

## AN ANALYSIS OF IT'S INFLUENCE ON INDIA'S BANKING SECTOR

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### ABSTRACT

India's banking sector is experiencing an IT transformation right now. The foundation of the Indian financial system is the banking sector, which faces numerous difficult challenges. The revolution in information technology is one such force. In this era of globalization, technology support is critical to the smooth operation of the banking industry. The impact of technology on the Indian banking industry is the main topic of this research study. Information technology and communication are essential to the banking industry's performance and have increased its influence in the Indian economy. Information technology is the use of computer technology and telecommunications systems for the collection, processing, storing, and exchange of all kinds of information. Information technology is a framework that integrates acquisition and development of IT to accomplish certain goals.

**Keywords:** - IT (Information- Technology); Banking Industry; CRM; ATM

### INTRODUCTION

In the banking industry, information technology refers to the application of advanced computer science and information and communication technologies to allow banks to provide better services to their clients in a safe, dependable, and economical way while maintaining a competitive edge over other banks. By utilizing modern technologies, banks are no longer limited to their typical banking operations and are instead exploring alternative routes to grow their clientele and seize new markets. Technology is very important in the financial industry because it gives banks a competitive edge that helps them provide effective customer service.

In the evolution of the Indian economy, the banking industry is a key player. There has been a rise in productivity, efficiency, and penetration of technology. It has improved cost effectiveness and contributed to the viability of small value transactions. It also expands options, opens up new markets, and boosts efficiency and production. The banking industry has always been at the forefront of the economy, and innovation is crucial to the use of cutting-edge technology. A few products of the automation process are mobile banking, web-based banking, ATMs, a variety of cards, and electronic delivery methods. Due to the IT revolution, banks are linking their computer systems more and more not just between branches within a city but also to other regions, establishing high-speed network infrastructure and opening up local areas and networks to an expanding amount of users. In comparison to their predecessors, today's clients are more tech-savvy and have higher expectations, making them more demanding. Instantaneous, anyplace, and whatever banking services are what they demand. Even though the Reserve Bank of India has developed numerous laws regarding the integration of I.T. into the general operations of commercial banks in India, it is imperative that these concerns be addressed in order for Indian banks to remain competitive on a global scale.

#### Transformation of Indian Banking

In the recent decade, the banking industry in India has changed drastically. The transition from a manual, scale-limited setting to a technological frontrunner has been nothing short of miraculous. This change occurs in such a short amount of time and at such a cheap cost.

Indian banks have gone through a number of stages since independence, broadly speaking,

#### Pre- Reform Period

There was a time when banks merged up to 1966, and then there was a time when they expanded significantly, both geographically and functionally, from 1966 to 1980.

a time when branches merged between the middle of 1980 and 1991. Rather than being propelled by market forces, the aforementioned developments were prompted by policy.

#### Post- Reform Period

Several liberalization measures were implemented in the banking sector in the 1990s, however the introduction of technology into the Indian banking business can be traced back to the Rangrajan committee report in the 1980s. The reform of the Indian banking system sought, among other things,

to promote operational achieve systemic self-sufficiency, adaptability, and competition; raise banking standards in India to meet or exceed worldwide best practices. They were able to reach global benchmarks in terms of prudential standards and preeminent practices thanks to the second wave of reforms, which started in 1997 and aimed to reorganize measures, grow human resources, upgrade technology, and develop structurally.

- Emergence of new private and international banks armed with cutting-edge technology was facilitated by the relaxation of licensing regulations.
- Investment banking, insurance, credit cards, mortgage financing, depository services, securitization, etc. are some of the new avenues that banks can pursue thanks to deregulation, increasing their potential for profit.

Banking is evolving from a middleman to a financial supermarket, offering a wide range of services all in one convenient location.

## LITERATURE REVIEW

We have studied the following literature reviews on the topic of the effects of IT on the banking industry. "The Economic Times: KPMG on Technology-Enabled Transformation in Banking" According to this article from Banking technologies, Conclave 2011, new technologies would completely change the banking industry by the year 2015. Products that are friendly to customers, efficient delivery methods, services that are easy to access, and competitive price points, with technology playing a crucial part in all of these. Models that leverage efficient payment methods and mobile devices will expand access to financial services. All hours.

**The Narasimhan Committee (1998)** addressed concerns related to technological advancement and It has been noted that the majority of technology that could be deemed appropriate for India has been tested or introduced in a modified form, but the intended results have not materialized due to factors such as unclear and unanticipated legal frameworks.

The essay "Impact of information Technology on Indian banks" by **Sobol and Cron (2006)** sought to determine the correlation between computerization and other indicators of overall company performance. Users vs. non-users, three tiers of usage, and computer usage class are the three performance comparisons given. The results show that overall performance is connected to computerization. Small businesses with average overall performance are the most common non-users.

**The Sharma brothers, M.C. and Abinav**, "The Financial Sector in India and the Role of IT" The research finds that the public sector banks in India, which account for over 75% of the market, have been proactive in the area of information technology. They plan to decentralize decision-making and move towards a centralized database. They have top-notch employees. There is a high level of IT awareness and appreciation. The expansionary actions that are required require a "big push" similar to the one that was provided during the time after nationalization. "Technological Developments in Indian Banking Sector" by **Drs. Satish Tanaji Bhosale and B.S. Sawant** The contribution of the banking sector to India's economic growth is the subject of this article. The bottom line is that banks can't afford to ignore technology if they want to boost their penetration, productivity, efficiency, cost-effectiveness, and speed of service. Help the country advance economically by providing customers with service that is both convenient and efficient.

## OBJECTIVE

- To examine the function of information technology in the Indian banking sector.
- Specifically, we want to look at how widespread the usage of IT-enabled services is in India's banking sector.
- The goal is to evaluate the many facets of Indian banks' information technology offerings.
- In order to assess the state of information technology in the banking sector in India.

## RESEARCH METHODOLOGY

Secondary data for this study came from a variety of sources, including articles in peer-reviewed publications, online databases, and published reports from the Reserve Bank of India and other public sector banks. There are a number of references to other studies on this topic in this one as well.

### **The Development of Information Technology in the Indian Banking Sector**

A number of committees established by the Reserve Bank of India (RBI) and the Indian government have monitored the adoption of new technologies in the banking sector, and their recommendations have shaped the sector's technical evolution. The use of technology did not see any significant breakthroughs from the industry until the early 1980s, when a few committees and working groups hinted at the necessity of automating certain banking operations. Computerization and mechanization were greatly advanced in Indian banks in the early 1980s. During this time, the RBI and banks were cautious about implementing mechanization, including avoiding the use of computers, in order to circumvent opposition from employee unions. But this was the pivotal era that broke the ice, paving the way for gradual but steady acceptance of technology on a global scale.

#### **Important events in evolution of IT**

- In 1986-1988, a first for the area, MICR-based cheque processing, was implemented.
- The introduction of debit and credit cards in the late 1980s and early 1990s.
- Late in the 1990s, electronic clearing services (ECS) were introduced.
- The Reserve Bank of India (RBI) established a committee to improve banks' technology in 1994. It was in 1996 that the Institute for Development and Research in Banking Technology (IDRBT) was founded, following the committee's recommendations.
- The Indian Financial Network (INFINET) was created in 1999 through joint efforts between the Indian Department of Rural Banks and the Reserve Bank of India. Only banks and other financial institutions are allowed to use the network.
- In the early 2000s, Electronic Fund Transfer (EFT) was introduced.
- Starting in March 2004, RTGS was introduced.
- In 2005/2006, National Electronic Fund Transfer (NEFT) was introduced to replace Electronic Fund Transfer and Special Electronic Fund Transfer.
- The Reserve Bank of India (RBI) launched the Cheque Truncation System (CTS) or Image-based Clearing System (ICS) in 2008 to expedite the clearance of cheques in India.

#### **Recent IT Trends of Indian banks**

In order to keep up with the competition, overcome technological obstacles, and satisfy customer demands, the banking industry is undergoing a time of fast change. One obvious differentiator in bank success is technology. Innovation in both product and procedure should be considered by banks. Not only is technology altering our physical surroundings, but it is also influencing how businesses interact with their clients. In addition to removing many obstacles, technological advancements have also resulted in better products and distribution methods.

As a result, the emphasis is now squarely on the client connection. It is also seen as a tool for saving money and communicating effectively with those involved in the banking industry. The Reserve Bank of India has made improving the financial system's technology infrastructure a top priority. Banking has benefited from technological advancements in the form of new products and services, expanded markets, and more efficient delivery systems. Additionally, the banking business can adapt to the current competitive climate with the help of IT. Global financial transfer costs can be reduced with the help of IT.

Here are a few examples of new IT gadgets:

Electronic Payment and Settlement System-Cheques and other negotiable instruments are the most typical forms of bank receipts and payments. Rather than using currency, these instruments could be utilized. Clearing house systems could make interbank cheques a reality. At first, there existed a clearance mechanism that relied on human intervention, but the increasing number of financial transactions made automation of the process inevitable. The Reserve Bank of India (RBI) established the Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) in 2005 to fortify the electronic and clearing system's institutional environment. The Reserve Bank of India (RBI) was given the authority to oversee and control the payment and settlement system and to provide a legal framework for settlement and netting across countries when the Payment and Settlement System Act was enacted in 2007.

**The Reserve Bank of India (RBI) has implemented the following reforms to its payment and settlement systems:**

**Use Of MICR Technology-** Magnetic ink character recognition (MICR), which was introduced in the mid-1980s, was one of the most significant advancements in paper-based clearing systems. MICR allows customers to bypass the restriction of checking their accounts during banking hours in order to expedite the credit. To facilitate efficient distribution of cheques drawn on certain banks, these machine-readable codes were appended to the bottom of each cheque leaf. This allowed for sorting of cheques by bank and branch. Even with this partial automation, physical transmission of checks persisted, which sped up the clearing process.

**CTS (Cheque Truncation System)-** Ten banks were involved in the 2008 test launch of the CTS in New Delhi. A truncation occurs when a drawer stops physically sending checks to the drawee branch. At some point on its way to the drawee branch, the physical instrument is shortened, and a digital copy of the check is transmitted to that location with the appropriate details, submission date, presenting banks, MICR fields, etc. This would make the process of collecting or realizing checks much faster by doing away with the need to transfer physical instruments between branches, unless there are really dire circumstances. This would cut down on the time it takes to pay checks, the cost of transportation, processing delays, etc. It is imperative that all customers of participating banks receive replacement check books from their institutions without delay, ideally prior to the end of December 2012. There are more security elements on "CTS 2010" checks, thus starting on January 1, 2013, all bank customers should utilize them.

**Electronic Clearing Services (ECS)** –A system comparable to automated clearing houses already in use in other nations, such as the United States, was established by the Reserve Bank of India (RBI) in 1995. "Electronic Payments" in India were initially implemented with the ECS. It is a way to transfer money digitally. Money moved between bank accounts through the clearing house system. If you need to move money from one account to multiple accounts at once, or vice versa, this feature will come in handy. There are around seventy-four centers in India that offer ECS. The recipient is required to keep an account with the bank that is represented at the ECS center.

**There are two types of ECS (Electronic Clearing Service)**

**ECS- Credit** - Transactions such as salary, dividend, pension, interest, etc. are processed through ECS credit clearing, which operates on the basis of "single debit multiple credits."

**ECS-Debit**-Utilities and banks both utilize the CS debit clearing service, which works on the idea of "single credit multiple debits," to collect payments for things like energy, telephone, and other costs. Payments made over ECS are processed on a T+1 basis. Once they've registered with an authorized clearing house, any ECS user can complete the transactions. An upgraded version of the ECS, the National Electronic Clearing Service (NECS) was introduced by the RBI in September 2008. Unlike the ECS, which presently processes transactions at 74 separate sites, the National Clearing Cell (NECS) is based in Mumbai and handles all transactions consolidated. Because of the decentralized nature of the ECS system, users are required to prepare their own sets of ECS data center-wise. In order to submit an ECS file to any ECS Centre, users must first establish partnerships with local sponsor banks. Fifty different banks' 25,000 branches are part of the NECS as of September 2008. More efficiency is anticipated to be brought about by NECS, which leverages the core banking infrastructure.

**Electronic Fund Transfer (EFT)** -In 1995, the Reserve Bank took over the clearing houses and the EFT System became live at fifteen different locations. Starting on April 1, 2003, a new version of the EFT system called the Special EFT (SEFT) scheme was implemented to expand the coverage of the plan and to facilitate the transfer of funds more rapidly. Through a network that allowed for the direct transmission of electronic messages from one computerized branch to another, SEFT was made available across all bank branches. For EFT, it didn't matter if the banks' branches were networked or not; they were all involved in the scheme. In an effort to expand EFT's reach, a new version of the program, the National EFT (NEFT), was decided to be deployed in November 2005. The system allowed for the movement of retail monies electronically between the many bank branches that were part of the nationwide network. NEFT made it possible to connect to INFINET's Structured Financial Messaging Solution (SFMS). By utilizing

SFMS, the NEFT significantly improves the security of financial transfers by creating and transmitting EFT messages from branches to bank gateways and the NEFT Centre. Now that NEFT is live, SEFT is no longer available, and EFT is reserved for government payments exclusively.

**Real Time Gross Settlement (RTGS)** -The Real Time Gross Settlement (RTGS) system was introduced by the Reserve Bank of India (RBI) in 2004. A "real time" and "gross basis" money transfer method, the RTGS system allows for the instantaneous movement of funds between financial institutions. By any measure, this is the quickest network for the movement of funds via financial institutions. "Real time" settlement eliminates the need for a holding period in financial transactions. Upon processing, the transactions are immediately settled. A "gross settlement" occurs when all parties involved pay each other directly, without combining their funds with those of other transactions. On January 1, 2007, a minimum threshold of one lakh rupees was mandated for client transactions under the Real Time Gross Settlement (RTGS) system. Since then, retail transactions have used an additional route of electronic money transfer.

**Core banking Solutions (CBS)** -Installing basic computers to automate the operations of branches, particularly those with a high volume of customers, was the first step toward computerizing bank branches. Core Banking Solutions (CBS) involve integrating a bank's branches in a way that allows consumers to may access their accounts at any branch of the bank, not only the one where he first created the account. Through CBS's branch networking, centralized data management and the introduction of online and mobile banking are both made possible. In addition, CBS facilitates the unification of all banking activities onto a unified IT infrastructure.

**Development of Distribution Channels**-Internet banking, card-based delivery systems, mobile and telephone banking, and automated teller machines (ATMs) are the most important and soon-to-be-popular distribution methods in the banking business.

**Automated Teller Machine (ATM)** -Foreign banks were the first to bring automated teller machines (ATMs) to the Indian banking sector in the early 1990s. This is the part of online banking that has been the most game-changing. Access to automated teller machines (ATMs) is granted by plastic cards that feature a magnetic strip that contains data about both the client and the financial institution. The most practical tool for ensuring "Any Time Banking" and "Any Where Banking" in today's society are ATMs.

**Phone Banking**- Customers now have the option to call the bank's authorized phone number, where they can access the bank's computer by entering their ID number. By employing manned phone terminals for more complex inquiries and transactions and automatic voice recorders (AVRs) for more straightforward ones customers can conduct any non-cash related banking transactions over the phone, including inquiries and transactions: Whenever, whenever.

**Tele Banking**- Another invention that allowed customers to bank at any time of day or night was tele banking. A key component of tele-banking is the ability of bank computers to process voice requests. Any time a consumer has a question about their account balance or transaction history, they can simply phone the bank. Due to the increasingly lengthy queues at ATMs, telebanking is gaining popularity.

**Internet Banking**- Customers can conduct financial transactions through the bank's website on the Internet through internet banking. A customer can use this system from the comfort of their own home or office computer to access their accounts and general information about the bank's goods and services. Online banking is another name for this.

**Mobile Banking**- An expansion of online banking is the mobile banking function. To those who have bank credit card accounts, the bank offers mobile banking services. Banks and cellular service providers work together to offer mobile banking services through messaging applications like WAP and SMS. capable handheld devices.

**Customer Relationship Management (CRM)** -Customer relationship management (CRM) is a set of practices and technologies that help firms locate, acquire, and keep customers. CRM procedures that make it easier to give workers access to relevant data attend to the requirements and desires of their clients and establish rapport between the business and its clientele.

## CONCLUSION

The Indian banking sector may benefit greatly from the many opportunities presented by information technology. It systematically provides services to the client in a timely manner while keeping costs down. More efficient use of technology has allowed for more precise and rapid handling of the influx of transactions. amounts of money that banks get from their clients. The banking industry in India is reaping the rewards of the global IT revolution.

Virtual banking, often known as direct banking, is another idea that is rapidly growing in popularity around the globe. The idea behind this is that banks may do away with physical branches altogether by providing all of their products, services, and financial transactions online. The United States and Europe, two examples of developed nations, have previously experimented with this idea. These banks are able to undercut more conventional financial institutions on price because they save money on branch maintenance and employee salaries. The tech-savvy bank in India will also use this idea. In order to stay competitive in this age of globalization, Indian banks need also embrace this idea. There are two notable aspects of the current shift in Indian banking toward virtual banking rather than traditional direct banking:

**Reducing Paper Use** Making a purchase through wireless means The goal of banks in bringing technology to clients' doorsteps is "delight customer satisfaction" through the design and provision of user-friendly, secure solutions. Actually, digital technology has succeeded in making India a win-win for all parties involved. If you're looking for online banking, you'll have to look beyond Indian banks. Creating adequate infrastructure or having a sufficient number of users is actually necessary for this to be possible. The future of banking is going to be determined by technology. So, financial institutions should look for the change's catalyst. The rapid and persistent incorporation of technology should be the primary emphasis of Indian banks. Even while Indian banks aren't quite as tech-savvy as their Western counterparts, they are nonetheless keeping up with the majority of global developments in information technology.

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