

EMERGING FACE OF THE INDIAN BANKING SECTOR WITH INNOVATIONS IN ICT

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ABSTRACT

Banks are a financial intermediary that mobilise funds from the depositors and lend funds to the investors. Banking System forms the backbone of any modern economy. The economy derives the maximum benefits from the banking system when it is efficient as well as inclusive. The world has seen rapid pace of development in digital technologies in recent decades and these developments have touched all sectors of the economy. Banking Sector is no exception. In the past two decades Indian Banking Sector has also adopted a number of innovations taking place in Information and Communication Technology. This has led to emergence of an altogether new face of the Indian Banking for its users. Banking is now fast moving away from brick & mortar branches to hand-held devices. The banking outreach has also improved at a tremendous pace. Competitive pressure has been forcing Banks to continuously adopt the innovations taking place in Information and Communication Technology. This descriptive research paper traces the adoption of innovations in Information and Communication Technology (ICT) that have resulted in emergence of a new face of the Indian Banking Sector. Paper also identifies the challenges in the way of the Banking Sector due to adoption of digital technology.

KEYWORDS: Banking Sector, ICT Innovations, Banking Outreach, Digital Technology

INTRODUCTION

Banks are a financial intermediary that mobilise funds from the depositors and lend funds to the investors. Banking System forms the backbone of any modern economy. The economy derives the maximum benefits from the banking system when it is efficient as well as inclusive. The world has seen rapid pace of development in digital technologies in recent decades and these developments have touched all sectors of the economy. Banking Sector is no exception. In the past two decades Indian Banking Sector has also adopted a number of innovations taking place in Information and Communication Technology. This has led to emergence of an altogether new face of the Indian Banking for its users. Banking is now fast moving away from brick & mortar branches to hand-held devices. The banking outreach has also improved at a tremendous pace. Competitive pressure has been forcing Banks to continuously adopt the innovations taking place in Information and Communication Technology. This descriptive research paper traces the adoption of innovations in Information and Communication Technology (ICT) that have resulted in emergence of a new face of the Indian Banking

Sector. Paper also identifies the challenges in the way of the Banking Sector due to adoption of digital technology.

REVIEW OF LITERATURE

Banking system mobilises the funds, and is one of the most effective drivers of economic growth. Access to finance or formal banking facilities in developing countries has been considered as a necessity just like safe drinking water or primary education (Beck & de la Torre, 2006; Leeladhar, 2005). As banking services are in the nature of public good, it is essential that availability of banking and payment services to the entire population without discrimination is the prime objective of the public policy (Leeladhar, 2005). Technological innovations in banking have provided many efficient alternate delivery channels to customers (Frei et al, 1998). According to Kumar (2010) in the "second half of 1990's banking sector in Northern India has made progress in terms of all the operational parameters such as outreach, efficiency, productivity, NPAs, etc." and this was also the period of technological innovation in banking sector. Coverage of banking sector in India has increased manifolds but the rural banking orientation has lost the priority and All India

Debt and Investment Survey (AIDIS, 2013) reveals that share of Non-institutional credit also increased. There has been a deceleration on rural branch expansion since 1992. In fact, the number of rural branches decreased due to the merger of a few and closure of some. (Moodhitaya, 2012). It reveals that reaching the marginalized strata is a costly measure and it cannot be achieved by traditional practices like Brick and Mortar Banking. Therefore, alternative banking started taking place such as Banking Correspondent, Mobile Banking, ATM, Internet Banking, etc. . Banking shifted towards a less costly, efficient and effective alternative solutions. In the last few decades, ICT has developed several alternate channels of banking to support the banking sector in general and financial inclusion in particular. Alternate channels of banking provided an easy and efficient way to avail banking services as compared to traditional branch banking model (Howcroft, 1993; Kumbhar, 2009). According to Gupta (2011), development in Information and Communication Technology (ICT) has strongly supported the inclusive development and it has bridged the gap to reach the unreached through an effective and efficient mean. Financial inclusion is not only about opening an account and providing banking services, but from supply side it has its own cost and here ICT has played an expediting role by decreasing the cost (Arnaboldi & and Clayes, 2008; Jayawardhena and Foley, 2000) manifolds and also it has stimulated the financial inclusion drive that had weakened. Advancement in banking concepts, computer and telecommunication technology made possible banking services from anywhere rather than being present in traditional brick and mortar bank branches. Modern services in banking to customers is now supported by several interactive technologies, such as the internet, mobile applications and interactive kiosks, leading to the emergence of multi -interface service systems (Patricio et al, 2013).

It will make a useful discussion as to how information and communication technology based innovations in banking are changing the face of Indian banking. Further, technological innovations are giving rise to a number of issues like cybercrimes, ATM and online frauds etc. and these are posing challenges for bank managements, supervisory & and regulatory bodies.

Therefore, this study is divided into following four sections:

The paper first specifies the objectives of the study, followed by description of expansion of information and communication technology based innovations in the banking sector. Next, the paper discusses the emerging challenges due to adoption of the ICT. Finally, the paper concludes with recommendations.

OBJECTIVES OF THE STUDY

1. To provide description of expansion of information and communication technology in the Indian banking sector.
2. To describe the challenges in the way of the Banking Sector due to adoption of information and communication based technology.
3. To point out the policy initiatives to overcome the challenges.

I. EXPANSION OF INFORMATION AND COMMUNICATION TECHNOLOGY BASED INNOVATIONS IN INDIAN BANKS

Over the past two decades Indian banking system witnessed rapid transformation. The main driver of transformation has been the fast adoption of Information and Communication Technology (ICT) based innovations in the banks. Two decades ago huge red ledgers, row of racks of ledger holders, cash scrolls, registers, clearing cheque scrolls, totalling machines, long rolls of paper ribbons, all these were common sight in an Indian bank's branch. There used to be customers standing in queue in bank branches staring anxiously at the staff, their eagerness to catch up bank timings to log in transactions, searching for known employees to deposit/receive payments late at the counters. With the adoption of ICT based innovations the banking work space has changed for good. Bank branches are now sporting a smart look. Mouse, laptops, and computers have taken the branch space. Most of the standard transactions can be done using onsite ATMs. Branch timings are losing value as multiple alternative delivery channels have come up. Access to banking services can be had using ATM card, mobile app or electronic purse.

The ICT driven value proposition has transformed the whole range of banking services to customers. It has also changed the skill set required for the bank employees. The focus of employees is now more on the business development instead of executing transactions, reconciliation and other housekeeping works. Though technology has changed the face of Indian banking, its entry into banking system was initially sluggish.

Rangarajan Committee Recommendations and Establishment of Institute for Development and Research in Banking Technology, Hyderabad : Foundations of ICT in Indian Banking

The foundation for large-scale introduction of IT in the banking sector is credited to the recommendations of the committees headed by Dr. C. Rangarajan, in 1984 and 1989. The Reserve Bank constituted a committee on 'Technology Up-gradation in the Banking Sector' in 1994. This committee too made a number of recommendations covering payment systems including setting up of an autonomous centre for development and research in banking technology. The Institute for Development and Research in Banking Technology (IDRBT), Hyderabad, was created . It established Indian Financial Network (INFINET), undertakes research in banking technology and provides consultancy services to banks in addition to providing educational and training facilities. It plays the role of an incubator for bringing innovation in banking technology.

Introduction of Core Banking Solutions: Towards Anywhere Banking

Banks began using ICT with entry of Automated Ledger Posting Machines (ALPMs) followed by standalone PCs with migration to Local Area Network (LAN) connectivity. The system of intra branch connectivity with a common software continued for a few years. Then arrived the inter- branch

connectivity. The stand alone IT infrastructure in banks developed in early 2000 began to migrate to core banking platform. This facilitated access to bank account from anywhere providing anywhere and anytime banking. The technology was known as CBS and it was based on centralized processing of data. The CBS technology brought sea change in banking services. Now, a customer was not only connected to his branch, but to his bank and all banks got connected to one another. Thus CBS led to integration of the entire banking industry. CBS led innovation and growth of a large number banking products and services that were hitherto unimaginable.

Expansion of Network and Introduction of e-banking Products: Towards Anywhere Banking

Having moved to CBS, banks began to introduce e-banking products and expanded network of on-site and off-site ATMs. The statistics of RBI of March 2010 indicates that 90% of Bank branches are on CBS mode. Of the remaining 10%, 7.8% are fully computerized, while 2.2% branches are partially computerized. The total number of ATMs has reached 60153, of which 45.7% are off-site ATMs. The service charges on use of other bank's ATMs have been dispensed with in first five transactions in a month. The Regional Rural Banks (RRBs) have also begun to move to CBS mode. The cumulative ICT spent in banks from September 1999 up to March 2012 works out to Rs 22052 crores. CBS enables branches to work as a delivery channel while centralizing the data processing. CBS supports real-time, multibanking and multi-channel services. After implementation of CBS customer of a branch is a customer of the bank.

Diversification of ICT delivery channels and Expansion of ICT based banking products / Services

CBS made possible 24X7X365 delivery channels such as Automated Teller Machines (ATMs), and Net and Mobile banking by enabling centralized, efficient, accurate and timely management data. CBS enhanced the capability of banks to handle large number of transactions economically. Now, mass banking is replacing class banking. CBS now encompasses customer relationship management, treasury, ATM application, electronic banking, management information system, internet banking, mobile banking, smart card operations, biometric ATMs etc. ICT based innovations go much beyond the CBS. On-line electronic payment systems, generation of SMS alerts against transactions, online internet/e-banking, mobile banking, operations through point of sale terminals (POS) are just a few examples. The emergence of Indian Financial Network (INFINET), Structured Financial Messaging System (SFMS), VSAT connectivity, cable and leased line connection, fibre optics channels, etc., have contributed in using ICT more aggressively for customer convenience.

Electronic Clearing and Cheque truncation: Revolutionising Settlement of Payments

ECS Debit/ECS Credit facilitates execution of electronic standing instructions and lead to timely settlement of payments. Banks are increasingly shifting most of the back-office activities to remote processing centres. This has enabled branches to better attend to customer needs. ICT has helped hive off multiple branch activities to a different location to enable branch employees to focus on business development. The ICT has thus, come to be a strategic business enabler and

a means for bringing innovation. In order to improve efficiency, reduce operational risk and time taken for cheque processing, the Reserve Bank has initiated steps to introduce a Cheque Truncation System (CTS) where scan images of cheques will travel to their destination in the place of physical cheques – another revolutionary step using the ICT based innovation.

RTGS / NEFT: Moving Beyond Cheques

As a remittance product, RTGS / NEFT have gained massive popularity. RTGS is a large value payment system which processes both customer and interbank transactions of Rs.2,00,000 and above, while the NEFT is essentially a retail payment system. Further, while RTGS is a real-time gross settlement arrangement, NEFT is a near-real time system with settlements taking place at hourly intervals. Both systems are operated by the Reserve Bank of India. The facility of RTGS and NEFT is available in over 70,000 branches with 119 members and 99 banks participating in the respective systems. The volume and value of transactions processed through the two systems has shown an impressive growth. Electronic fund transmission has twofold advantages - enhanced speed with efficiency and KYC compliance.

Centralization of Specialized work processes:

ICT based innovations have changed the working of the bank altogether. On the one side it has changed the customer interface, on the other side, it has led to creation of specialised processing centres. ICT has made possible Centralized loan processing hubs, city back offices, regional bank offices, call centres, centralized sales outfits etc. Similar activities are being pooled at one place for the sake of efficiency and economy. Sometimes, the processing is done in a different country for efficiency purposes. These processing centres have resulted into branches working on thin model focussed on delivery of services to the customers.

Improved Banking Services: From Brick and Mortar Banking to Virtual Banking

The switch from class banking to mass banking would not have been possible without ICT based banking innovations. Banking services are now available on laptops and hand-held devices. The entire financial services industry has thus become virtually more connected under enabling ICT innovations.. Most banks made visible efforts to keep up with the new systems and processes to deliver improved services to customers. Moreover the spurt in broadband internet users from 35 million in 2007 to 50 million in 2010 is likely to increase density of internet banking base substantially. By 2020, the internet users are set to reach 250 million opening up new vistas of growth. Internet has facilitated delivery of banking services to customers, anywhere and anytime.

Growing Opportunities with Increased Competition

Integrated global financial markets and enabling banking technologies to reach anywhere- anytime have expanded the markets for banks. At the same time, due to intense competitive pressure under deregulated and liberalised market, profit margins are shrinking. Under the circumstances, banks rely on ICT based innovations to keep their operating costs low and widen the product portfolio, process the transactions and manage risks.

II. EMERGING CHALLENGES IN THE BANKING INDUSTRY DUE TO ADOPTION OF INFORMATION AND COMMUNICATION TECHNOLOGY

Financial inclusion: Reaching the Unreached

Creation of ICT infrastructure requires huge investments. Investment on such scale is commercially viable with very large customer base. Moreover, ICT infrastructure, once created, makes it possible to serve the large number of customers with minimal incremental costs. Finally, vast majority of Indian population is still unbanked. The entire success of implementation of Financial Inclusion Plan of banks will rest on wider usage of ICT platform and innovation of low cost delivery models.

Real-Time Risk Management

Banks are in the business of risk management. ICT based platform allows banks to increase their customer base, connect to a large number of electronic devices and transfer funds instantaneously from one bank to another bank - anywhere in the world. This results in increased risk to the banking sector. Banks need to manage risks – credit, market and operational – on an ongoing basis. In this respect, banks need to put in place robust risk management systems which are able to monitor millions of transactions and manage risks on real time basis.

Some of the areas of concerns are as below:

- Ensuring reliable and secure banking transactions.
- Protecting against breach of privacy
- Promotion of Computer literacy in India to enable customers to protect against fraud.
- The secrecy and confidentiality of customers account .

Leveraging ICT: Spreading Tech-literacy

ICT based banking innovations have brought the banking services on handheld devices. For the success of ICT revolution in banks the most challenging task is to make customers use technology. Even objective of financial inclusion can be achieved only after spreading tech-literacy. The basic purpose of using technology is two-fold. One is to enhance the quality of service. The other is to reduce transaction cost. Banks would be in a better position to offer affordable banking service to a larger number of customers. Spreading awareness among the customers about the benefits of technology is to be taken up along with financial literacy launched as part of Financial Inclusion. The more customers are migrated to alternative delivery channels, the more will be the reduction in costs. Hence leveraging ICT will be a critical differentiator for the banks to innovate and save costs.

Managing Human Capital

In one of the recent studies by McKinsey & Company in its publication (Aug 2010) “The Zhuman capital key: unlocking a golden decade in Indian Banking”, He pointed out that “Over the decade, the Indian Banking Industry is poised for unprecedented growth but only if it can dramatically strengthen its human capital. For banks to realize their full potential, developing robust leadership capability and improving productivity will be critical”. Mentoring, grooming, skill building, training and upgrading human competence and leadership can be possible only if the various capabilities are captured as part of HR function. In order to do so, ICT can be leveraged to parameterize and capture the granular set of competence. Gap analysis can be done. Skill gaps can be identified. Then the exercise of building up the missing skill sets will be possible.

Heavy Investment in ICT Infrastructure

The other challenge for e-banking is well developed infrastructure. For effective deployment of e-banking services, it is necessary to have a reliable and cost effective infrastructure that can be accessible to the majority of the population. The base communication infrastructure for e-banking is computer network with internet facility. Most of the transactions use internet to communicate with the customers. Automating the banking services is another prerequisite for e-banking. Close financial links between banks and other financial institutions is necessary. This link is used for clearing and payment systems among these institutions. In order to offer e-banking services, banks have to invest huge amount of money. They have to incur heavy maintenance costs also. This may not be the problem for well established banks. But in case of new and small banks, they have to face financial problems at the initial stage. Banks in developed countries have already deployed huge amount of investments for e-banking services.

Socio-Cultural Challenges

Normally customer's confidence and trust in traditional banking system will make customers less likely to adopt new technologies. New technologies will not be successful until customers are satisfied with privacy and security aspects. It also requires some time to earn confidence among the customers even it is easier and cheaper than the traditional methods.

III. Conclusions and Recommendations

Introduction and expansion of ICT based banking innovations have led to a win-win situation for all stakeholders – Banks, Customers as well as the Economy as a whole. ICT based innovations have helped to decrease the cost of making banking transactions, expanded the banking outreach and have made the banking services faster. Further, it has increased the competition among the banks leading to decline in the cost of banking products along with improvement in services offered. The increased efficiency in the banking sector is good for the economy by way of cheaper and larger funds. Financial inclusion is now not a distant reality, as ICT makes that possible.

However, while bringing these benefits, expansion and popularity of ICT faces some challenges. Creation of ICT infrastructure entails a lot of cost. The issue of cost becomes all the more important in view of the fast changing technological environment and resulting in quick obsolescence of the technology. Many small banks may find such investment outlays prohibitive. There is also demographic division in India when comes to tech-literacy. A vast majority of people are still not conversant with the technology used in ICT based banking services.

In view of the above, it is recommended that to overcome the prohibitive cost of ICT infrastructure, small banks can come together and pool funds to develop common ICT infrastructure. Next, policymakers would do well to take steps towards the consolidation of the banking sector. A few large banks would be better in place of a large number of smaller banks with duplication of similar facilities. ICT based banking innovations can take the financial inclusion drive to its conclusion provided tech-literacy is disseminated among the masses. Also there is a need to educate the customers of banking services regarding the steps to follow to prevent the potential frauds. ICT based banking services are new for the banks as well customers; hence it is prone to frauds. Regulatory

bodies as well banks need to put in place robust risk management systems at all levels to prevent any fraud of disproportionate scale, failing which, the credibility of ICT based banking solutions will come under question.

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