



The Influence of Technology on India's Banking System

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ABSTRACT

Nothing remains the same in the banking and finance industry. The breadth of the banking industry has undergone the largest transformation of all. The classic definition of banking involves accepting deposits from clients, lending excess deposits to qualified clients who want to borrow money, and transferring monies. In addition to traditional business, banks today offer a broad range of services to meet the demands of all kinds of clients, from the smallest account holder to the largest enterprise, and occasionally even non-clients, for both financial and non-financial purposes. The variety of services provided varies from bank to bank, primarily based on the kind and scale of the institution. One of the most significant contributions to human development has been technology. The most significant technological advancement in the sector is information and communication technology, which is used to electronically access, process, store, and distribute information.

The banking business is expanding quickly thanks to the use of technology in the form of ATMs, online banking, phone banking, mobile banking, and other services. One financial product that meets the needs of the retail segment is the plastic card, which has witnessed a geometric increase in quantity in recent years. The advancement of technology, without which this would not have been possible, has greatly aided in this progress and will undoubtedly alter our way of life in the years to come.

KEYWORDS : Computerization, Automatic teller machine, RTGS, UPI, Plastic Money, E- Banking, Net Banking.

Introduction

The Indian banking sector has been steadily advancing technical advancements and using them into banking processes to increase productivity in recent times. Indian banks are always promoting information technology (IT) investments in order to reap the benefits of improved technologies. Examples of IT investments include ATMs, e-banking or net banking, mobile and telebanking, CRM, computerization of the banks, rising use of plastic money, development of call centers, etc. Through the creation of Electronic Clearing Services (ECS), Electronic Funds Transfer (EFT), Indian Financial Network (INFINET), a Real-Time Gross Settlement (RTGS) System, Centralized Funds Management System (CFMS), Negotiated Dealing System (NDS), Electronic Payment Systems with the "Vision Document," UPI Payment Gateway, the Structured Financial Messaging System (SFMS), and India Card, a recently implemented domestic card initiative, RBI has also adopted IT to support the payment system's functionality and modernization on an ongoing basis (2011).

Because of all these efforts, the Indian banking environment is now more compliant with the requirements of the global financial system. With regard to scheduled commercial banks operating in India, including public, private, and foreign sector banks, this study attempts to map the impact of IT on the banking sector. The findings indicate that, as a result of the implementation of IT, all SCBs have demonstrated a noteworthy and improving trend in their performance. In order to bring the nation into the twenty-first century, this adoption is necessary.

RESERVE BANK'S EARLY INITIATIVES

One of the primary goals of the Reserve Bank of India (RBI), as the central bank of a developing nation, is the growth of the banking and financial market. This method was characterized by "institutional development" from the 1950s through the 1970s.

What the Reserve Bank called "improvements in the productivity" of the banking sector was its main priority in the 1980s. The Reserve Bank of India (RBI) has taken multiple steps to encourage banks in India to use technology since it is confident that this is the way to increasing productivity.

Since the early 1980s, the Reserve Bank has created committees and working groups to discuss and advise banks on how to use technology appropriately, taking into account the specific conditions and needs. This process occurs practically every five years. Here are the following committees:

-Rangarajan committee-1 in the early 1980s.

-Rangarajan committee number eleven in the 1990s.

-The Saraf working group in the early 90s.

--The Vasudevan working group in the late '90s.

--The Barman working group in the early years of the 2000s.

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In light of the foregoing, NPCI launched with 21 member banks as a test. Dr. Raghuram G. Rajan, Governor of the Reserve Bank of India, conducted the test launch in Mumbai on April 11, 2016. A number of banks have begun publishing UPI-enabled apps to the Google Play store as of August 25, 2016.

The Reserve Bank provided the banks with appropriate guidelines after considering the recommendations of several committees and working groups. During the 1980s, technology was mostly used for the back office activities of banks. It took the shape of a MIS gathering and accounting of transactions. Clearing and settlement with MICR technology was the norm in the interbank payment systems.

The situation was irrevocably altered by two landmark decisions made by the Reserve Bank in the 1990s: (a) mandating that all new private sector banks use technology fully as a license requirement, and (b) establishing an exclusive research institute for banking technology.

The new private sector banks were tech-savvy and provided customers with novel goods at the front desk, but the demonstration effect caught up with them and caused them to reset. Indian banks introduced multi-channel options like as ATMs and pc-Banking, card-based services like credit, debit, and smart cards, and communication-based services like tele-banking and internet banking, ushering in the era of anytime, anywhere banking. With the help of the Indian Financial Network (INFINET), a private user group reserved for the banking and financial industry in India, the IDRBT has laid the groundwork for a reliable, cutting-edge communication backbone.

LITERATURE REVIEW

According to research by Ali Yakhlef (2001), banks are putting their efforts into improving their marketing strategy and coming up with new business models as technology takes over a larger portion of the transaction processing workload. With an emphasis on retail banking, traditional bank branches were undergoing a transformation into an open-space interface where bank experts engage directly with consumers, giving specialized advice services. The technology enabling transaction processing was also being upgraded.

In 1999, Mark R. Nelson investigated how the financial services sector's marketing and information services departments interacted with one another. Research shows that many financial institutions' marketing and information services departments are not well-aligned or integrated. More efficient use of IT to bolster marketing efforts might be possible if this cross-functional interface were to be improved.

In their 1999 study, Mathew Joseph, Cindy McClure, and Beatriz Joseph investigated how technology is being used to deliver financial services in order to cut costs and minimize uncertainty. Some features of electronic banking seem to be visually confusing to customers, according to the results.

The purpose of the study by Robert Rugimbana and Philip Iversen (1994) was to discover the variables that differentiate users from non-users of automated teller machines (ATMs) and to investigate the association between customer usage patterns and their perceptions of ATM qualities. The findings from a study of 630 retail banking customers from two different Australian banks indicate that in order to promote ATMs effectively, it is necessary to zero in on their most salient features, classify them into distinct user categories, and devise plans to attract the most customers from each.

According to Dr. Chidambaram and Ms.K. Alameleu's (1996) research titled "Services Marketing—Challenges and Strategies," banks should embrace technology so that they may differentiate themselves. If you want your staff and clients to be happy, you need to decorate your premises well. Professionalized. A bank's marketability will increase with motivated and well-trained staff.

Rao et al. (2005) used the metric technique to compare multiple models. The metric's various components include revenue generation, value proposition, infrastructure, and so on. In order to determine if investments in e-initiatives boosted productivity and profitability in the Indian banking sector, a mathematical model was constructed. According to the model, the banking sector's performance has significantly improved. Profitability, customer happiness, and a slew of other metrics indicate that the market is improving.

According to Subbarao Duvvuri (2010), the global financial crisis resulted in failure in several parts of the financial system; however, the payment and settlement system—the most technologically intensive part of the financial system—was the one segment that remained resilient despite the failures all around.

Vijai and Anitha (2020) said that Information Technology has a significant impact on the Indian banking sector. The government of India's campaign will soon fulfill its goal, and rural India will be "digitally literate" as well. Institutions will need to devise a plan to overcome the technological divide between rural and urban banks.

Divya and Hebbar (2021) showed that According to studies, different countries have different levels of mobile banking usage. In India, there are insufficient studies on mobile banking. Customers can only use mobile banking for a limited number of transactions and not for all types of banking

operations. As a result, additional research into mobile banking is needed to determine the causes behind their limited use of mobile banking. As a result, banks can take the necessary steps to promote mobile banking usage among all categories of consumers and for all sorts of banking transactions. As a result, we can expect to see India's banking sector become completely digitalized.

According to Kumar and Bhatt (2018), the most common issue users have with ATMs is that they are out of cash or that the machine is out of order. The majority of respondents use ATMs to meet their cash needs, and they are satisfied with the number of ATMs in their area; however, the majority of respondents are dissatisfied with the transaction costs charged by banks for ATM service, as well as their mechanism for addressing ATM customer grievances. As a result, banks must focus on resolving the problems of ATM customers through effective redressal processes in order to improve customer satisfaction.

CHANGING FACE OF BANKING SERVICES

Due to liberalization, the Indian service industry underwent a number of transformations.

There was probably a huge takeaway for the Indian financial sector. Before deregulation, the only things people could do at banks were make deposits and withdrawals. We had to put up with the terrible service because there was nothing we could do about it. Since liberalism, things have changed. It's a market that caters to consumers.

Every aspect of human life is being touched by the technological revolution. Incorporating IT into the stock market is one of them. The advent of online banking has revolutionized the financial services sector and is having far-reaching consequences for customer-banks relationships.

When compared to other sectors, retail financial services rely heavily on the web.

A number of products that could be further tailored are contributing to the maturation of retail banking in India. The housing loan market is the most dynamic and competitive right now. One of the main reasons house loans are so popular is that they allow people to accomplish a lifelong goal. The market has witnessed numerous creative products and interest rates are also going down. Personal loans, student loans, and car loans are some of the other products offered by retail banks. These products are offered by nearly every bank and financial institution. However, it is crucial to comprehend the various features of these loan products, which are not highlighted in their colorful commercials.

Indian banks began heavily utilizing mechanization and computerizations in the early 1980s. During this time, the Reserve Bank of India and financial institutions were cautious with mechanizations, avoiding the use of "computers" in particular in an effort to appease labor unions. On the other hand, this was the pivotal era that broke the ice and set the stage for the gradual but steady march towards widespread use of technology.

SATELLITE BANKING

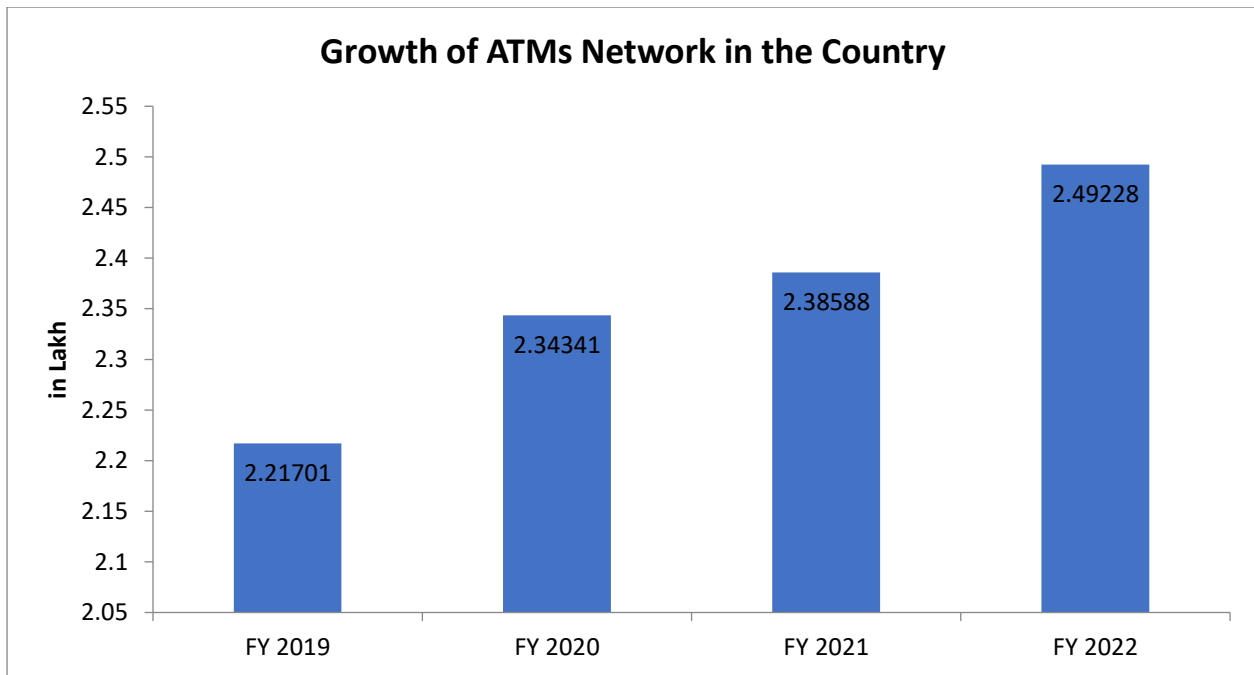
Another emerging technology in India's financial sector is satellite banking, which will hopefully improve the country's patchwork of poor landline connections. Banks will be able to better serve customers in rural and hilly locations, especially those who use electronic payments transfers, by using satellites to provide communication between branches. But this comes at a hefty price for the financial institutions. According to the RBI's plan, it will cover some of the costs of satellite connectivity rentals if banks utilize them to link under banked districts to the northeastern states.

WORK ON THE 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

AUTOMATIC TELLER MACHINES.

Foreign banks were the first to bring automated teller machines (ATMs) to the Indian banking sector in the early 1990s. There was a significant disadvantage for most foreign banks and certain private sector firms back then: a weak branch network. To get around this problem, businesses resorted to using automated teller machine (ATM) technology, which allowed them to contact clients with reduced transaction and starting expenses and provided them with hassle-free services. Innovations in ATM technology and customer receptivity have both greatly progressed since then. The expansion of automated teller machine networks is now a competition that even public sector banks are joining. In addition to reducing transaction costs, developing ATM networks is used as a powerful marketing channel resource.

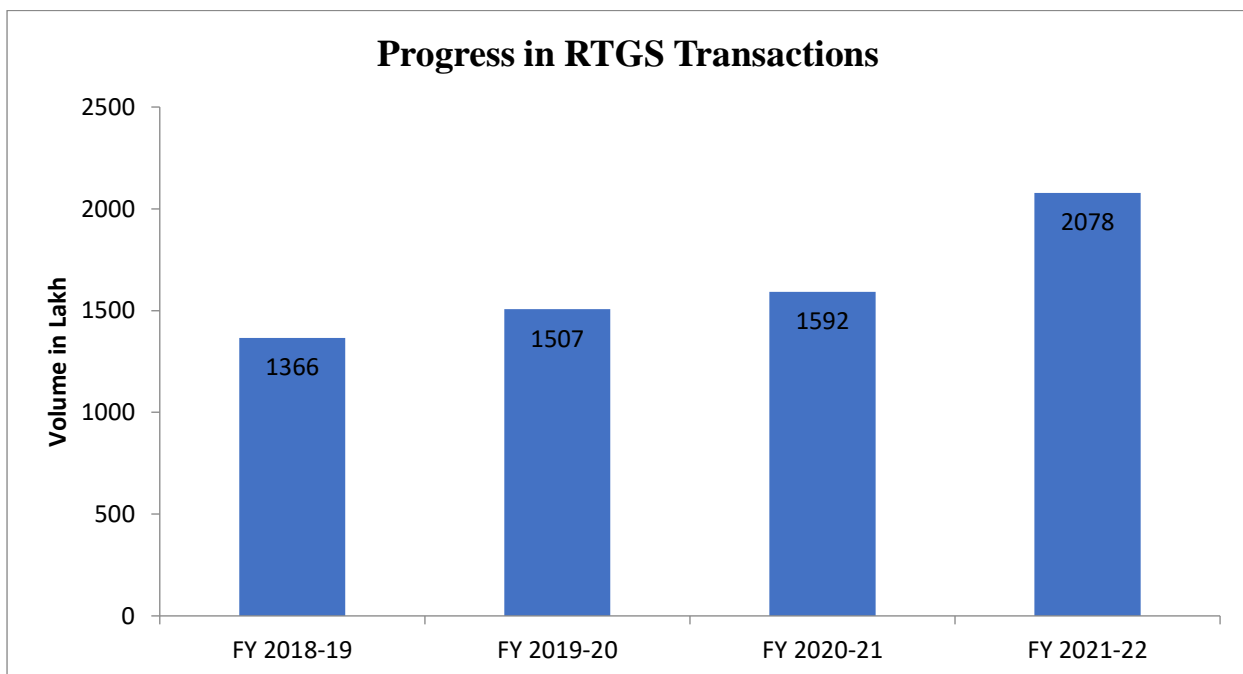


Source - RBI

RTGS

Most of the other payment and settlement systems that were put into place were designed for retail transactions with minor values and were repeated often. The establishment of the framework for Systemically Important Payment Systems (SIPS) relied heavily on the 2004 launch of RTGS.

Banks in India typically settled the net amount after some time had passed, according to the country's payment system's deferred net settlement rule. Important settlement risks were created by this. RBI introduced RTGS, which allowed for a gross settlement to take place in real time. To restrict the usage of the Real-Time Gross Settlement (RTGS) system to high-value and retail transactions exclusively. According to RBI data, there are over 1,65,000 RTGS-enabled Bank branches in India at present.



Source -RBI

PLASTIC MONEY

A delectable present for the Indian market was plastic money. Offering relief from the burden of carrying about a large amount of cash. Plastic money has recently had a number of enhancements made to it. The formula works like this: buy now, pay later. Plastic money has several facts. The credit card

is a universal symbol. A credit card is a reloadable form of credit that allows the bearer to make purchases or take out loans in the form of credit. You can usually get them from banks, retailers, and other companies. They are categorized as classic, gold, or silver depending on their credit limit. Credit cards and charged cards are essentially interchangeable. The main distinction is that, in most cases, you will not be able to put off paying for charged items, and your credit limit may be significantly larger, or nonexistent, altogether. You need an account with any bank that offers credit cards in order to get a debit card, which is like having your own mobile ATM. Numerous changes have occurred in India's banking system over the years. Most financial institutions have started to adopt a more creative strategy for customer service in an effort to generate greater value for both their clients and themselves. Below, we will go over a few of the major shifts that have occurred in the banking industry.

E- Banking

Technology has given rise to electronic banking, sometimes known as e-banking. E-banking refers to the practice of communicating with clients directly via electronic means in order to automate the provision of both innovative and conventional banking services and products. With the advent of e-banking and all its perks, technology has altered the banking industry. It encompasses the infrastructure that allows clients to view their accounts, make transactions, and research banking goods and services. A wide variety of e-banking services, including online checking accounts, online transfers, and many more, are now available to customers in a matter of minutes rather than hours. A variety of technical advancements, including desktop computers, laptops, PDAs, Touch Tone phones, ATMs, and kiosks, have made online banking more accessible.

Industry experts (BNET.com) state that electronic banking offers several appealing features for remote account access, such as 24/7 availability of inquiry and transaction services, global connectivity, easy access to recent and historical transaction data, and "Direct customer control of international movement of funds without intermediation of financial institutions in customer's jurisdiction."

Customers of retail banks are rapidly adopting e-banking. One way that electronic banking contributes to cost reduction is by facilitating faster and more affordable product delivery to consumers. Additionally, it facilitates the bank's multichannel service delivery and allows the consumer to choose the time, location, and method of service delivery. Both "customer-pull" and "bank-push" are the motors that propel this online banking.

Rural Banking

In fiscal 1998–1999, NABARD established the KISAN CREDIT CARD (KCC) SCHMME, one of the innovative schemes to be introduced to rural banking. With KCC mode, framers can more easily buy crucial agricultural supplies. Banks should provide a variety of products tailored to the needs of rural residents, beyond the usual agricultural loans. Additionally, private sector banks saw opportunities in the rural market. In addition to ATMs, ICICI Bank started installing internet kiosks in rural Tamil Nadu in the early 2000s.

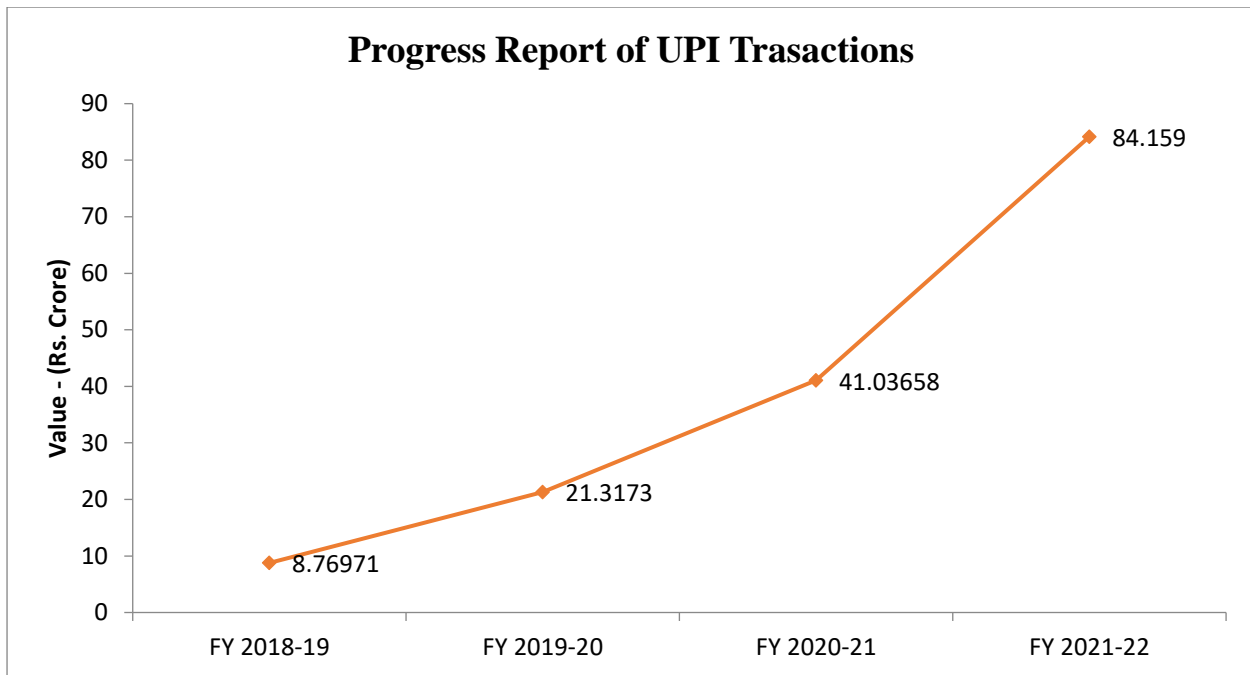
NRI SERVICES

One of the most significant advancements in money transfer is the service that banks now provide that enables expatriate Indians to send money more conveniently to relatives in India. This is because a large portion of the Indian population has relatives living abroad.

Unified Payment Interface (UPI)

With the Unified Payments Interface (UPI), users of participating banks may manage all of their bank accounts through a single mobile app, streamlining their fund routing and making payments to merchants. You can also use it to plan and pay for "Peer to Peer" collect requests whenever it's most convenient for you.

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Source- RBI

IMPACT OF TECHNOLOGY ON BANKING

Information storage, processing, and gathering are just a few areas where technology has had an impact on the banking industry. A handful of banking-related domains have been profoundly affected, including;

Monitoring the reliability of lenders (Credit Scores)

The credit bureau was either born out of or contributed to by technological advancements. In order to help banks decide how much and to whom to lend money, the system mathematically tracks customers' payment patterns and provides statistics. Banks can now keep tabs on their customers' vital information thanks to a credit bureau infrastructure that is both scalable and resilient, made possible by the most recent technological advancements. Tools for input file preparation, validation, and data entry have been made available to banks through software programs made possible by technological advancements. With the information they gather, banks can provide services like debtor tracking, fraud protection systems, credit reports, and monitoring of consumer credit behavior. These days, banks may get their hands on any kind of data—positive and negative, as well as supplemental data (such as court decisions or legal matters)—thanks to the technological advancements in credit bureau infrastructures. When it comes to the banking business, the creation and management of the Credit Bureau's information technology have given control over all procedures involving the bureau. C++, C Sharp, Java, Oracle, and SQL are among the platforms utilized by the credit bureau. Each of these programs plays an important role in how the credit bureau operates as a whole. In a typical cycle, the credit bureau stores information (credit histories), monitors fraudulent activity (such as prior inquiries), validates data, and performs many other functions related to banking.

Financial Markets and Scale-Up

Banks have lowered their costs or interest rates due to competition. Recently, mortgages have been a way for banks to gain economies of scale rather than become larger by amassing more assets, increasing their risk tolerance, etc. Due to the present economic climate, banks have also tightened lending standards and reduced their lending amounts. In order to stay competitive, banks are always looking for new ways to improve their business structures and take advantage of economies of scale.

The Contestability of Banks

Banks' contestability is being impacted by technological developments. Banks' once-unmatched informational advantage has been eroded by technological progress. There are more potential threats than ever before, new rivals have cropped up, and banks' once-great security measures have been crumbling. More information is being made available on certain commodities, services, and financial products. Banking is becoming more contestable as a result of reduced entrance and deconstruction of certain institutions.

Changes in Technology and Their Impact on Delivery Costs

Banks' distribution channels for financial products have been impacted by technological advancements. Internet, electronic transfers, automated teller machines (ATMs), and countless other delivery systems have been developed by technology to lessen reliance on the network. Currently, there is an

abundance of delivery systems in the financial systems due to network duplication. This has prompted banks to reconsider their delivery strategy, streamline their branch network plan, and introduce a variety of delivery options.

CONCLUSION

Today, banks owe a great deal to technological advancements for their continued existence. Improved methods of evaluating creditworthiness (such as credit checks and credit bureaus) and safeguarding sensitive client data—which might cost us millions of dollars if compromised—have been made possible by technological advancements. Another way this may hurt the economy is if banks started charging higher interest rates and were pickier about who they lent money to to compensate for the losses caused by inadequate security measures and storage facilities. We can rest easy knowing that our data is secure and that our bank funds will go exactly where we want them to go because of technological advancements.

A lot of people's financial service needs have been met by technological advancements.

Additionally, it has made banking more efficient, saving both time and money. Thanks to technological advancements, banking has gone paperless, eliminating the need for bulk paper and the associated waste. Automated teller machines, electronic money, credit and debit cards, and telephone banking are all examples of how technology has progressed. Technological advancements have made it easier and faster for people to do business. First and foremost, technological advancements have made it easier and safer for everyone to do business online. To help banks comprehend, adhere to regulations, and manage risk in the intricate and rapidly evolving financial services industry, security or compliance officers utilize computers and other technological tools. Security has evolved over the years due to technological advancements, moving away from manual examination of fraudulent activity and toward the use of advanced computers and programs that can detect fraud, checks, and viruses (a new age threat to banking). Thanks to technological advancements, banking has become more convenient, faster, and more cost-effective. Many people nowadays are gradually moving away from using checks and toward using debit/credit cards and automatic payment systems.

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