



ISSN: 0975-833X

Available online at <http://www.journalcra.com>

INTERNATIONAL JOURNAL
OF CURRENT RESEARCH

International Journal of Current Research
Vol. 11, Issue, 03, pp.2184-2187, March, 2019

DOI: <https://doi.org/10.24941/ijcr.33903.03.2019>

RESEARCH ARTICLE

INFORMATION TECHNOLOGY IN THE BANKING SECTOR OPPORTUNITIES AND STRATEGIES

^{1,*}Dr. Malleswari Devi, A. and ²Mrs. A. Devaki

¹Associate Professor in Commerce, SPW Degree and PG College, Tirupati, India

²Lect. in Commerce, Govt. Degree College, Nagari, India

ARTICLE INFO

Article History:

Received 26th December, 2018
Received in revised form
23rd January, 2019
Accepted 27th February, 2019
Published online 31st March, 2019

Key Words:

E-Banking, Services, Innovation,
Challenges.

ABSTRACT

Electronic banking is generally an extension of traditional banking, using the internet as an electric delivery channel for banking products and services. The banking today is redefined and re-engineered with the use of IT and it is sure that the future of banking will offer more sophisticated services to customers with the continuous product and process innovations. Thus there is a paradigm shift from seller's market to buyer's market. So banks also change their approach from "Conventional Banking to Convenience Banking" and "Mass banking to Class Banking". The study examines various relevant issues relating to role of IT in banking and recommends to ensure privacy and confidentiality of data. Implementing IT and other Cyber laws properly. This will ensure the developmental role of IT in the banking industry. The technology needs to be integrated in an organization, with the change management issues linked to people resisting new concepts and ideas. It also needs to support a clearly defined and well communicated business strategy.

Copyright © 2019, Malleswari Devi and Devaki. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Dr. Malleswari Devi, A. and Mrs. Devaki, A. 2019. "Information technology in the banking sector opportunities and strategies", *International Journal of Current Research*, 11, (03), 2184-2187.

INTRODUCTION

The 21st century will bring about an all-embracing convergence of computing, communications, information and knowledge. It is now fundamentally changing the delivery systems banks use to interact with their customers. All over the world, banks are still struggling to find a technological solution to meet the challenges of a rapidly-changing environment. It is clear that this new technology is changing the banking industry forever. Banks with the ability to invest and integrate information technology will become dominate in the highly competitive global market. Bankers are convinced that investing in IT is critical. Its potential and consequences on the banking industry future is enormous.

Technology and Banks Transformation: The changes that new technologies have brought to banking are enormous in their impact on officers, employees, and customers of banks. Advances in technology are allowing for delivery of banking products and services more conveniently and effectively than ever before - thus creating new bases of competition. Rapid access to critical information and the ability to act quickly and effectively will distinguish the successful banks of the future.

The bank gains a vital competitive advantage by having a direct marketing and accountable customer service environment and new, streamlined business processes. Consistent management and decision support systems provide the bank that competitive edge to forge ahead in the banking marketplace. The process of computerisation marked the beginning of all technological initiatives in the banking industry. Computerisation of bank branches had started with installation of simple computers to automate the functioning of branches, especially at high traffic branches.

Major applications: The advantages accruing from computerization are three-directional - to the customer, to the bank and to the employee.

For the customer: Banks are aware of customer's need for new services and plan to make them available. IT has increased the level of competition and forced them to integrate the new technologies in order to satisfy their customers. They have already developed and implemented a certain number of solutions among them:

- Self-inquiry facility: Facility for logging into specified self-inquiry terminals at the branch to inquire and view the transactions in the account.
- Remote banking: Remote terminals at the customer site connected to the respective branch through a modem, enabling the customer to make inquiries

*Corresponding author: Dr. Malleswari Devi, A.,
Associate Professor in Commerce, SPW Degree and PGCollege,
Tirupati.

regarding his accounts, on-line, without having to move from his office.

- Anytime banking- Anywhere banking: Installation of ATMs which offer non-stop cash withdrawal, remittances and inquiry facilities. Networking of computerized branches inter-city and intra-city, will permit customers of these branches, when interconnected, to transact from any of these branches.
- Telebanking: A 24-hour service through which inquiries regarding balances and transactions in the account can be made over the phone.
- Electronic Banking: This enables the bank to provide corporate or high value customers with a Graphical User Interface (GUI) software on a PC, to inquire about their financial transactions and accounts, cash transfers, cheque book issue and inquiry on rates without visiting the bank. Moreover, LC text and details on bills can be sent by the customer, and the bank can download the same. The technology used to provide this service is called electronic data interchange (EDI). It is used to transmit business transactions in computer-readable form between organizations and individuals in a standard format.
- As information is centralized and updates are available simultaneously at all places, single-window service becomes possible, leading to effective reduction in waiting time.
- Availability of a wide range of inquiry facilities, assisting the bank in business development and follow-up.

For the bank: The major advantages for the bank to implement IT are:

- Immediate replies to customer queries without reference to ledger-keeper as terminals are provided to Managers and Chief Managers.
- Automatic and prompt carrying out of standing instructions on due date and generation of reports.
- Generation of various MIS reports and periodical returns on due dates.
- Fast and up-to-date information transfer enabling speedier decisions, by interconnecting computerized branches and controlling offices.

For the employees:

- IT has increased their production and enabling them to give more attention to the needs of the customer.
- Signature retrieval facility, assisting in verification of transactions, sitting at their own terminal. Avoidance of duplication of entries due to existence of single-point data entry
- The new Delivery Systems: Growing comfort of technology usage by the customer rapidly fostering usage of non-branch channels for transactions.
- The new strategy changes the focus of the branch from being a high cost transaction center to a provider of a wide range of services like telebanking, customer service kiosks, ATMs and remote electronic banking.
- New Marketing Opportunities: The internet is a medium to allow banks to offer products to customers outside the normal customer base of a branch.

- Electronic business transactions can only be successful if financial exchanges between buyers and sellers can occur in a simple, universally accepted, safe and cheap way.

The process of computerization marked the beginning of all technological initiatives in the banking industry. Computerization of bank branches had started with installation of simple computers to automate the functioning of branches, especially at high traffic branches. Networking of branches are now undertaken to ensure better customer service. Core Banking Solutions (CBS) is the networking of the branches of a bank, so as to enable the customers to operate their accounts from any bank branch, regardless of which branch he opened the account with. The networking of branches under CBS enables centralized data management and aids in the implementation of internet and mobile banking. Besides, CBS helps in bringing the complete operations of banks under a single technological platform. CBS implementation in the Indian banking industry is still underway. The vast geographical spread of the branches in the country is the primary reason for the inability of banks to attain complete CBS implementation.

Satellite Banking: Satellite banking is also an upcoming technological innovation in the Indian banking industry, which is expected to help in solving the problem of weak terrestrial communication links in many parts of the country. The use of satellites for establishing connectivity between branches will help banks to reach rural and hilly areas in a better way, and offer better facilities, particularly in relation to electronic funds transfers.

Development of Distribution Channels: The major and upcoming channels of distribution in the banking industry, besides branches are ATMs, internet banking, mobile and telephone banking and card based delivery systems.

Automatic Teller Machines: ATMs were introduced to the Indian banking industry in the early 1990s initiated by foreign banks. Most ATM technology was used as a means to partially overcome this handicap by reaching out to the customers at a lower initial and transaction costs and offering hassle free services.

Introduction of Biometrics: Banks across the country have started the process of setting up ATMs enabled with biometric technology to tap the potential of rural markets. A large proportion of the population in such centers does not adopt technology as fast as the urban centers due to the large scale illiteracy. Development of biometric technology has made the use of self service channels like ATMs viable with respect to the illiterate population. Though expensive to install, the scope of biometrics is expanding rapidly. It provides for better security system, by linking credentials verification to recognition of the face, fingerprints, eyes or voice.

Multilingual ATMs: Installation of multilingual ATMs has also entered pilot implementation stage for many large banks in the country. This technological innovation is also aimed at the rural banking business believed to have large untapped potential.

The language diversity of India has proved to be a major impediment to the active adoption of new technology, restrained by the lack of knowledge of English.

Multifunctional ATMs: Multifunctional ATMs are yet to be introduced by most banks in India, but have already been recognized as a very effective means to access other banking services. Multifunctional ATMs are equipped to perform other functions, besides dispensing cash and providing account information. Mobile recharges, ticketing, bill payment, and advertising are relatively new areas that are being explored via multifunctional ATMs, which have the potential to become revenue generators for the banks by effecting sales, besides acting as delivery channels. Most of the service additions to the ATM route require specific approval from the regulator.

ATM Network Switches: ATM switches are used to connect the ATMs to the accounting platforms of the respective banks. In order to connect the ATM networks of different banks, apex level switches are required that connect the various switches of individual banks. Through this technology, ATM cards of one bank can be used at the ATMs of other banks, facilitating better customer convenience. Under the current mechanism, banks owning the ATM charge a fee for allowing the customers of some other bank to access its ATM. Among the various ATM network switches are CashTree, BANCS, Cashnet Mitr and National Financial Switch. Most ATM switches are also linked to Visa or MasterCard gateways. In order to reduce the cost of operation for banks, IDRBT, which administers the National Financial Switch, has waived the switching fee with effect from December 3, 2007.

Internet Banking: Internet banking in India began taking roots only from the early 2000s. Internet banking services are offered in three levels. The first level is of a bank's informational website, wherein only queries are handled; the second level includes Simple Transactional Websites, which enables customers to give instructions, online applications and balance enquiries. Under Simple Transactional Websites, no fund based transactions are allowed to be conducted. Internet banking in India has reached level three, offering Fully Transactional Websites, which allow for fund transfers and various value added services.

Phone Banking and Mobile Banking: Phone and mobile banking are a fairly recent phenomenon for the Indian banking industry. Phone banking channels function through an Interactive Voice Response System (IVRS) or telebanking executives of the banks. The transactions are limited to balance enquiries, transaction enquiries, stop payment instructions on cheques and funds transfers of small amounts (per transaction limit of Rs 2500, overall cap of Rs 5000 per day per customer). With the rapidly growing mobile penetration in the country, mobile banking has the potential to become a mass banking channel, with very minimum investment required by the banks.

Card Based Delivery Systems: Among the card based delivery mechanisms for various banking services, are credit cards, debit cards, smart cards etc. These have been immensely successful in India since their launch. Penetration of these card based systems have increased manifold over the past decade. Aided by expanding ATM networks and Point of Sale (POS) terminals, banks have been able to increase the transition of customers towards these channels, thereby reducing their costs too.

Payment and Settlement Systems: The innovations in technology and communication infrastructure in recent years have impacted banks in a large way through the development of payment and settlement systems, which are central to the

major portion of the businesses of banks. In order to strengthen the institutional framework for the payment and settlement systems in the country, the RBI constituted, in 2005, a Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) as a Committee of its Central Board. The BPSS now lays down policies relating to the regulation and supervision of all types of payment and settlement systems, sets standards for existing and future systems, approves criteria for authorization of payment and settlement systems, and determines criteria for membership to these systems, including continuation, termination and rejection of membership.

Paper Based Clearing Systems: Among the most important improvement in paper based clearing systems was the introduction of MICR technology in the mid 1980s. Though improvements continued to be made in MICR enabled instruments, the major transition is expected now, with the implementation of the Cheque Truncation System for the processing of cheques.

Cheque Truncation System (CTS): Truncation is the process of stopping the movement of the physical cheque which is to be truncated at some point en-route to the drawee branch and an electronic image of the cheque would be sent to the drawee branch along with the relevant information like the MICR fields, date of presentation, presenting banks etc. Thus, the CTS reduces the probability of frauds, reconciliation problems, logistics problems and the cost of collection. The cheque truncation system was launched on a pilot basis in the National Capital Region of New Delhi on February 1, 2008, with the participation of 10 banks. The main advantage of the cheque truncation system is that it obviates the physical presentation of the cheque to the clearing house. Instead, the electronic image of the cheque would be required to be sent to the clearing house. Through the introduction of advanced electronic funds transfer mechanisms, the RBI has been successful in diverting a large portion of paper based transactions to the electronic route.

Electronic Clearing Service: The Electronic Clearing Service (ECS) introduced by the RBI in 1995, is akin to the Automated Clearing House system that is operational in certain other countries like the US. ECS has two variants- ECS debit clearing and ECS credit clearing service. ECS credit clearing operates on the principle of 'single debit multiple credits' and is used for transactions like payment of salary, dividend, pension, interest etc. ECS debit clearing service operates on the principle of 'single credit multiple debits' and is used by utility service providers for collection of electricity bills, telephone bills and other charges and also by banks for collections of principal and interest repayments. The RBI has recently launched the National Electronic Clearing Service (NECS), in September 2008, which is an improvement over the ECS currently operational. Under NECS, all transactions shall be processed at a centralized location called the National Clearing Cell, located in Mumbai, as against the ECS, where processing is currently done at 74 different locations. ECS system has a decentralized functioning, and requires users to prepare separate set of ECS data centre-wise. Users are required to tie-up with local sponsor banks for presenting ECS file to each ECS Centre.

Electronic Funds Transfer Systems: The launch of the electronic funds transfer mechanisms began with the Electronic Funds Transfer (EFT) System. The EFT System

was operationalised in 1995 covering 15 centres where the Reserve Bank managed the clearing houses. Special EFT (SEFT) scheme, a variant of the EFT system, was introduced with effect from April 1, 2003, in order to increase the coverage of the scheme and to provide for quicker funds transfers. SEFT was made available across branches of banks that were computerized and connected via a network enabling transfer of electronic messages to the receiving branch in a straight through manner (STP processing). In the case of EFT, all branches of banks in the 15 locations were part of the scheme, whether they are networked or not. NEFT provided for integration with the Structured Financial Messaging Solution (SFMS) of the Indian Financial Network (INFINET). The NEFT uses SFMS for EFT message creation and transmission from the branch to the bank's gateway and to the NEFT Centre, thereby considerably enhancing the security in the transfer of funds. In order to increase the coverage of NEFT to a wider section of bank customers in semi-urban and rural areas, an enhancement of the NEFT called the NEFT-X [National EFT (Extended)] is also proposed for phase wise implementation. This would facilitate non-networked branches of banks to transfer funds electronically by accessing NEFT-enabled branches for transfer of funds. NEFT (Extended) would work on a T+1 basis and would ensure wide rural coverage of the electronic funds transfer system.

RTGS: The introduction of RTGS in 2004 was instrumental in the development of infrastructure for Systemically Important Payment Systems (SIPS).

Categories under SIPS

The Interbank Clearing System

The High Value Clearing Systems

The Equities Clearing and Settlement Systems of the Stock Exchanges

The MICR Clearing System

The Government Securities Clearing System

The Foreign Exchange Clearing System

The Real Time Gross Settlement System

The payment system in India largely followed a deferred net settlement regime, which meant that the net amount was settled between banks on a deferred basis. This posed significant settlement risks. RTGS was launched by RBI, which enabled a real time settlement on a gross basis.

To ensure that RTGS system is used only for large value transactions and retail transactions take an alternate channel of electronic funds transfer, a minimum threshold of one lakh rupees was prescribed for customer transactions under RTGS on January 1, 2007. Banking industry is heavily depending upon information technology that needs professionals for development, implementation and support. Resistance to change and the absorption capacity is often neglected once the automation system is adopted. However, this human factor is a critical factor in the success of any banking application of information technology. The only way to solve this problem is to design adequate training programs and increase the awareness of the employees.

Conclusion

Strategy for the future: Banks will have to first develop a comprehensive distribution system that will enable customers to touch them at multiple points. Banks must also create performance measurement systems to assure the mix products and services they offer are beneficial to both the customer and the bank. They must determine whether to deploy new technologies themselves or with other service providers. The technology needs to be integrated in an organization, with the change management issues linked to people resisting new concepts and ideas. It also needs to support a clearly defined and well communicated business strategy.

REFERENCES

- Chakrabarty K.C. 2009. "Mobile Commerce, Mobile Banking - The Emerging Paradigm", India Telecom Conference.
- De Young, R. 2005. "The Performance of Internet-based Business Models: Evidence from the Banking Industry", *Journal of Business*, Vol. 78 No. 3, pp. 893-94
- Ghosal Souren, 2010. Mobile Banking for inclusive growth by microfinance institutions.
- Mobile banking in India - Perception and Statistics, available at, [http://www. telecomindiaonline.com/telecom-india-daily-telecom-station-mobilebanking-in-india-perception-and-statistics.html](http://www.telecomindiaonline.com/telecom-india-daily-telecom-station-mobilebanking-in-india-perception-and-statistics.html),
- Nair K.G.K. and Prasad P.N. 2002. Development through Information Technology in Developing Countries: Experiences from an Indian State, *The Electronic Journal of Information Systems in Developing Countries*.
