Ranee Jayamaha: Impact of IT in the banking sector

Speech by Dr Ranee Jayamaha, Deputy Governor of the Central Bank of Sri Lanka, at the Trans Asia, Colombo, 22 January 2008.

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Introduction

The rapid advancement in Information and Communication Technology (ICT) has had a profound impact on the banking industry and the wider financial sector over the last two decades and it has now become a tool that facilitates banks' organizational structures, business strategies, customer services and other related functions. The recent "IT revolution" has exerted far-reaching impacts on economies, in general, and the financial services industry, in particular.

Within the financial services industry, the banking sector was one of the first to embrace rapid globalization and benefit significantly from IT development. The technological revolution in banking started in the 1950s, with the installation of the first automated bookkeeping machines at banks. This was well before the other industries became IT savvy. Automation in banking became widespread over the next few decades as bankers quickly realized that much of their labor-intensive information-handling processes could be automated with the use of computers. The first Automated Teller Machine (ATM) is reported to have been introduced in the USA in 1968, and it was only a cash dispenser. The advent of ATMs helped both to improve customer convenience and reduce costs, as before ATMs, withdrawing funds, accounts inquiries and transferring funds between accounts required face-to-face interaction between bank staff and customers.

1. Rapid advancement and gains to the banking sector

1.1 Overall, technological innovation has brought about the speedy processing and transmission of information, easy marketing of banking products, enhancement of customer access and awareness, wider networking and, regional and global links on an unprecedented scale. IT development has thus changed the product range, product development, service channels and type of banking services, as well as the packaging of such services, with significant efficiencies not only in the banks, but also the ancillary and feeder services to banks. The financial services industry has thus become virtually dependent on IT development. Most banks make visible efforts to keep up with new systems and processes.

1.2 The development in ICT has enabled banks to provide more diversified and convenient financial services, even without adding physical branches. The present day ATMs are more sophisticated machines that can scan the customer and a bank teller, accept cash or cheques, facilitate customer application for loans and allow for face-to-face discussion with a service representative via video.

1.3 The development of Internet services, which is an extensive, low-cost and convenient financial network, has facilitated banking services to customers, anywhere and anytime. Along with Internet and Web-based services, a need for changing core banking architecture has emerged. The introduction of new core banking systems by some banks and their links with the improved telecommunication network has enabled banking transactions to be done on-line, in contrast to the batch-processing mode used earlier. The integration of e-trading with internet banking and banks' websites is also a notable feature. These IT advancements have enabled banks to gradually replace manual work by automated procedures with on-line real time processing.

2. Adoption of IT by banks in Sri Lanka

2.1 The banking sector in Sri Lanka has undergone a rapid transformation with the adoption of IT-based banking solutions. The widespread usage of IT in Sri Lanka's banking sector began only in the late 1980s with the introduction of the first ATM by HSBC Bank in 1986. The introduction of ATMs and automated processes has reduced the cost per transaction significantly, as staff overhead costs have decreased.

2.2 Initially, the banks adopted systems developed in-house or used vendor provided systems on a decentralized basis, thus transforming manual systems to automated processes. However, most of the core-banking systems provided by different vendors were ad hoc solutions and on piecemeal basis, i.e. separate modules and technology platforms for key operations such as deposit mobilization and lending, trade finance, treasury operations, and more recently card transactions. Those who opted to implement new core-banking systems together with other sub systems and integrations may have made relatively large investments with sustainable gains to compensate costs. The arrival of new foreign and private banks with state-of-the-art technology-based services pushed other banks in Sri Lanka to move towards the latest technologies so as to retain their customer base and meet competition. The increasing competition in Sri Lanka's banking industry has widened the scope of the IT infrastructure development to meet diversified demands made by numerous users. Today, customers of some banks enjoy services through Internet banking, Telebanking, Mobile telephone banking and Visa/Master Credit and Debit card facilities. The growing competition and expectations have also increased awareness amongst banks of the role and importance of technology in banking.

3. Worldwide Outsourcing and Service Improvements

3.1 An even more recent area in which the advancement of ICT facilities has had a significant impact is in the outsourcing of financial services. By 2010, it is projected that more than 20 per cent of the global financial services industry might shift offshore. In 2005, 70 per cent of world financial institutions used outsourcing compared to 26 per cent in 2003. For developed countries, outsourcing financial services offer cost reductions, while IT companies in many developing countries, such as India, Sri Lanka, China, South Africa, the Philippines, Singapore and Malaysia got opportunities to use their IT skills and profit from it. Similarly, the outsourcing of business processes, such as call centres, general processing for human resources, finance and accounting, back office services has also taken place. This trend has influenced some banks in Sri Lanka also to form their own subsidiaries to handle IT operations within the group.

4. Central Bank initiatives

4.1 In the interest of the wider financial system stability, the Central Bank of Sri Lanka is responsible to ensure smooth, speedy and safe operations of the nation's payment, clearing and settlement systems. Since 2003, the Central Bank has taken the lead to introduce an efficient and safe payment and settlements for both high value and time critical transactions by introducing the Real Time Gross Settlement (RTGS) system for interbank and third party customers. The RTGS system is a computer-based fund settlement system, which processes and settles each payment instruction individually and irrevocably on a real time basis, using funds in the participants' RTGS Settlement Accounts or Central Bank funds provided under an intraday liquidity facility. At present, the value of transactions settled in the RTGS system accounts for about 81 per cent of the non-cash high value payments in Sri Lanka. The majority of RTGS transactions are on account of the inter-bank call money market, the government securities market, open market operations, the Rupee leg of transactions in the foreign exchange market, urgent and time critical payments of customers and net obligations under the clearing system operated by LankaClear Ltd, a venture jointly

owned by the Central Bank and commercial banks. In early 2004, the Central Bank implemented the Scripless Securities Settlement (SSS) System for settlement of government debt instruments in electronic or scripless form and settlement of trades of such scripless securities on a Delivery Vs. Payment (DvP) basis. This system has not only speeded up debt market transactions, but also reduced risks involved in paper-based government securities.

4.2 The Central Bank has taken the lead to provide and facilitate the clearance of retail payments, such as cheques, bank drafts and off-line fund transfers. In 2002, the Central Bank authorized LankaClear (Pvt) Ltd to provide cheque clearing facilities as the agent of the Central Bank. In May 2006, the Central Bank and LankaClear jointly launched the Cheque Imaging and Truncation (CIT) system, which facilitates electronic presentment of cheque images, instead of the physical cheques being transported to Colombo for clearing. The CIT system introduced a uniform cheque clearing time schedule of T+1 & T+2 throughout the country, enabling commercial banks, in most instances to credit cheque proceeds to their customers' accounts on the following or next business day. The island-wide CIT system has also changed the technology-related landscape of the retail segment of payments and clearing. These state-of-the-art systems have facilitated the banking industry to perform three major functions, i.e. access to and management of liquidity; provision of speedy payment services; and mitigation of risks relating to payments and clearing. These new technologies have not only reduced the use of manual processes, but also brought in a number of benefits to the banking industry in finalizing their settlements on an on-line and real time basis.

5. Business continuity plans and operational risk mitigation

5.1 IT advancements call for operational risk mitigation by banks. More recently, the Central Bank has encouraged banks to draw up Business Continuity Plans (BCPs), focusing on their core banking solutions, back-up systems and Disaster Recovery Sites (DRS). The Central Bank, being the owner and operator of the core payment systems, is keen to ensure that the banks have put in place adequate processes and systems to deal with any disruption to core banking and payment services. It took a considerable length of time to convince banks of the importance of having BCPs, back up systems and DRSs. Evidently, the establishment of these systems has given confidence to the customers that banks are in a position to deal with emergencies that could occur at any time.

5.2 With the advancement of IT and customers becoming comfortable with new technology, they demand greater convenience, reduced transactions costs and higher quality banking products and services. The reliability of the products and services are assured to a large extent by the attention paid to BCPs by banks. While these have increased productivity in the banking sector, banks have had to spend more money for the acquisition and installation of new IT systems.

5.3 Another risk faced by the banking industry due to its becoming a major user of technology, is the risk of failures to systems. The fact that “hackers” can get into banking IT systems, with or without inside help, demonstrates the magnitude of the problem. Specially, plastic card operations have been plagued with such risks. The increased IT knowledge of the general public and proliferation of cheap computer technology mean that weaknesses in card payment systems are exploited fraudulently. Banks need to address these new operational risks through acceptable BCPs.

6. Advanced technology, legal framework and regulatory compliance

6.1 Market discipline is extremely important to establish an efficient and stable banking system. There is no harm in banking institutions constantly looking for sound management and higher profitability, but the banking institutions’ behaviour is being closely watched by the markets, customers and investors. It is, therefore, important for the banks to disclose their financial conditions according to appropriate accounting methods, including International

Standards such as IAS 32, 39 and IFRS 7. Further, the banks have to enhance disclosures and introduce improvements to risk management and the provisioning for non-performing assets as per the Basel II framework. These requirements call for advanced infrastructure and technological transformation in banks. In moving towards advanced approaches under Basel II, "Data Warehousing" technology, along with sophisticated application programs for customer rating will be needed.

6.2 From a regulator's point of view, technology has supported the modernization of the supervisory approach and risk-based regulatory processes. As banking business continues to grow through innovative products and electronic information based services, it has also necessitated a more risk-focused approach to supervision. Regulators need to be alert to the nature of banks' activities, compliance with regulatory requirements, and their systems and controls, for which a continuous flow of information is necessary. To facilitate the collection of information, the Central Bank has established an on-line Web-based reporting system through a central database for all licensed banks. The banks forward their periodic reports to the Central Bank through this system, which facilitates collation and analysis of the information for off-site surveillance and to pursue corrective action by banks. In this respect, technology has not only changed the way banking business is conducted, but also to modernize the supervisory and regulatory framework in Sri Lanka and elsewhere.

6.3 In addition to spearheading with the introduction of new technology platforms for payments, clearing and settlements, the Central Bank also established a conducive legal and regulatory framework for IT related operations in Banks. During 2002 – 2006, the Central Bank introduced several amendments to the Registered Stocks and Securities Ordinance, Local Treasury Bills Act to facilitate RTGS and SSS transactions. In addition, the Central Bank also passed a dedicated law, i.e. the Payments and Settlements Act to regulate the national payment system with enabling powers to the Central Bank to monitor and regulate new payments instruments, systems and service providers. This Act also includes appropriate provisions for customer rights. In the retail payments area, prior to the introduction of the cheque imaging system through LankaClear, the Central Bank initiated amendments to the Bills of Exchange Ordinance, and Evidence Law to enable cheque images be recognized in courts. During the same period, the Electronic Transactions Act and the Payment Devices Frauds Act have been passed by the Government to authorize electronic transactions and to penalize fraudulent activities relating to card operations.

These laws are intended to provide an enabling regulatory framework for banks and financial institutions to use IT facilities for their operations and mitigate risks that could arise from the abuse of systems and instruments.

7. Product-centered IT development and limited customer benefits

7.1 IT developments in the Banks have positively impacted their customers, but regrettably in a limited way. For example, although the RTGS system intended to facilitate third party customer transactions, many have not been able to use the system for speedy settlements. The RTGS and SSS systems were entirely funded by the Central Bank through grants made available by the Ministry of Finance. While banks in Sri Lanka enjoy these highly subsidized clearing and settlement facilities with enormous benefits, very little effort has been made to offer part of the benefits to their customers. Until recently, some banks charged their customers more than three times the charge the Central Bank levy on banks for RTGS transactions. Moreover, customers are not even encouraged to use the system due to rigid time lines imposed on third party transactions.

7.2 In the case of retail transactions too, the benefits are not always passed on to the customers. In spite of the island-wide CIT system introduced by the Central Bank and LankaClear, some banks prefer to send physical cheques through courier services to Colombo from outstation areas, where LankaClear regional offices operate. We are not certain yet whether bank customers get the T+1 facility for which the system was intended.

Although the main purpose of the CIT system is to clear outstation cheque transactions, it is noted that the full benefits of this technology are not passed on to customers by way of speedy cheque clearing due to reluctance by some banks to upgrade their cheque imaging technologies partly because of the cost of acquiring new machines or for reasons known only to banks themselves. What is clear is that sophisticated and modern IT development has not been customer centric, aiming at reducing their transaction costs or enhancing service. The situation has improved after much persuasion by the Central Bank, but not through initiatives taken by banks.

8. Staying ahead

8.1 The banking sector is being driven by globalization, consolidation and convergence across the world with the pressure focused on achieving increased shareholder value through measurable investments in technology, cost reduction and performance management. Customers today require easily accessible services operating on a global platform, while investors strive for optimizing and maximizing returns. Successful banking institutions stay ahead and set the trends by adapting to market shifts, being proactive, keeping up with customer demands, and implementing change.

8.2 In the Sri Lankan context, the implementation of new and comprehensive IT systems is considered to be costly and the banks tend to compromise on the use of integrated solutions and advanced technology. Often, they prefer to adopt partial and ad hoc solutions, which may be less costly. Be it comprehensive or not, the primary objective should be to pass on the benefits of IT development to their customers by way of more efficient and speedier service at affordable costs. While some customers, the high networth customers in particular, do not consider the high cost of banking services as a deterrent, many medium and small scale businesses and individuals consider banking services to be unaffordable. In this scenario, some segments of the population would not reap benefits of the advancement of technology due to the denial of access to finance. There are many other areas where despite IT development in banking, the associated systems have not facilitated customer transactions at affordable costs. A classic example is the world-wide remittance flows. Due to the high cost of payments to banks, both at the capturing and the distribution points, nearly half of the world remittance flows are still in the hands of the informal systems like *Hawala* and *Undial*. Clients tend to move towards the informal financial sector, which is a form of financial exclusion. It is noted that, in recent times, banks in Sri Lanka have made some attempts to capture remittance flows through various means, by providing e-banking services through Internet banking, Tele-banking etc., free of charge. These e-banking products/services can also be extended to the remittance receivers where other infrastructure facilities like telecommunication facilities are available at affordable prices.

9. What should the strategy be?

9.1 Upgrade core banking solutions

9.1.1 Although the current IT environment has brought-in favourable results for banks, they should not ignore the use of major software and core operating system upgrades. It is necessary to change the systems when needed, if banks are to stay ahead of the game and sustain growth. For a long time, banks have considered core banking systems as a technology issue. Worldwide studies conducted on this subject clearly indicate that there is a need for robust core systems that link customers to core banking products and provide consistent information and services to them. The banks need to retain and enhance their credibility by providing a single version of answers to real time inquiries via different channels.

9.1.2 Multi-channel coordination, interbank payments, debit cards and Internet banking all drive customers to demand real time core banking services. Historically, banks have pursued a product-centric strategy and their IT architecture tends to reflect that mindset which has resulted in the application of ad hoc and stand alone systems. Some banks appear to have unrealistic fears regarding core system replacement. Risks, costs, past failures and other factors may have built up levels of apprehension. Yet, some have committed to replace core systems, while others have invested in extensions of all systems for short-term relief.

9.1.3 Many banking services are now delivered over the Internet through mobile phones and facilities at supermarkets. Two decades ago, a bank operated with a simple set of solutions for savings, cheque clearing and lending. Today, a bank may be offering well over 100 products, but the processes and technologies underlying such advances have often been implemented in piecemeal fashion. The result has been a dramatic increase in complexity that has caused many bank efficiency ratios to stagnate. From an IT perspective, core banking systems have come to resemble an intertwined cats cradle. During different business cycles, banks world over tend to be complacent. When profits are increasing and the economic environment is good, banks may think ***"Why should we change the core banking systems at this stage, when the existing system is running without much trouble?"*** If regulators and vendors put pressure on them, they may ask the question ***"Haven't we heard this story before?"*** But it is necessary to remember that sooner or later and those who have not attended to as yet, will be required to replace or integrate their core banking systems, given the rapid changes that are taking place in banking services as well as IT developments.

9.1.4 A core banking system replacement as part of a business transformation is not a minor task. However, the potential benefits include doubling of revenue growth owning to increased differentiation, cross sales, retention of high value customers, improved credit quality, speedy product creation and through enhancement of access to finance by vulnerable groups. It will also reduce annual IT costs including simpler application, optimization of hardware configuration and back office automation. Moreover, it would enhance reputation with clients and investors with exact regulatory compliance and better results in risk and financial management.

9.1.5 The effects of using ageing core banking systems were revealed by several surveys conducted on banks in Europe, Asia/Pacific and North America in 2001. Given heavy reliance on manual processes that hamper productivity, banks in the Asia/Pacific region have indicated that they spend 48% of their time on back office activities. North American and European banks spend a significantly lower amount of time on back office activities, ranging from 34-36%, respectively. Although the survey results are fairly old and things have changed dramatically since then, there is a clear call for modernized and integrated core banking solutions. The more encouraging news is that a significant number of banks around the world are planning major core banking replacements over the next few years. Banks, which have done comprehensive changes can relax, at least in the near future.

9.2 Use common or shared systems instead of propriety systems

9.2.1 It is also noted that, currently, an overwhelming majority of large banks in Europe and the Asia/Pacific region are running propriety systems. This percentage is expected to decline over the next few years, as banks tend to move towards vendor provided common solutions. Many Sri Lankan banks take pride in operating their own propriety systems, which may not be sustainable in the future. There appears to be reluctance on the part of the banks to move to common switches, common platforms or shared systems. This is partly because of the inordinate fear of one bank peeping into another's operations, huge sums already spent on propriety systems or due to pressure from the staff or management to retain existing and workable systems. As long as these reservations exist and there is reluctance to use common or pooled infrastructure or shared technology, customers will continue to have limited or no benefits with no reduction in transaction costs. This is not to suggest that

propriety systems and bespoke solutions should be discarded altogether. But, it is important to realize that many more benefits can be achieved and the same can be passed on to customers with integrated core banking solutions.

9.3 Design a customer-centric business vision

9.3.1 To begin with, banks should have a clear vision for future business directions and operating models and they should align IT processes accordingly. With respect to core banking solutions, they should use flexible, robust and future-oriented IT architecture based on a customer-centric approach. The benefits of such a transformation would result in: (i) significant and sustainable reduction in total cost of IT systems; (ii) consistent customer information across core channels; (iii) dramatic shortening of time to market new and innovative products without new coding; (iv) straight-through processing capability with improved service standards and a reduction of risks due to greater automation; (v) increased scalability and cost reductions due to speedy and more efficient systems being freed for additional capacity; (vi) integration due to open communication standards with new applications; and (vii) ability for expansion as and when needed. A product-centric strategy, however, is vulnerable due to changing tastes of customers and the types of commodity, whereas a customer-centric strategy would allow the bank to differentiate itself on dimensions that are harder to replicate. In other words, customer-centric IT enhancement will enable superior customer service and understanding to meet specific needs. Customer layers as well as preferences too can change, but there will always be a new set of customers to replace each layer.

9.4 Shared or common IT platforms and close coordination

9.4.1 Banks cannot engage in a significant IT transformation by themselves or in a very short time. They need partners with long experience and proven track records who can help set businesses and IT targets and lay out roadmaps. Banks can phase this type of industrialization in several ways by streamlining existing systems through unification. For example, 3 or 4 core collection systems can be integrated into one and rolled out to other areas. A gradual approach would work best, reduce risk and enable incorporation of known future trends and customer requirements. A customer-centric approach would help to reduce transaction costs to them through pooled or shared platforms. To avoid inordinate fears of using common platforms it is desirable to have a set of self-regulations and ethical practices agreed upon by all stakeholders. Banks also need to coordinate with the telecommunication service providers to link bank IT systems with those of the telecommunication services. The Telecommunication has been a popular mode of accessing financial services. Banking through SMS has made virtual money transactions popular in recent times. Some banks have already started link ups with telecommunications and others need to follow suit.

10. Conclusion

10.1 IT development has undoubtedly brought-in enormous benefits to banks, particularly in terms of productivity increases, cost reduction through labour saving and increased profitability. Consequently, IT development in banks has become more product centric and retail and wholesale IT products have positively influenced productivity and profitability. IT use has increased outputs and reduced costs as both IT capital investments and IT human resources have a positive relationship to productivity. Banks should stay ahead of the game and sustain growth by taking bold decisions to survive and beat competition. The time has come to move towards a customer-centric approach, as customers should be given an opportunity to enjoy their share of benefits stemming from IT development. This would increase banks' competitiveness through differentiation and customer service improvement, reduced transaction costs, better risk avoidance, and maintaining a stable customer base and market share.

10.2 It is possible to extend the capabilities of existing systems at a lower cost rather than by increasing mainframe capacities, if core banking and related legacy systems can be modernized by exploring a more service-oriented customer centric architecture. Discussions should be held with vendors and service providers to use Web service and service-oriented architecture that are technology and platform-neutral. Banks' new IT strategy should not only be based on a customer centric approach but it should also enable transaction cost reduction, financial inclusion and speedy and efficient services to customers. Banks should also aim to pass on concessions and benefits that the government or regulators have given them, or at least share such benefits with customers. To make a real impact, banks should change their mind set, better utilize their IT human resources and capabilities and move towards more cost-effective common or shared IT platforms, which will help improve customer services and financial inclusion.

Thank you.