn transactions with a value of ₹3.3 tn. These numbers are mighty impressive considering the level of economic development in the country but as I mentioned earlier, there is much more work needed to be done going forward. We need to develop the capabilities to handle more and more number of transactions in a safe, secure and efficient manner, if our objective of weaning consumers away from cash has to be achieved.

8. Several initiatives for infrastructure enhancements are currently on which include implementation of Trade Receivables and Discounting System and the Bharat Bill Payment System. The RBI had come out with a Vision Document for 2012-15 earlier and most of the objectives set out therein have been accomplished. The vision of RBI is to ensure that all "Payments and Settlement Systems in the country are safe, efficient, interoperable, authorised, accessible, inclusive and compliant with international standards". As I mentioned earlier, a sound and efficient payment system is a pre-requisite for a stable financial system and with the increasing volume and value of transactions, Central Banks can ill-afford to ignore payment systems. The RBI has also initiated the process of setting up of Payment Banks to further financial inclusion.

### **Role of NPCI**

9. You would have gone into the details of the role of NPCI in the sessions during the course of this conference. Since, I had the distinction of serving on the Board of NPCI for some time, I would briefly say a few words on the role and achievements of NPCI. It

was set up with an objective of ensuring pan-India payment systems with uniform business processes and standards and has already created an enabling eco system necessary for handling this huge task. Some of the achievements of NPCI which have significantly altered the retail payments landscape in the country are as under:

- The National Financial Switch (NFS), a vast network of ATMs, has enhanced accessibility to cash withdrawal and other basic banking facilities for customers, besides facilitating value added services such as bill payments.
- Cheque Truncation System (CTS) - It has been rolled out successfully in three grid locations across the country covering over 85 per cent of cheque volume processed. NPCI has now begun to facilitate the repository of images of cheques processed in CTS.
- Immediate Payment Service (IMPS) which started in October 2010 as an inter-bank mobile payment system has, over the years, transformed into a multi-channel 24x7 remittance platform in the country, accessible through net banking, mobile banking, at BC point, at branches as well as at ATMs.
- RuPay - the domestic card system which was launched in 2011 has slowly gained popularity and with its linkage under the Jan DhanYojana has become a household name.
- Aadhaar based payments, through linkage of biometric identifier with bank accounts, is facilitating the benefit payments to bank accounts of millions of beneficiaries, and will have significance on financial inclusion efforts in the country.

- National Unified USSD Platform (NUUP) – The setting up of National Unified USSD Platform for providing an interoperable USSD based mobile banking system is an unparalleled feat in itself as it links all telcos and all major banks, and offers services in over 11 languages. It has a lot of expectations as well as its potential for enabling financial inclusion is enormous.

10. The above are some of the milestones in the journey of NPCI thus far. I fervently hope NPCI is geared up to handle the huge volume of payments arising out of recent initiatives of the Government to distribute social benefits to the citizens in the electronic mode.

### Replicating global success stories

11. There are many success stories within different geographies across the globe in the arena of payment systems. To mention a few – the m-pesa system of Kenya, the 'tap and go' card scheme at Singapore, the union pay card scheme of China. If these models have worked so well and have been so successful in their respective countries, can we not simply replicate the model in our jurisdictions? The answer, I am afraid, is a big NO. Let me say why with the example of India.

12. India is diverse - in the sense of social customs, culture, religious beliefs. The diversity and multitude of population and geographic spread of the country- are some factors which make our task extremely complex. The ease with which people can handle technology also differs across people of different age groups, income levels, literacy levels *etc.* Hence, it is difficult to design product which can work seamlessly across all sections of the society. Thus, while it is true that no scheme or model can work seamlessly across

all economies; what might indeed be best is learn from the other successful delivery models and customise the product and service offerings to suit the DNA of the respective economy and society.

### Technology and the payment systems

13. Growing mobile and internet penetration has opened new avenues for the payment systems services. This is reflected in the way the new age customer transacts her business. To quote Brett King, the author of 'Bank 3.0':

*"Customers don't use channel or products in isolation of one another. Everyday customers would interact with banks in various ways. They might wire money to a third party, visit ATM to withdraw cash, go online to check salary credit, pay an utility bill , use their credit card to purchase some goods from a retailer , fill out a personal loan application online, ring up the call centre to see what their credit card balance is or report a lost card. More sophisticated they are, they may also trade some stocks, transfer some cash from their Euro A/c to USD a/c put up a lump sum in a Mutual Fund or sign up a home insurance policy online".*

14. The above statement denotes the diverse set of banking applications which technology can support. In fact, there is a need of a single channel solution to multiple product offerings. It must, however, be remembered that technology is just an enabler. Almost all banks in India have invested heavily in web-based and mobile-based delivery banking and payment solutions. Very often, these channels are supported by different vendors and also one use different technology which increases complexity and involves cost. Technology is ever evolving and adoption of new technology for staying contemporaneous is a costly

proposition. It is pertinent, therefore, that all the capabilities of the technology enabled delivery solutions are optimally exploited, so that we are not saddled with unproductive investments.

15. While there is a lot of euphoria around the adoption of mobile banking and mobile payments, the model has been relatively less successful barring a few countries where the right environmental factors existed. I am talking here about the delivery of financial and payment services by using the mobile device rather than its use as an access channel for internet banking *etc.* In the Indian context, an objective analysis would reveal various reasons for slow adoption. There are technical issues like type of handsets, variety of operating systems, encryption requirements, inter-operable platforms or the lack of it, absence of standardised communication structures, difficulty in downloading application, time lag in activation *etc.* These get accentuated by the operational difficulties in on-boarding merchants and customers and customer ownership issues. The interplay of these factors has stymied the deployment and adoption of mobile banking as an effective and widely accepted delivery channel. Issues of co-ordination and cooperation between banks and telcos, is another aspect which acts as either a driver or a barrier to the adoption of mobile banking. These issues need to be quickly resolved if the mobile payments have to succeed in our country.

### Emerging Scenario

16. It would be interesting here to visualise few scenarios which may emerge in future:

- Simultaneous impact of playing out of Reed's law and Moore's law where both "the payment space" and "the pinpoints" within the space would grow exponentially.

- Whether some of the technology companies and retail banks can undergo transformation to such an extent that the technology firm would appear more like a retail bank and *vice-a-versa*.
- More and more collaboration between a bank and non-bank.
- The gradual shifting of micro payments to mobiles leading to reduction in requirements of physical currency notes and coins.
- Salaries and payments distributed directly on the mobile wallet akin to currency distribution.
- With the reduction in cash transaction, ATMs might have to offer other services rather than only dispensing cash in order to remain relevant.
- Ease of credit through KYC, Mass Market Credit Rating at the click of a button.
- Whether cross-border transactions can also happen on mobiles in future?

The payment system players would have to gear up to accommodate and leverage upon such possibilities going ahead.

### Regulatory Challenges

17. The innovations in the payment system space and introduction of new products are already posing challenges for the regulators and these challenges are likely to intensify going forward. Some of the possible dilemmas/challenges that the regulators would be faced with in future are:

- Whether payment and settlement would remain banks' preserve? If not, what would be regulatory stance?

- What would be the way forward in regulating virtual currencies?
- Cloud computing and Cyber Security.
- Striking the right balance between ease of doing business and ensuring security.
- Challenges from mobile transactions becoming more user centric than transaction centric.
- Monitoring of cross-currency/cross-border mobile transactions, not if but when they happen.

The most important challenge for the regulator would be to do a tight rope walk between providing the "Right Guidance but not at the cost of stifling innovation".

### **Conclusion**

18. Let me conclude by once again congratulating NPCI for organising this international Conference. The institution has so far overcome difficult challenges and made significant achievements in different spheres of retail payment arena. However, it is just the beginning. It would need to be nimble-footed and innovate continuously to meet the challenges emanating from a dynamic world. As I said before, such conferences serve as an important forum to exchange ideas. I do hope that there are significant takeaways for the participants, which would help shape the design of robust and efficient payment systems to handle multitude of transactions and contribute to the economic growth in the respective jurisdictions.

Thank you!