Journal of Research Administration
Society of Research Administrators International

REVOLUTIONIZING FINANCE: THE IMPACT OF INFORMATION TECHNOLOGY IN DIGITAL BANKING

Anitha M and Hemanathan M
Department Of Commerce, Faculty of Science and Humanities, SRM Institute of Science and Technology, Kattankulathur-603203 Tamil Nadu, India

ABSTRACT:
The expansion of India's banking sector has been crucial to the nation's economic growth. The nation's banking system has improved the economy of the nation. When examining technical advancements in the banking industry to represent and accept the entire range. Technological advancements and other developments directly contribute to economic progress. As a result of technological advancement, the banking sector has undergone various changes. Banking systems are expanding quickly in emerging nations like India as a result of the widespread use of mobile phones and internet connection. The banking sector is likewise impacted by these technological changes. Numerous banks now provide online banking options. The Indian government has changed the financial sector in a variety of ways in an effort to the cause of "Digital India." The initiative's objective is to assist India in making the transition to a "digitally empowered" economy that is "Faceless, Paperless, and Cashless." The financial services sector has gone through a number of key transformative phases during the past several years. They require and expect to be able to conduct their banking around-the-clock, from any place. Plastic money (Credit Cards, Debit Cards, and Smart Cards), internet banking (including electronic imbursement services), online savings, online trade financial records, electronic fund transmit and clearing forces, local office network, telephone banking, mobile applications, and wallet are some of the most recent goods and services that have aided in the expansion of the banking sector. The banking industry must quickly adopt digital technology if it wants to stay competitive. This change is being made to make More affordable, competitive, and accessible financial services for all Indians.
KEYWORDS: Banking, Artificial Intelligence, RBI, CRM, Digital Banking, ChatBot,

INTRODUCTION:

For apparent causes, the banking industry is the one that fraudsters and hackers target the most. "Banks face a delicate balance between customer experience and fraud management," claims Casey Merolla. "Prevention measures can create resistance and a rejected customer is often a dissatisfied customer, but fraud events can lead to lost connections."[1] The banking industry was significantly impacted by banking technologies. The extensive use of digital technology is changing how people communicate with one another and do business. Both the pandemic and technical improvements have played a part in the progress of digitalization and technology use in the banking business. The Reserve Bank of India's annual report states that the overall volume of digital transactions in India was around 8,840 crores in 2021–2022, down from 4,371 crores in 2020–21 and 3,412 crores in 2019–2021. For clients' banking-related issues, technology and

© 2023The Authors

digitization in banking have produced a broad range of inventive and swifter solutions. India is a nation where population growth is outpacing that of the rest of the globe. According to estimates, India will have the greatest population in the world by 2025. The necessity for banks where individuals may store their money is expanding along with the population.

The rivalry is escalating along with the rise in banks. The most appealing features of a bank must be known by the banks in order to draw in more clients. The banks may then increase their focus on such elements and increase client appreciation. Our study here enables us to identify the many elements that clients value most and the pace at which technology is being incorporated into banking services. [2]

Technology development and its advantages in banking are evolving gradually in the Indian financial industry. Technology is view as the groundwork of the monetary classification for the country's overall monetary accomplishment. Everyone grows with the help of technology, whether it be in business, education, or banking. Banks invest a lot of money in innovative or creative greatest usage of technology in banking operations. ATMs, electronic banking, mobile banking, CRM, and telebanking are a few examples. Additionally, electronic banking, Indian Financial Networks, real-time gross settlement, and RBI all demonstrate how the central bank is consistently implementing novel technological payment methods. The Indian financial system is more complex than the international financial system as a result of the aforementioned factors.

The rivalry is escalating along with the rise in banks. The most appealing features of a bank must be known by the banks in order to draw in more clients. The banks may then increase their focus on such elements and increase client appreciation. Our study here enables us to identify the many elements that clients value most and the pace at which technology is being incorporated into banking services. [3]

Technology development and its advantages in banking are evolving gradually in the Indian financial industry. Technology is viewed as the foundation of the financial system for the country's overall economic success. Everyone grows with the help of technology, whether it be in business, education, or banking. Banks invest a lot of money in innovative or creative greatest usage of technology in banking operations. ATMs, electronic banking, mobile banking, CRM, and telebanking are a few examples. Additionally, electronic banking, Indian Financial Networks, real-time gross settlement, and RBI all demonstrate how the central bank is consistently implementing novel technological payment methods. The Indian financial system is more complex than the international financial system as a result of the aforementioned factors.

By encouraging inclusive economic growth across many industries, IT advancements significantly contribute to development and inclusion. The use of IT in banks not only strengthens administrative backend procedures, which increases competitive efficiency, but also improves front end operations and lowers patron transaction costs.[4] The conception of progressive method for the Indian banking sector has been extensively pursued by the India Reserve Bank. Core Banking Solution (CBS) is used A significant technical advancement in the banking industry connects customers from all bank branches online with their accounts. The banking sector in India

© 2023The Authors

has quickly advanced in its shift to a more competitive business climate. The development of technology infrastructure was a significant component of the banking sector reform.

India's Banking Industry

Three primary divisions may be made in the Indian banking industry.

Phase I was the first stage of banking and lasted from 1786 to 1969. So many tiny banks were established during this time.

Phase II: From 1969 until 1991, throughout this period, regularization, nationalization, and the expansion of banks are taking place.

Phase III: Starting in 1991, this phase entails liberalization and its consequences.[5]

The State of Banking

The banking sector has undergone a lot of upheaval recently. The entire banking process is now relatively simple thanks to these changes in the industry. The subsequent are a quantity of of these trends:

Real Time Gross Settlement (RTGS)

In India, RTGS debuted in March 2004. It is a technique via which a bank receives electronic instructions for moving money from one bank account to another.

The transfer of money between the accounts happens in "real time," as the term indicates. The RBI operate and maintain the RTGS arrangement.

Therefore, it is run by the RBI, which offers it a quicker and more effective means to transmit payments while facilitating other financial operations.

This technology allows for fast money transfers, and the beneficiary receives the funds within two hours.[6]

E-cheques

This US urbanized expertise will take the position of fixed broadsheet checks in India. A negotiable instruments legislation has thus been added to the amendment in order to incorporate this E-cheque approach and make it mandatory.[7]

Service for Electronic Clearing

Bulk electronic payments and receipts are generated using a system called ECS. The payments must be repeated and of a comparable kind, even if they are less in quantity.[8]

Therefore, this capability is especially useful for government organizations and businesses that send or receive substantial amounts of money in bulk.

Election Funds Transfer (EFT)

A system to transport data is the transfer of funds between accounts of a bank.

Automated Teller Machine[9]

[10]

The most common way to withdraw money in India is using this approach. Customers might choose to use this service for 24-hour withdrawals.

It enables users to conduct all regular banking tasks without coming into contact with others. These services are furthermore utilized for the payment of money, utility bills, etc.

© 2023The Authors

Point-of-sale terminals, telebanking, and electronic data exchange are some other banking industry developments.

the Point of Sale for the Oil Sale Station is a web-based computer terminal that is linked to customer data files in a banking system and to the client's computer identification of the plastic transaction card with magnetic encoding. The During a transaction, the client's account is debited, and the computer credits the merchant's account with the amount of the purchase.

Phone banking

The client can do any telephone banking activities that aren't linked to cash thanks to telebanking. Similar to an automatic voice recorder, this device is used for simple inquiries and transactions. The use of manned phone terminals is reserved for complex inquiries and transactions.[10]

Banking through a mobile van

By developing a wide range of mobile banking possibilities, a whole bank side may condense the appropriate laptop, with full technological advancement, that may be carried by a person at any time. Many banks have also started using motorbikes or mobile banking.

- Bank lobbying

Reception banks provide a tailored hall with services that includes a worldwide online banking kiosk, mobile phone banking, screening, and ATM. includes equipment, mostly workers—much less so than banks, where transactions are often handled solely by autonomous technology.[11]

- Electronic Data Interchange (EDI)

Electronic Procurement, is a common format for exchanging business documents including orders for goods, bills, shipment notes, receiving alerts, etc. electronically between trading partners. Electronic payments and financial information may also be transmitted using EDI. [12] The banking system, in particular the most recent generation of banks, responded quickly to market changes. The continuance of the development has rewritten and revamped the operations of banks as a whole with additional adaption by using technology. Thanks to technology, customers may access banking amenities and conduct financial transactions on anything at any time. branches are developing physically less important.

India's most recent banking trends

In India, banking has advanced significantly. Banking has been at the forefront of change brought about by the newest technology and quick steps made by the Industry and the Regulators, from the good olden cash withdrawals at counter to at the moment 24X7 ease of use of all bank forces to financial technology altering payments and lending.

- **Fin techs Working in the Banking Sector**

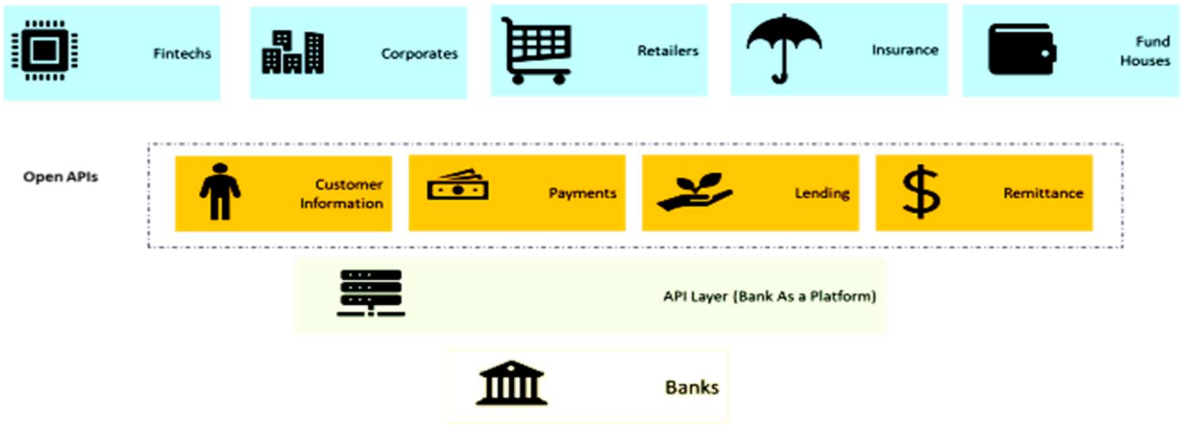
Most areas of banking have seen the entry of fintech businesses. They began with payments somewhere between 2015 and 2016, which saw a huge increase as a result of demonetization. PayTM, RazorPay, and PhonePe are notable Fintechs in the payments sector. Google Pay has recently had enormous success in the financial market with the launch of UPI.[13]

Changes have occurred on the Banking Spectrum's Lending Side occurring within the previous 2 to 3 years. Technology advancements like APIs, AI and ML, Cloud Computing, Open Source, etc.

have significantly expanded banking's reach to a number of previously unbanked places while simultaneously lowering the cost of delivering financial services. Many Fintechs are entering the traditional lending space and growing the industry, including LendingKart and co-lending platforms like Yubi (previously Credavenue).

- **BaaS, or banking as a service,**

BaaS is a strategy that makes it easier for financial technologies and other third-party organizations to use APIs to interact with a bank's system.



Source: indiastack.org

The improvement of customer service during Sales & Beginning was the primary focus of a lot of the initial stages innovation in India. This opened the door for investments in front-end applications that delivered poor quality through antiquated back-office procedures. We predict that this year will see a change in emphasis toward robust and adaptable backend systems with integration capabilities and cloud readiness.

This will necessitate significant investment in:

Payments Infrastructure, Digital Lending Platforms, Open Insurance Platforms, Core Banking Platforms, Open Banking Systems, and Digital Banking Platforms.

Investments in startups utilizing these platforms, in our opinion, will surge.

The India Stack:

Unlocking the economic fundamentals of identity, data, and payments at a mass scale is the goal of Stack, a collection of open APIs and digital public goods.

India The acronym Stack stands for “presence-less, paperless, cash-less transaction with consent."

© 2023The Authors

The APIs in the India Stack

The India Stack is thought to be mostly composed of the following APIs:

Aadhaar authentication, e-KYC, digital locker, unified payment interface (UPI), and digital user consent are all still under development.

Similar to India Stack, the following APIs are regarded as societal platforms that were developed on the same principles:

The Goods and Services Tax Network (GSTN), the Bharat Bill Payment System (BBPS), and the Electronic Toll Collection (ETC), sometimes referred to by the brand name FASTag**Neo Banking: Innovations in Banking Accounts**

With the help of a partnership with ICICI Bank, the neo banking platform Open is now able to provide business current accounts to its SME/MSME clientele.

It offers services like as Electronic Reconciliation, All financial information may be gathered on a dashboard, which can also be used for integrated workflow management.

In addition, the platform offers payroll management, payment processing, and accounting services.

A similar neo-banking platform, Jupiter, collaborates with Federal Bank. The platform promises to offer debit cards and savings accounts to retail clients. Customers may use it to keep tabs on their spending, establish objectives, and earn incentives on their debit cards.

Nodal Account: A merchant can create a nodal account to accept and send payments. These accounts, which were created exclusively for the transfer of money, resemble pooling accounts.

Setup of Nodal Accounts is possible by:

a. Online stores and markets Configure seller/vendor commissions and settlement • Handle immediate refunds • Automated pay-out and reconciliation • Customer cashback and offers

b. Lending Provides a maker and checker method for lending partners and aggregators, enables lending aggregators to handle money, disburses loans to consumers, and processes refunds

c. Insurance claim payments, payout tracking, and commission payments to partners and vendors

d. **Prepaid instruments** should allow for real-time payouts. Debit transactions without connecting to the cardholder's bank account; quicker transaction processing

© 2023The Authors

Escrow Accounts are short-term accounts kept by a third party to help with big transactions involving two parties. These accounts allow for customized transactions and offer a secure method of transaction routing. These are mainly employed in transactions when payment is made periodically.

Escrow Accounts are used for:

a. Milestone-linked transactions, joint ventures, and the franchisor-franchisee model.

b. M&A transactions • Significant payments made at various points in time

Investment and Lending

c. Leasing of equipment from abroad d. discounting of invoices e. Issuance of loan instruments

d. International e-commerce transactions, particularly when payment is deferred for a certain amount of time. Open Credit Enablement Framework (OCEN)-OCEN offers a standard collection of tools that reflect the various elements of a typical lending value chain.

- To enable lenders and LSPs (Loan Service Providers) to integrate and offer loan access to broad segments, OCEN offers a set of open APIs.
- Will result in the formation of modern LSPs, which may present a chance
- Finance Embedded - Finance Embedded Infrastructure enables financial services to be "embedded" into customer-facing digital platforms (the "anchor platforms"). One of the main forces influencing the future expansion of digital lending is embedded finance, which is rapidly becoming such. To put it simply, embedded finance refers to any platform that manages its own set of clients and services and offers financing services to its captive clientele. Embedded finance may increase as a growth element in the D2C market. The potential for integrated finance has fueled API Stack players like Finbox and SETU are creating an API stack so that any business may connect to it and begin lending using embedded finance.
- A shift in the focus of payment Fintech toward lending: The majority of these companies have already begun offering lending services or plan to do so in the near future. This may open up opportunities for LOS/LMS players to reach a larger network of prospective clients.
- Emergence of Neo Banks: Both in the retail and SME sectors, India has seen a significant number of Neo Banks. Neo Banks are largely Fintech companies expanding banking services in collaboration with banks by developing a digital banking layer through a mobile app or portal. In order to meet the financial demands of Millennials, Gen Z, women, traders, gig workers, etc., these neobanks have a segmented strategy. Neo Banks will also begin offering loans. providing their clients with loan options. This would need them developing an effective LOS/LMS structure to manage loan services.
- Digital Banks: Despite the fact that several Indian banks have already introduced their own digital banking systems, such as Imobile Pay by ICICI Bank, Kotak 811 by Kotak, or SBI YONO, Niti Aayog has advocated issuing licenses for digital banks to emerging businesses in their paper. Although it would take some time, there is a significant chance that this will become a legislative framework and that several digital banks will open in India.

Technological Developments:

Technology has been a significant changer in the lending industry. APIs, Cloud hosting and computing, AI/ML/RPA, and Analytics have all substantially enhanced and facilitated the distribution and service of lending products to end users. Lenders have made significant investments to capitalise on the availability of these technologies, while LOS/LMS players have enhanced their capabilities through the usage of developing technology.

With the proliferation of smart phones and affordable internet, reaching a big public has become much easier. Lenders of the future are focusing on employing technology and advanced data analytics to enhance loan approvals and disbursements. Technology is being utilised to analyse the creditworthiness of clients more quickly and to reach unbanked customers.

The following are the important developments in technology influencing banking and lending:

Because of the preceding new technologies, the following use cases are emerging in the lending industry:

- Machine Learning (ML) and Artificial Intelligence (AI)-
- Use data to improve consumer interaction.
- Credit underwriting (using alternate data)
- Chat bots that handle interactions
- AI predictive analysis improves the loan procedure.
- Advanced reporting and analytical skills
- Free and Open Source
- Advancement and enhancement of open-source technology at all levels
- Lower development and maintenance costs
- Computing on the Cloud
- Cloud repositories enable scalability, data integrity, and security, allowing for more agility and a faster time to market.

© 2023The Authors

- RBI is agreeable to cloud hosting. NBFCs have already relocated, and banks will follow suit shortly.
- APIs (Application Programme Interfaces)
- A standard set of APIs simplifies integration and reduces time to market.
- Mambu provides APIs for practically every component of our banking software are available.
- Setu APIs helps its end clients with on boarding, expenses, deposit, loan, and information empowerments.
- Robotics
- Workflows for dealing with various customer journeys Automation of BPM and Product Management to enable the launching of loan product versions.

Facilitate the Use of Digital Payments

Digital payments are becoming more popular. Banks and other financial institutions are ensuring that digital payments are supported by the greatest technologically equipped systems and infrastructure. Net banking and mobile banking, as well as payment processing systems, are examples of this.

Here are some actions that banks have done to encourage digital payments:

• Enhanced security: As more transactions occur online or through mobile devices, cards, and even smart watches, banks are assuring safe payment systems with features such as two-factor authentication and fraud monitoring.

• Simplified checkout processes: Whether paying online or in-app, customers want a streamlined and simple checkout procedure. As a result, banks employ an up-to-date and user-friendly digital payment system.

• More international payment options: Banks are providing a strong digital payment experience through Customers that transfer or receive money worldwide can benefit from real-time currency conversion and cheap costs.

Artificial Intelligence.

Artificial intelligence (AI) is one of the most talked-about upcoming banking technologies. AI is already being used by banks for a number of functions such as fraud detection, customer service, and mortgage approvals. The use of artificial intelligence (AI) in banking is projected to rise in the coming years as banks seek methods to enhance efficiency and cut costs.

When it comes to the usage of AI in banking, there are a few major themes to keep an eye on:

- AI is being used by banks to automate monotonous tasks: AI is being used to automate tasks such as customer support, fraud detection, and anti-money laundering. This permits banks to focus their resources elsewhere more vital jobs and enhance efficiency.
- Banks are utilising AI to personalise client experiences: Banks may give a more personalised experience by utilising consumer data. This might include making suggestions on items or services that the consumer might be interested in.

- AI is being used by banks to improve risk management: By analysing data, banks can spot hazards faster and take actions to reduce them. This protects the bank against losses while also ensuring that consumers enjoy a nice experience.
- Banks invest in fintech firms: Many banks are investing in fintech businesses that are creating breakthrough artificial intelligence applications. This helps banks to remain ahead of this evolving technology and enter new markets.

Better Customer Service

There is no doubt that offering outstanding customer service is crucial for any organisation, but it is especially important for banks. In a highly regulated business where consumers have many options, banks are doing everything they can to separate out from the competition and provide their clients with best-in-class service by providing superior customer assistance. This involves delivering more personalised service and making it simpler for clients to contact a real person when they need assistance. Better customer service, in whatever shape it takes, may go a long way towards increasing trust and loyalty among bank clients. And it is something that every bank is working on and will continue to work on.

Smart CRMs and Data Management: Banks have extensive distribution networks. Customers, sellers, and services are all examples of customers. Customers are increasingly minimising physical branch visits in favour of personalised, on-the-go service. This means that banks must manage several communication channels and technologies in order to provide a convenient and satisfying digital experience to their customers. Banks, in fact, utilise over 500 programmes to run their numerous systems and procedures. While providing Customer Relationship Management (CRM), services with pre-made, 'one-size-fits-all' templated packages save money and keep workflows automated, they fall short of improving the customer experience. Hyper-personalized CRMs or Smart CRMs provide clients with tailored, department-specific offerings for a better engagement experience. Traditional CRMs collect basic bank data such as a standard list of services and client transactions. The scope of delivering enriched client services is limited. Hyper-personalized CRMs, on the other hand, employ simpler but advanced computational algorithms capable of handling complexity and generating real-time data on clients' spending habits, borrowing patterns, and involvement with the bank, resulting in an ideal customer experience. Smart CRMs can manage digital lending, build risk modelling strategies, and power up self-service journeys for clients across numerous bank divisions by turning data into their most valuable asset. [14]

User Interface Enhancement

A good user interface is both simple to use and visually appealing. A well-designed user interface will help consumers locate the information they need, navigate the site, and execute activities quickly and easily. There has been a movement in recent years towards streamlining web interfaces and reducing needless clutter. This has simplified site navigation and enhanced the user experience.

Key advantages of IT adoption

© 2023The Authors

• Banks may gain a thorough understanding of their clients through social networking platforms and other digital channels. Banks organise their services through different channels in order to target consumers and efficiently deliver information.
• Analytics and business intelligence technologies assist banks in developing customer engagement strategies, capturing future customers, and becoming more competitive.
• Mobile banking services are becoming a favoured method for ensuring customer satisfaction and providing clients with ease.
• Cloud SaaS service models offer scalable IT infrastructures and different operating systems for installing applications, as well as endless resources, saving banks money on capital expenditures such as acquiring hardware and paying IT employees.

Banks that can access data and extract information at any moment are more likely to be competitive. In responding to consumer demands as soon as possible. The banking sector is prepared to boost operational efficiency and revenues by responding rapidly in the competition, thanks to the newest trends and user-friendly IT solutions.[22][15]

Banks' Technological Challenges

As technology continues to alter the banking business, banks are confronted with new difficulties that need creative solutions.

1. Banks are being held back by legacy systems.

Banks' legacy systems are one of their most difficult difficulties. These are old systems that were put in place years ago and are difficult to modernise or replace. They frequently lack the requisite flexibility and agility to keep up with quickly changing client requirements and technology improvements. To overcome this issue, banks may consider investing in new, cloud-based technologies that are more adaptive, scalable, and flexible.

2. Cybersecurity threats are on the rise.

Banks are concerned about cybersecurity as cyber assaults become more frequent and sophisticated. Banks must guarantee that their systems are safe and secure against data breaches, phishing attacks, and other risks. This necessitates the investment in modern cybersecurity solutions like as multi-factor authentication, encryption, and real-time network monitoring.

3. Lack of Integration and Interoperability

Accounting, client relationship management, and loan processing are all handled by various systems in many banks. This might result in inefficiencies and challenges with data integration across platforms. To overcome this issue, banks can employ application programming interfaces (APIs) to facilitate system interoperability and integration, enabling smooth data sharing and real-time data analysis.

4. Meeting Customers' Expectations

Customers want financial services to be quick, easy, and personalised. Banks must embrace digital transformation and invest in technology such as mobile banking to satisfy these aspirations. are safe and secure against data breaches, phishing attacks, and other risks. This necessitates the investment in modern cyber security solutions like as multi-factor authentication, encryption, and real-time network monitoring.

© 2023The Authors

5. Skill Scarcity

Because of the rapid speed of technological development, banks must have highly qualified IT personnel who can grasp and execute new technology. However, qualified IT experts are in limited supply in the banking business. Banks may solve this issue by investing in training and development programmes for their existing employees and collaborating with universities and colleges to acquire fresh talent.

Review of Literature

According to the IBV poll, India's banks executives are growing interested in using big data and analytics solutions. According to the report, 67 percent of them are instructing their organisations to increase customer engagement and experience, compared to only fifty-one percent of global banking executives. Other aspects of banking transformation rate highly among India's banking leaders as well. 57% want to increase staff productivity, 53% want to increase bank income, and 47% want to improve the standard of corporate decision-making inside their organisations.

The current article investigates several traditional and IT-enabled banking services utilised by clients. Furthermore, client happiness was tested across many aspects. Cheque deposit and clearance were found to be the most popular banking services used by consumers of all six banks. While the prices charged by the bank on various services were seen as greater by clients in private and foreign banks than in nationalised banks. A modest percentage of respondents used IT-enabled services other than ATMs. The causes for not employing IT enabled services were discovered to include security, lack of facility, insufficient awareness, and so on. Customers of nationalised banks were dissatisfied with employee behaviour and infrastructure, whereas responses were happy High costs, accessibility, and communication were not satisfactory to private and foreign banks. According to the report, just a handful respondents complained to their respective banks. The most common types of complaints are over transaction delays and unexpected fees. As a result, the study sheds light on many elements and drawbacks of services provided by nationalised, private, and international banks. Employees of nationalised banks should get training in stress management and public dealing. To compete with private and international banks in India, nationalised banks must enhance their infrastructure and environment. Private and international bank branches should be expanded to improve accessibility.[15]

It was demonstrated that both incumbents and competitors are dependent on capital availability and credit worries among borrowers. In that regard, nothing has changed. The concerns continue to include credit and default risk. What is evident is that the bank has grown inextricably intertwined with technology. The Internet is transforming the way people communicate. It enables the matching of borrowers and savers on a peer-to-peer basis. It enables new payment mechanisms and digital currencies. To accommodate this, banks must change and adapt. The majority of these inquiries are empirical in character. The goal of this research, on the other hand, was to show that knowing the banking model is necessary for understanding how to handle these issues and propose hypotheses related to them. Financial technology is evolving the future of banking and how banks will intermediate. It enables digital money and the internet transfer of financial assets. It makes banks more customer-centric and competitive. Scholarly research into banking must adapt.

© 2023The Authors

According to Tat, trust will stay at the heart of banking in the future. Similarly, deposits and loans will continue to be subject to regulatory scrutiny.[16]

Customers, banks, and employees have reaped huge benefits from mobile banking, notably in terms of greater productivity, faster and more effective service delivery, cost reduction, and increased profitability. Customers do not always wish to visit bank offices due to the advent of IT in the banking sector. They can use the IT services supplied to conduct transactions. Banks are currently experiencing severe problems due to fierce competition, security concerns, educating new clients about mobile banking, and keeping existing customers pleased. More emphasis should be placed on increasing consumer knowledge and intention to utilise mobile banking services through more research employing adoption theories. Mobile phone manufacturers and operating software vendors must create more sophisticated technology. Developers of mobile banking applications must Customers may have risk, safety, and trust concerns. Solutions must be created to address the security and trust challenges that clients may have with mobile banking.[4]

To gain a competitive advantage, technology must be client-centric, and banks must focus on both customer retention and expanding case share rather than merely acquisition. Going back to their primary bank for another new connection may be difficult for many banking consumers. This can be attributed to a lack of CRM and atomic number 83 solutions. The integration of knowledge of customer engagement across numerous channels is still not on real-time alert systems and market to side branch staff. With increased usage of technology comes an increased danger of security breaches. Banks must be on their toes in order to handle the dangers for early policies to the longer term IT vision and control The firm's pricing was delivered. It must be connected with the firm's strategic objectives and capable of achieving the required pricing.[17]

One of the primary advantages of banking technology is that it allows us to pay our bills fast and easily. We may have them paid by direct debit every month at a time convenient for us, or we can make the payments as the invoices come in. This means we won't have to go to the branch to pay the bill, and we'll be able to do so on time. People who have difficulty managing their money might arrange for as many expenses as possible to be paid immediately after their paycheck clears their account, so they know the necessities are covered before they spend on frivolous items. one of the most intriguing advantages of technology in banking is Is there any reason to carry around a wallet full of cash and coins. The role of technology in the cashless society will be critical, as all of our financial information will be saved on swipe cards and key fobs. Many retail establishments now provide smart pay solutions that allow you to make payments effortlessly, such as paytm, google pay, and phonephe applications, which assist you to be smarter in your payments. More than that, our smartphones will play a larger part in cashless transactions. Apple and Samsung have already introduced their respective payment systems.

Indian public sector banks, which account for around 75% of the market, have taken the lead in the field of information technology. IT awareness and appreciation are widespread. What is required is a "big push" in the manner of the post-nationalization period for expansionary activity. Information technology has immense potential and has liberated a variety of prospects for the banking sector. It offers consumers cost-effective, quick, and systematic service delivery. IT

© 2023The Authors

applications in banks enable advanced product creation, dependable risk management procedures, system transparency, and assist the banking sector access geographically distant and diverse markets. IT and communication networking systems have a significant influence on the money, capital, and currency markets. Banks should have a well-defined strategy at the top and should assure good risk management in internet banking by implementing effective policies, processes, and controlling mechanisms. Policymakers and supervisors must constantly examine the existing structure and make any necessary changes.[18]

Banking and preparation for customer difficulties must be planned in advance for public members, persons on call, and customer care professionals. The public sector and disaster management should be obligated to distinguish, form, and broaden testimony-based holdings notorious with sector concerns, emergency and allusion, single population provisions, and ephemeral counsel and deficit care. Private connection events should envision the workings of developing issues such as counteraction orders, antibody accessibility and sociability, and required substantiation-based intercessions relevant to all clients, as well as handle a variety of contentment difficulties. Bank professionals may assist in developing messages to be delivered by trusted pioneers.[19]

The bank's performance is not determined by a few key elements. However, in this study, the performance of banks will be analysed using the four factors. The figures for all metrics clearly show that the performance of banks in the overall sector from 2013-14 to 2015-16 was nearly adequate. In terms of spending, it is proposed that the SBI implement a suitable policy of maintaining expenditure in the near future in order to boost its profitability. Despite the increased expenditure rate, SBI continues to dominate in terms of overall income earned when compared to other sector banks studied. In 2015-16, the net profit of all of the banks chosen for the research decreased When compared to the previous year's number. All banks have maintained the optimal CAR, which means that they are all adopting practises to secure them in the near future from various forms of risks.[20]

According to current data, 60% of consumers have remained with their particular relationship officer/manager for more than 5 years. This study adds to Tyler and Stanley's (2001) findings that consumers value their personal relationships with relationship officers/managers more than the banks they represent. As a result, relationship marketing should be prioritised, and specific training should be offered to all corporate staff members at the bank. This might be due to the fact that private sector banks now have a greater client base in India than public sector banks. The majority of respondents said that public sector banks fall behind in terms of sophisticated technology and technologically adept employees. This investigation shows that if the branch's facilities, such as infrastructure, ambience, decor, sitting area, signage, and so on, are adequate, it not only leads to customer satisfaction but also to an overall improvement in the branch's operation, whether it is services by teller, managers, loan services, or mutual fund services. If all of the signage is proper, it will guide consumers to the correct desk without wasting their time, allowing the service officer to attend to clients on time and meet their demands.[21]

Objectives of the study:

© 2023The Authors

- To comprehend the most recent changes in the Indian banking industry and the technology used to support them
- This is to bring spotlight on the difficulties and issues that India's banking industry is now experiencing.
- To determine if the advent of banking Financial Trust in recent years has improved the Operational efficiency and efficacy of the bank.

Research Methodology:

This study was designed to address seven specific issues, including the current state of banking technology adoption among public and private banks in Chennai, factors influencing bank customers' adoption of banking technology in Chennai, bankers' perceptions of their customers' adoption of banking technology, and the impact of e-loyalty on bank customers' satisfaction and willingness to use technology in the future. Primary and secondary data were gathered from banks, bank clients, and bankers in order to accomplish the specified objectives. The main tool utilised to gather the primary data, mostly from bankers and bank clients, was a structured questionnaire.

Demographic Profile of Respondents:

Gender	N= 523	%
Male	316	60.5%
Female	207	39.5%
Age		
18-29	188	35.9
30-40	172	32.8
41-55	86	16.4
Above 55	77	14.7
Marital Status		
Married	378	72.2
Unmarried	145	27.7
Net Income		
< 10000	60	8.7
10001 - 20000	56	1.0
20001 - 30000	153	29.2
30001 - 40000	130	24.8
40001 - 50000	70	13.3
> 50000	54	10.3

Education	N = 523	%
Degree/Diploma	221	42.2
Post Graduate	167	31.9
Professional Degree	78	14.9
Others	57	10.8
Occupation		
Student	153	29.2
Government Employee	129	24.6
Private Employee	117	22.3
Business man/woman	76	14.5
Others	48	10.8

© 2023The Authors

DEMOGRAPHIC INFORMATION ANALYSIS

According to a demographic research of bank clients, 207 of them (39.5.5%) were female and 316 (60.5%) were men. In a similar vein, the respondents' ages are broken down as follows: 188 (34.9%) were between the ages of 18 and 29; 172 (32.8%) were between the ages of 30 and 40; and the remaining 86 (16.4%) were between the ages of 41 and 55 and older than 77 (14.7%) respectively. Respondents' marital status was shown to be 378 (72.2) married and 145 (27.7%) single. According to the respondents' net monthly income levels, 60 (or 8.7%) were under 10,000, 56 (or 1%) were between 10,000 and 20,000, 153 (or 29.2%), between 30,000 and 40,000, 130 (or 24.8%), between 40,000 and 50,000, and 54 (or 10.3%) were over 50,000. Education included diploma/degree holders, postgraduates (221 (42.2%), professional degree holders (167 (31.9%), and other individuals (57 (10.8). Similarly, The occupation of respondents' profiles reveals that 129 (24.6%) were government employees, 117 (22.3%) were private employees, 153 (29.2%) were students, 76 (14.5%) were businesspeople, and the other 48 (10.8%) were various types of working or unemployed Peoples.

Primary Choice of Bank:

Name of the Bank	N = 523	%
HDFC Bank	83	15.8
State Bank of India	36	6.88
ICICI Bank	69	13.1
Axis Bank	72	13.7
Kotak Mahindra Bank	57	10.8
Indusland Bank	28	5.3
Punjab National Bank	34	6.5
Karur Vysya Bank	54	10.3
City Union Bank	66	12.6
Bank of Baroda	24	4.5

The researcher was purposefully chosen for this study based on prior familiarity with cutting-edge technology of Top Banks. The outcome therefore clearly demonstrates that the decision was sensible, as evidenced by the respondents' choice as well.

DESCRIPTIVE STATISTICS OF DETERMINANT FACTORS

Perceived Ease of Use (PEU) (N= 523)

© 2023The Authors

Items	Perceived Ease of Use (Frequency and %)					Mean	S.D
	SDA	DA	N	A	SA		
communication with the banking technology is Clear and comprehensible.	(4.4)	(4.6)	(15.3)	(55.1)	(20.6)	3.83	.954
interact withthe banking equipment doesnot oblige a lot of my mental effort	(6.3)	(14.6)	(13.3)	(45.6)	(20.1)	3.59	1.148
I originate the banking knowledge to be easy to use	(3.2)	(6.1)	(10)	(49.3)	(31.6)	4.00	.972
I originate it easy to get the banking service to do what I want todo	(1.7)	(11.2)	(13.1)	(46.8)	(27.2)	3.87	.993
Overall I found bank technology is Easy to use.	(3.6)	(7.8)	(17.2)	(48.5)	(22.8)	3.79	.999

The respondents' degree of agreement with each item under the suggested variables to gauge the adoption of banking technology is the subject of this descriptive statistics section. An item of five questions was put forward to bank clients who had previously embraced banking technology in order to ascertain their level of perception regarding the technology's ease of use (PEU). Over 55% of respondents agreed with the question (PEU1), and over 20% strongly agreed. According to the mean of 3.83 with a standard deviation of.954, which is quite near to 4 (agree), respondents generally agreed that their connection with banking technology is straightforward. Using financial technology is something that the majority of respondents to the (PEU3) agreed upon (Mean = 3.59, S.D. =1.148). not ask for much.

The third question (PEU3) questioned whether bank customers thought the technology was simple to use, and the average response showed that they did (Mean = 4, S.D =.972). (PEU4), and their reaction demonstrated that they were in agreement (Mean = 3.87; S.D =.993) since they can effectively complete the task at hand. The respondents' assessments on the general usability of banking technology also showed that bank customers concurred with this statement (Mean = 3.79, S.D =.999). According to the overall mean score of 3.81, bank clients generally concur that banking technology is simple to use. Thus, it might have a favorable impact on how people see it impact of usability on bankers' propensity to use banking technology.

© 2023The Authors

Perceived Usefulness (PU) (N= 523)

Items	Perceived Usefulness (Frequency and %)					Mean	S.D
	SDA	DA	N	A	SA		
Using banking equipment enable me to Utilize banking services more rapidly.	(2.7)	(4.6)	(7.8)	(48.3)	(36.7)	4.12	.926
Using banking technology improves my Management of utilizing banking overhaul.	(3.9)	(2.9)	(12.9)	(52.7)	(27.7)	3.97	.934
Using e-banking increase my output	(3.9)	(8)	(28.9)	(40.5)	(18.7)	3.62	1.002
Using banking technology enhances myefficiency of utilize Banking services.	(2.9)	(6.8)	(22.8)	(52.2)	(15.3)	3.70	.910
I found banking knowledge is useful for me to utilize bank Services.	(2.7)	(3.9)	(10.9)	(53.2)	(29.4)	4.03	.894
It helps me to access my Account 24 hr/7days.	(3.4)	(6.1)	(17.2)	(42.7)	(30.6)	3.91	1.011
Generally I found e-banking Technology is useful.	(2.4)	(6.1)	(11.9)	(48.8)	(30.8)	4.00	.944

In order to determine the degree to which bank clients saw the advantages of adopting banking technology, seven questions were posed using the variable "perceived usefulness". Customers of banks were asked to rate how much they agreed with the statement: "Accordingly, the majority of respondents were agreed (mean = 523; S.D. =.926) and acknowledged that utilizing banking technology enables them to receive financial services swiftly. Customers also indicated their agreement with the statements "Using banking technology improves my performance of utilizing banking services" (mean = 3.97; S.D. =.934). Similar to the previous statement, respondents agreed (mean = 3.62; S.D. = 1.002) that using e-banking makes them more productive. They were generally in agreement at the time that utilizing the banking technology "enhances my effectiveness" Respondents also agreed with the statement, "I found banking technology to be useful," with a mean value of 4.03 and a standard deviation of.894 respectively. Similar to this, bank clients indicated that it helped them access their accounts seven days a week (mean = 3.91; S.D. = 1.011). Finally, when asked if they agreed or disagreed with the statement "overall, I found e-banking technology to be useful," bank clients responded in the affirmative (mean = 4; S.D. =.944).

© 2023The Authors

Financial Trust (FTr) (N= 523)

Items	Financial Trust (Frequency and %) (N = 412)					Mean	S.D
	SDA	DA	N	A	SA		
Banking technology is fiscally Honest.	(2.7)	(9.2)	(27.4)	(39.3)	(21.4)	3.67	0.997
I conviction in the remuneration Of the e-banking expertise.	(5.3)	(11.4)	(29.4)	(40.8)	(13.1)	3.45	1.03
The banking keeps Clientele best interests in mind.	(5.1)	(12.9)	(29.1)	(38.6)	(14.3)	3.44	1.048
Using banking technology is Fiscally secure.	(6.3)	(10)	(35)	(31.6)	(17.2)	3.43	1.082
I trust the technology to protect my Fiscal privacy.	(4.9)	(6.1)	(27.4)	(43.2)	(18.4)	3.64	1.007

Five surveys were distributed to bank clients to gauge the impact of perceived financial trust. Bank customers appeared to agree with the statement that "banking technology is financially trustworthy" (mean = 3.67; S.D. = 0.997), and they also indicated agreement with the statement that "I trust in the benefits of the e-banking technology" (mean = 3.45; S.D. = 1.03). Similar to this, respondents were asked to rate how much they agreed with the statement that "the banking technology keeps customers' best interests in mind" (mean = 3.44; S.D. = 1.048); their responses indicated that they agreed. Another item that came up was "Using banking technology is financially secure," and the consumers' reaction was fairly near to neutral (mean 3.43; S.D. = 1.082), suggesting that they probably agree with this statement. The frequency result for this question revealed that 35% of respondents gave "neutral" responses, while 32% agreed and 17% strongly agreed. I trust technology to secure my financial privacy was the final question in the section on financial trust, and the response from bank customers showed that they did (mean = 3.64; S.D. = 1.007) since technology can do so. The total financial trust average produced 3.53 indicates that bank consumers endorsed their financial confidence in banking technology. This suggests that bank clients have a favorable opinion of the banking technology's financial dependability, which might affect their decision to embrace the technology.

Perceived Financial Risk (N = 523)

© 2023The Authors

Items	Perceived Financial Risk (Frequency and Percentage %)					Mean	S.D
	SDA	DA	N	A	SA		
I am afraid of trailing my money while transfer money all the way through E-banking.	(8.5)	(17.5)	(26)	(31.6)	(16.5)	3.30	1.185
I am frightened thatI will not be able to get reimbursement from bank in Case of errors.	(9)	(23.3)	(25.5)	(28.9)	(13.3)	3.14	1.182
I feel unsecured about sending and receiving my financial in sequence on e-banking System.	(10.7)	(24.3)	(28.2)	(26.9)	(10)	3.01	1.158
I believe banking technology caneasily be access by unauthorizedpeople like Hackers	(9.2)	(16.5)	(31.8)	(30.8)	(11.7)	3.19	1.129
I believe if I use e-banking system, my privacy is Threatened.	(13.1)	(27.2)	(28.6)	(24.3)	(6.8)	2.84	1.136

Five questions were posed in order to determine the impact of perceived financial risk on bank customers' intention to adopt banking technology. The responses were presented in the form of a statement, with the first question indicating that more than 30% of respondents agreed and more than 16% strongly agreed, and that the mean result also indicates that they probably agreed (mean = 3.3; S.D = 1.185). This suggests that the majority of bank clients are reluctant to use banking technology because they fear losing their money. For the same statement, the second question suggests that more than 29% agree and more than 13% strongly agree, and the mean value likewise shows that the reaction is not neutral (mean = 3.14; S.D. = 1.182). More than 43% of respondents replied favorably to the statement, according to the combined results of those who agree and those who strongly agree It might be said that bank consumers are concerned about not receiving compensation for errors.

Financial clients were asked to indicate how much they agreed or disagreed with the third question about the security of financial technology. Bank clients preferred to remain neutral, as the mean value (3.01 with a standard deviation of 1.18) reveals, and it could be

© 2023The Authors

tough to agree or even disagree with it. In contrast, the frequency table reveals that 34% of respondents did not agree with the statement, although more than 36% of respondents came very near to doing so. Therefore, it appears that it is difficult to determine if banking technology is secure or not at this time. The cause can be related to bank clients. Although there have not yet been large financial losses associated with the usage of technology, it is difficult to believe that there won't be given how quickly technology is developing.

Customers' responses to the fourth question's statement and this outcome are essentially consistent. However, the average response to the fifth question indicated that respondents did not agree with the statement (mean = 2.84; S.D. = 1.135); the frequency result also indicated that more than 40% of respondents did not agree with the statement. The aggregate mean value also indicated that respondents did not feel confident in the technology or that bank clients were reserving their decision about perceived financial risk. It may be true that it would be challenging to declare the system risk-free during the early adoption phase.

Four measurement questions were posed to respondents as it was provided in the table to examine the effect of subjective norm on bank customers' intentions to use banking technology. The majority of respondents agreed with statement No. 1 (mean = 3.56; S.D. = 1.010) and statement No. 2 (mean = 3.45; S.D. = 1.078), respectively. In a similar manner, bank clients stated that they agreed with statement 3 given that its mean value was 3.47, near to 4, and its standard deviation was 1.174. The last statement included in the subjective norm was in agreement with the other things mentioned above; bank clients verified this (mean = 3.39; S.D. = 1.161). The variable's total mean value is 3.47, which is near to 4 and can be Conclusion: Bank customers concur that the subjective norm items have a favorable impact on their desire to use banking technology.

Subjective Norm (SN)-(N=523)

© 2023The Authors

Items	Subjective Norm (Frequency and %) (N = 412)					Mean	S.D
	SDA	DA	N	A	SA		
My close friends initiateme to use of banking technology	(5.8)	(12.4)	(19.7)	(43.9)	(18.2)	3.56	1.100
People who are importantto me think that I should use the banking technology	(6.8)	(10.7)	(28.2)	(39.8)	(14.6)	3.45	1.078
People who influence mybehavior think that I should use e-banking technology	(8.5)	(13.1)	(19.2)	(41.5)	(17.7)	3.47	1.174
In general, people aroundme have encouraged to use e-banking technology	(7.5)	(14.8)	(21.8)	(43)	(12.9)	3.39	1.116

Four measurement questions were posed to respondents as it was provided in the table to examine the effect of subjective norm on bank customers' intentions to use banking technology. The majority of respondents agreed with statement No. 1 (mean = 3.56; S.D. = 1.010) and statement No. 2 (mean = 3.45; S.D. = 1.078), respectively. In a similar manner, bank clients stated that they agreed with statement 3 given that its mean value was 3.47, near to 4, and its standard deviation was 1.174. The last statement included in the subjective norm was in agreement with the other things mentioned above; bank clients verified this (mean = 3.39; S.D. = 1.161). The variable's total mean value is 3.47, which is near to 4 and can be Conclusion: Bank customers concur that the subjective norm items have a favorable impact on their desire to use banking technology.

© 2023The Authors

Customer Awareness (AWR)-(N=523)

Items	Awareness (Frequency and %) (N = 412)					Mean	S.D
	SDA	DA	N	A	SA		
I think I get enough information about the services of banking Technology.	(3.4)	(8.7)	(24)	(47.8)	(16)	3.64	0.965
I think I get enough information about the advantages of Banking technologies.	(2.9)	(12.4)	(24.8)	(46.1)	(13.8)	3.56	0.974
I think I get enough information about the ways how to Use e-banking technology.	(2.2)	(11.4)	(26)	(47.1)	(13.3)	3.58	0.934
In general, I have enough awareness About e-banking technology.	(2.4)	(11.2)	(24.8)	(47.3)	(14.3)	3.6	0.947

According to the data in the table, bank clients felt they knew enough about the services provided by banking technology (mean = 3.64; S.D. = 0.965). Similar to this, bank customers were asked to rate their agreement with statement 1, and their responses indicated that they did (mean = 3.56; S.D. = 0.974), which is comparable with their reaction to item 3. Last but not least, their response on a scale of 1 to 4 showed that they were aware of banking technology (mean = 3.6; S.D. = 0.947). With a mean score of 3.6, which is near to agreeing, the average of customer awareness shows that bank clients had favorable knowledge of banking technology. This finding could indicate that clients are more knowledgeable about banking the goal of bank customers to embrace it, in a favorable way.

© 2023The Authors

Intention (Int)-(N=523)

Items	Intention (Frequency and %) (N = 412)					Mean	S.D
	SDA	DA	N	A	SA		
Given the chance, I intend to use e-Banking.	(2.2)	(4.6)	(16)	(51)	(26.2)	3.94	0.896
Given the chance, I predict that I should use e-banking technology In the future.	(1.7)	(4.4)	(11.7)	(51)	(31.3)	4.06	0.869
It is likely that I will transact with e-banking technology Regularly.	(2.4)	(5.3)	(15.8)	(50)	(26.5)	3.93	0.923
I think that I will use e-banking more frequently than bank branches in Future.	(2.9)	(6.1)	(14.6)	(49.3)	(27.3)	3.92	0.958

As indicated in the table, four questions were put to bank customers to ascertain their intentions about the use of banking technology. As a result, in answer to statement 1, more than 75% of bank customers said they are prepared to

In the future, utilize the technologies. They agreed with the statement, as shown by the mean score of 3.94 and the standard deviation of 0.896. In a similar vein, respondents indicated that they would affirmatively agree (mean = 4.06; S.D. = 0.869) to employ financial technology in the future in response to the issue posed in statement 2. More than 82% of bank clients agreed and strongly agreed together, according to the frequency result. Customers of banks were asked to rate their level of agreement with the usage of the banking technology in the future. Respondents indicated agreement on the question in statement 3 (mean = 3.93; S.D. = 0.923), which is also compatible with the last point made in statement 4. The "intention" question items' aggregate mean score of 3.96 shows that bank clients were willing to embrace banking technologies.

Research Design:

This study was designed to address seven specific issues, including the current state of banking technology adoption among public and private banks in Chennai, factors influencing bank

© 2023The Authors

customers' adoption of banking technology in Chennai, bankers' perceptions of their customers' adoption of banking technology, and the impact of e-loyalty on bank customers' satisfaction and willingness to use technology in the future. Primary and secondary data were gathered from banks, bank clients, and bankers in order to accomplish the specified objectives. The main tool utilised to gather the primary data, mostly from bankers and bank clients, was a structured questionnaire.

Conclusion:

One of the industries that will be significantly impacted by these developments is the banking sector. Due to the rising use of new technologies and tools, the advent of artificial intelligence in the age of data analysis, the appearance of new rivals, and the entry of technology-focused financial organizations into the market of banks are unable to swiftly adopt new technology and change their business models, they will be eliminated from the competitive landscape of the banking industry. Banking is the newest way for banks to do business, and it takes many different forms, including open banking, modular banking, innovative banking, social media banking, blockchain-based banking, neobanks, etc. The banking industry deals with the paradigm shift in the industry. It integrates modern technologies to reinvent the business model and process change. artificial intelligence and technology are used to evaluate client data and customize and personalize service delivery.

However, what is crucial right now is that companies, clients, and even bank workers have very little awareness about digital banking; as a result, banking needs effective and focused marketing. One of the corporate tasks that is greatly impacted by new information technology advances is marketing. In order to build stronger client connections in sales, marketing, and customer service, firms now have additional avenues of communication and engagement at their disposal thanks to the Internet. Marketing is the process of advertising goods and services across a variety of digital platforms in order to reach consumers at a certain moment through the channel of their choice. Each channel needs to be assessed and coordinated due to its importance to the overall marketing plan.The influence of the changes that new technology have brought to banking on officers, staff, and bank customers. Technology advancements are making banking goods and services more accessible and efficient than ever before, opening up new markets for competition. Future successful banks will be distinguished by instant access to vital information and the capacity to take quick, decisive action. The bank benefits from technology advancements in customer service and corporate operations as a crucial competitive advantage. Customers appreciated the technologically driven advancements in banks since it was now easy to complete business tasks through computerization through multiple channels. Comprehensive security, updates, and consumer awareness are only possible when there is technology development in banks.

[1] ‘Casey Merolla | Accenture Banking Blog’. https://bankingblog.accenture.com/author/casey-merolla (accessed May 18, 2023).

[2] ‘Banking on India Transformation, reinvention and the future of India’s banking industry IBM Institute for Business Value’.

[3] M. Gilbert and M. Cordey-Hayes, ‘Understanding the process of knowledge transfer to achieve successful technological innovation’, *Technovation*, vol. 16, no. 6, pp. 301–312,

1996, doi: 10.1016/0166-4972(96)00012-0.

[4] N. Cavus and D. N. C. Christina, 'Information technology in the banking sector: Review of mobile banking', *Glob. J. Inf. Technol.*, vol. 5, no. 2, p. 62, Jan. 2016, doi: 10.18844/GJIT.V5I2.196.

[5] I. SHYAM SUNDAR, 'DIGITAL TECHNOLOGY IN BANKING POST DEMONETIZATION', *Int. J. Eng. Technol. Manag. Res.*, vol. 7, no. 7, 2020, doi: 10.29121/ijetmr.v7.i7.2020.711.

[6] C. Vijai and P. Anitha, 'Information Technology in Indian Banking Sector Some Recent Developments', *SSRN Electron. J.*, 2020, doi: 10.2139/ssrn.3514518.

[7] R. Felix, 'Service Quality and Customer Satisfaction in Selected Banks in Rwanda', *J. Bus. Financ. Aff.*, vol. 06, no. 01, 2017, doi: 10.4172/2167-0234.1000246.

[8] A. V Agustin, H. P. Tabigne, M. R. Esmade, E. M. Mananghaya, and E. T. Banan, 'Effectiveness of E-Banking services of private bank', *Int. J. Conceptions Manag. Soc. Sci.*, vol. 3, no. 4, pp. 2357–2787, 2015, [Online]. Available: http://wairco.org/IJCMSS/October2015Paper63.pdf.

[9] W. M. Lassar, C. Manolis, and S. S. Lassar, 'The relationship between consumer innovativeness, personal characteristics, and online banking adoption', *Int. J. Bank Mark.*, vol. 23, no. 2, pp. 176–199, 2005, doi: 10.1108/02652320510584403.

[10] B. Penang and L. L. Kheng, 'The Impact of Service Quality on Customer Loyalty : A Study of', *Int. J. Mark. Stud.*, vol. 2, no. 2, pp. 57–66, 2010.

[11] D. Rao, Tl. Rao, and S. JNTUK Kakinada, 'Role of Information Technology in Indian Banking Sector', *IOSR J. Bus. Manag. I*, vol. 17, no. 5, 2015.

[12] M. M. Alshater, I. Saba, I. Supriani, and M. R. Rabbani, 'Fintech in islamic finance literature: A review', *Heliyon*, vol. 8, no. 9, Sep. 2022, doi: 10.1016/J.HELIYON.2022.E10385.

[13] E. Feyen, J. Frost, L. Gambacorta, H. Natarajan, and M. Saal, *Fintech and the digital transformation of financial services: implications for market structure and public policy*, vol. 117, no. 117. 2021.

[14] A. Mehdiabadi, M. Tabatabeinasab, C. Spulbar, A. K. Yazdi, and R. Birau, 'Are We Ready for the Challenge of Banks 4.0? Designing a Roadmap for Banking Systems in Industry 4.0', *Int. J. Financ. Stud. 2020, Vol. 8, Page 32*, vol. 8, no. 2, p. 32, May 2020, doi: 10.3390/IJFS8020032.

[15] S. Singh and R. Arora, 'A Comparative Study of Banking Services and Customer Satisfaction in Public, Private and Foreign Banks'.

[16] D. Broby, 'Financial technology and the future of banking', *Financ. Innov.*, vol. 7, no. 1, 2021, doi: 10.1186/s40854-021-00264-y.

[17] V. N. Rao and M. B. Suvarchala, 'Customer Perception towards Banking Services – Post Demonetization', *Int. J. Bus. Manag.*, vol. 20, no. 4, pp. 79–86, 2018, doi: 10.9790/487X-2004037986.

[18] L. Kumari and B. Suresh Kumar, 'Role of Information Technology in Banking Sector: A

Review', *Int. J. Res. Soc. Sci.*, vol. 8, 2018.

[19] V. R. Hiremath *et al.*, 'THE ROLE AND PERFORMANCE ON CUSTOMER SATISFACTION OF PRIVATE AND PUBLIC SECTOR BANKS World Journal of Management and Economics THE ROLE AND PERFORMANCE ON CUSTOMER SATISFACTION OF PRIVATE AND PUBLIC SECTOR BANKS', doi: 10.5281/zenodo.7511279.

[20] R. Kumar and B. Anjum, 'INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD Performance of Banking Sector in India- A comparative study of SBI, ICICI & CITI Bank', no. 6, pp. 30–33, 2017.

[21] R. K. Tailor, A. N, and P. Acharya, 'A Comparative Study of Performance Appraisal System of Public and Private Sector Banks in India', *SSRN Electron. J.*, vol. 25, no. 4, 2021, doi: 10.2139/ssrn.3856629.

[22] H. Michel and S. Rotman, 'Microfinance and mobile banking: Blurring the lines?', *CGAP Focus Note*, vol. 1, no. 88, 2023.

Website References:

www.investopedia.com.

http://www.rbi.org.in

http://www.iba.org.in

http://www.banknetindia.com

http://www.iamai,in

http://www.ideasrepec.co

http://www.arraydev.com

http://www.directessays.com

http://www.bankingtech.com

https://indiastack.org/

https://thedigitalfifth.com/trends-in-banking/

© 2023The Authors