Use of technology in the financial sector: Significance of concerted efforts*

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It gives me immense pleasure to be here with friends from the banking fraternity. In fact, being here is part of my annual pilgrimage to the Institute for Development and Research in Banking Technology (IDRBT). At the outset, I would like to compliment the Governing Council, faculty and staff of the IDRBT for continuing with their mission with distinction.

The foundation for large-scale induction of IT in the banking sector was provided by the recommendations of the committees headed by Dr. C. Rangarajan, in 1984 and 1989. Subsequently, in 1994, the Reserve Bank constituted a committee on 'Technology Upgradation in the Banking Sector'. The committee made a number of recommendations covering payment systems including setting up of an autonomous centre for development and research in banking technology. The IDRBT was created as a sequel. The Institute has established and operates the INdian FInancial NETwork (INFINET), performs research in banking technology and provides consultancy services apart from providing educational and training facilities for the banking sector.

In my remarks today, I would like to highlight the need for concerted efforts to enhance the use of technology in the financial sector to ensure efficiency, stability, competition and above all service to the common person.

Technology and the RBI

I would like to enumerate for record a few technology-related initiatives of the RBI. First, the establishment of the mechanised cheque processing systems using the Magnetic Ink Character Recognition (MICR) technology in India. These have been acknowledged the world over as systems which have stabilised well with overall reject rates of around 1% while, I understand, that

* Address by Dr. Y.V. Reddy, Governor, Reserve Bank of India at the Banking Technology Awards Function, 2006 at the Institute for Development and Research in Banking Technology, Hyderabad on September 2, 2006

the international rates are around 2%. Those who operate these systems, therefore, deserve to be complimented.

Second, the technological infrastructure created by the IDRBT since the establishment of the INFINET in 1999. This was aimed at sharing expensive IT resources so as to achieve the economies of scale. One of the notable achievements of the IDRBT has been the implementation of Public Key Infrastructure (PKI)-based electronic data transfer with very high security levels.

Third, the introduction of the Real Time Gross Settlement (RTGS) System. It has not only resulted in compliance with the Core Principles for Systemically Important Payment Systems of the Bank for International Settlements (BIS), Basle but has also paved the way for risk-free, credit push-based fund transfers settled on a real time basis and in the central bank money. We had an occasion to compare our RTGS system with other RTGS systems for placing before our Board for Payment and Settlement Systems. It emerged that the Indian RTGS system, which has the 'Y' topology, is considered to be the optimal choice and this topology has also been adopted by several central banks, which have implemented RTGS. Our approach towards intra-day liquidity and potential gridlock resolution follow international patterns. An evaluation of the various components of the RTGS system vis-à-vis the critical evaluation parameters set by the Bank for International Settlements, Basle indicates that we are close to the best on most of the parameters.

The facility for inter-bank funds settlement through RTGS is available today across more than 23,700 branches of banks spanning more than 500 centres in the country. While it is reassuring to note that transactions with large aggregate value are being settled through the RTGS system, with average daily settlement amounting to more than Rs. 60,000 crore, there is still scope for routing many more systemically important payments through the RTGS. For the purpose, enhancing the customer awareness at the user level would be an urgent imperative. It is essential that the RBI, banks and large players in the market make concerted efforts in this regard so as to ensure that all large-value customer payments across financial markets, which have systemic implications, flow into the RTGS, such as payments in the equity and

debt markets. Once the system achieves a critical mass of usage by the participants, a tipping point would be reached and it should be possible for the financial regulators to consider making the RTGS as the preferred mode for specified large-value transactions in the financial markets.

Fourth, creation of electronic fund transfer systems. It is not necessary that all the fund transactions are settled on a real time basis. It is, therefore, important to expand the reach of other electronic payment mechanisms for small-value customer transactions across the country. Towards this end, the Reserve Bank implemented the Electronic Funds Transfer (EFT) System in the mid nineties, which was later upgraded as the Special Electronic Funds Transfer (SEFT) System in 2003 and has now been further enhanced as the National Electronic Funds Transfer (NEFT) System since November 2005.

The NEFT system, an improved version of the EFT system, has enhanced security features and facilitates retail funds movement with multiple daily settlements, which enable customers to receive funds within two hours of the settlement. Today, the NEFT facility covers more than 5000 branches of 32 banks spread across 200 centres. The Reserve Bank has taken up as its mission, the expansion of the reach of NEFT to cover all computerised / networked branches of banks as outlined in the Payment Systems Vision document. The plan is to provide NEFT facilities initially at all the RTGS customer-enabled branches and thereafter, extend the same to cover almost all the computerised branches of banks across the country.

Finally, a major initiative, as far as funds movement is concerned, is cheque truncation. In order to improve efficiency and substantially reduce the time taken for cheque processing, the Reserve Bank has initiated steps to introduce a Cheque Truncation System (CTS). A pilot project is scheduled to commence in the National Capital Region in Delhi by the end of this year.

Over the years, the role of the Reserve Bank is changing in tune with the increased levels of maturity of the markets and the financial system as a whole. The role of the Reserve Bank in future would be of a catalyst of change as detailed in the Financial Sector Technology Vision Document published in 2005. In realising this vision, the need for shared efforts towards setting up of world class IT systems will gain greater significance. As a first step, the Reserve Bank has, through the IDRBT, facilitated the setting up the

National Financial Switch, which provides such an opportunity to the financial sector. I would urge the banks to make extensive use of this facility. IDRBT is also revamping the entire INFINET structure in consultation with the users to make it more efficient in tune with the international practices. Perhaps, a formal benchmarking of the functioning of our system with the global standards and practices may have to be done and the outcome placed in the public domain.

Technology Challenges for the Banking Sector

The entire approach towards technology-based banking has shown significant improvement since the initiation of reforms in the 1990s. The number of public sector banks which has migrated (or are in the process of migration) to Core Banking Systems (CBS), is an indication of the progress in this regard. The unique feature of the CBS is that the concept of branch-based banking gives way to the bank-based banking treating the constituent as the customer not of a particular branch but of the bank as a whole. Today, 21 public sector banks have embarked on the use of such systems and the number of CBS-enabled branches exceeds 14,000 as against 14 banks with about 5000 CBS-branches a year ago. Some of the banks are reportedly facing teething troubles in this area but I trust every effort would be made to stabilise the system to the satisfaction of all customers. I would urge that an assessment of the efficiency of functioning of CBS in all the banks be attempted to facilitate necessary improvements.

The commercial banks have to address various emerging challenges including those arising from large-scale IT deployment. These include the impact of CBS, more scientific risk management, better asset-liability management, ensuring effective anti money laundering measures, and the security concerns relating to implementation of IT in banks.

One issue, which often gets raised in any discussion on technology implementation, is the cost it entails. Products such as smart cards, which may not require significant initial capital costs and which can be easily implemented for a large customer base, hold the promise for the future.

Let me highlight some of the critical factors, which need to be adequately addressed while dealing with IT. Prime amongst them is the need to ensure appropriate security and integrity of the system. Security in IT systems is only as effective as the weakest link and as financial intermediaries, the banks have to ensure that security features incorporated in IT systems are the best of the breed. With ever-evolving information technology, the security concerns do not remain static and a system of an ongoing critical review of the efficacy of security features and measures needs to be instituted. Integrity of the data processed and stored in IT systems has to be ensured by the banks at all times and adequate back up, including real time replication, to the extent possible, provided for.

Another major requirement relates to disaster recovery management and the fail-safe business continuity plans. In today's world, customer expectations are high and ensuring uninterrupted availability of the IT resources, even in the event of a rather extreme contingency, assumes significance. The banking community, therefore, needs to put in place appropriate contingency plans and test their adequacy at regular intervals.

While the Reserve Bank is providing a common system-wide communications infrastructure, the ultimate objective should be for each bank to develop its own communications network so that the movement of funds within the banks is entirely managed through their own networks. This will avoid excessive dependence on INFINET and improve the overall systemic efficiency. Though a few banks have already done so, there is scope for further progress in this regard by others.

There are several co-operative banks too in the system which extend banking services and some of them also have relatively large-scale operations. Perhaps, it is essential that the use of technology in the co-operative banking sector too is enhanced, as appropriate, to bring them closer to the level of the commercial banks.

Technology and Financial Inclusion

We have been highlighting the need for financial inclusion which involves the provision of banking services to the vast multitude of population so far excluded from such services. As far as increasing the scope and

coverage of financial inclusion is concerned, some of the challenges which need to be effectively addressed include lack of adequate infrastructure in rural areas, relatively low volumes of transactions, comparatively higher transaction costs, and other factors such as the literacy levels of target customers.

Technology offers an excellent tool to effectively address the above challenges. Lack of infrastructure is being addressed in a variety of innovative ways, leveraging technology. Some of these include use of computer systems which do not require uninterrupted electric power supply, networking using radio frequency and other non-conventional methods, centralisation of processing systems leading to lower processing costs, provision of home-grown customised systems such as the low cost, multi-lingual ATM developed by the IIT, Chennai - all of which provide an impetus towards greater financial inclusion.

In South Africa, technology has been deployed to widen the financial inclusion with the introduction of MZANSI account, which is a card-based, limited-service, affordable savings account integrated with the merchant point-of-sale outlets, ATMs and even Post Office outlets. In Philippines, the card-based retail money movement system has won great acclaim. In India, the Reserve Bank, along with the IDRBT, is working on the use of multi-application smart-card systems which can serve as a bank account and also function as a store of electronic cash, as a data repository for essential information relating to the card holder, with built-in security features such as biometric identification, and which can also double up as an entitlement identifier or as a social security card.

It is gratifying to note from a NABARD report that a pilot project on smart cards has already been launched with Sri Visakha Grameena Bank in Andhra Pradesh, which has been one of the front-runner banks in financing Self Help Groups (SHGs). It is expected that with enhanced use of rural-oriented technology, the bank would be able to provide value addition to services offered to the rural clients and further expand its outreach in a sustainable manner. Banks could consider the feasibility of using smart cards for the ‘No Frills Accounts’ so as to help expand the coverage of the banking services and facilitate the garnering of the much-needed low-cost deposits.

Here again, the approach of sharing of IT resources would have much to commend itself.

Technology and the Government Sector

It would be appropriate to also outline certain aspects of application of technology to the Government business since RBI is the banker to the Central and State Governments. If we scan the technology initiatives of the States, we find a large divergence in technology absorption across the States. While States like Andhra Pradesh, Maharashtra, and Karnataka are generally ahead of others in e-Governance, this is just beginning to happen in the States like Madhya Pradesh, Uttar Pradesh, Bihar and the North East. As far as Central Government receipts are concerned, the Government's tax collection processes underwent a metamorphosis with the introduction of Online Tax Accounting System (OLTAS) for direct taxes. Enthused by the success of OLTAS, the Central Board of Excise and Customs, in consultation with the Reserve Bank, has introduced the EASIEST (Electronic Accounting System in Excise and Service Tax) project which envisages a comprehensive e-payment module that can be utilised by the banks' corporate customers. The pilot project for this is in an advanced stage of completion. Acceptance by the Government of electronic challans, based on formats to be available on their web sites, would make the process tax-payer friendly. It would also substantially reduce paper usage, provide for Straight Through Processing and obviate errors arising from the reconciliation process, wrong data entry, etc.

Another significant initiative taken in this sector by the Reserve Bank was the computerisation of State treasuries throughout the country. After detailed examination of the various aspects, steps are now underway for the establishment of electronic linkage amongst the State Treasuries numbering 3022, agency banks, Finance Departments of the State Governments, Office of the Accountant General and the Reserve Bank of India. This will help in speedier accounting of receipts and payments of the State Government departments, apart from serving as a road map for achieving end-to-end connectivity amongst various accounting agencies involved.

It needs to be noted in this context that while use of the state-of-the-art technology within the banking system is an asset, it also poses a challenge to the conventional banker and government accountants due to increase in the speed and complexity of transaction processing. The banks have to ensure that all transactions conducted as agents of Government are secure from end-to-end and are retrievable at any point of time. A successful example of this is the electronic import-licensing system of the Directorate General of Foreign Trade which has an electronic payment facility integrated with the IT systems of the banks.

I would like to take this opportunity to mention that at a recent conference of the State Finance Secretaries, the Finance Secretaries of several State governments expressed the view that the technological base and efficiency of services rendered by some of the banks handling Government business needed to be improved significantly. Relationship banking encompassing both, lending with a social focus and operating as a banker to the Government, is valuable but if the quality of service in handling Governments' transactions is not of high standards, some of the banks may not be able to retain their Government business at the current levels. Concerted efforts are, therefore, required by the States and their respective bankers in this regard.

Technology and Markets

Technology has played a significant role in improving the efficiency of the financial markets. The Negotiated Dealing System (NDS) has been functioning well. The introduction of Order Matching NDS (NDS-OM), has helped further in securing better price discovery, transparency in trading, reporting and electronic bidding at auctions. The NDS, implemented since February 2002, provides a platform for screen-based trading in government securities to the member banks and primary dealers with a facility to strike on-line deals anonymously and, thus, experience more efficient price discovery. The process involves the reporting of deals to the Clearing Corporation of India (CCIL) Ltd. which generates the settlement – gross for the securities and net for the funds leg. At the end of the day, the settlement information is transmitted to the RBI for effecting the same in its books. The CCIL also acts

as the central counterparty for the trades by guaranteeing the delivery of securities as well as funds.

We are in the process of fully integrating the NDS settlements with the RTGS. In order to improve the functioning of the corporate bond market, a High Level Expert Committee on Corporate Bonds and Securitisation (Chairman: Dr. R.H. Patil) has suggested various measures to revitalise the corporate bond market through setting up of trade reporting systems, trading platforms, auction platforms and clearing & settlement systems. The trade reporting systems suggested for corporate bonds is on the lines of Trade Reporting and Compliance Engine (TRACE) of National Association of Security Dealers (NASD) in the US. Such on-line real-time data dissemination will help the participants in making efficient trading decisions and at the same time, enable the regulators to obtain and monitor information on the market trends. These recommendations are under examination by the agencies concerned.

Concluding Remarks

The basic objective of deployment of technology in the financial sector should be to progressively move away from paper-based transactions, which include use of currency notes, cheques or challans, and to the extent possible, switch over to electronic means using RTGS or NEFT or any other electronic mode.

It is opportune that we are today recognising the valuable contributions of the path breakers in the field of banking technology. The identification of technology leaders and their recognition in the form of Technology Awards is a pointer that we are capable of excelling in our respective fields. The awards of today are not a destination but only mark a good beginning – of a more exciting and challenging era ahead of us in our march towards a technologically advanced and efficient, effective, progressive and inclusive financial system.

I wish you all success in your future endeavours.

Thank you.