A Study on Role of It (Information Technology) In Banking Sector in India

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Abstract—The Indian banking sector has undergone a remarkable transformation driven by advancements in Information Technology (IT). This study examines the critical role of IT in reshaping the

operational, structural, and service paradigms of banking in India. IT has enabled banks to offer innovative and customer-centric solutions, ensuring higher efficiency, transparency, and security.

Technologies like internet banking, mobile banking, core banking systems (CBS), and fintech integrations have revolutionized how banks interact with customers, improving access to

financial services even in rural areas.

The study also highlights the impact of digital payment systems, such as Unified Payments Interface (UPI) and NEFT, which have fostered cashless transactions and enhanced financial

inclusion. IT has enabled data-driven decision-making, streamlined back-office operations, and mitigated fraud risks through robust cybersecurity measures.

Furthermore, the study discusses the challenges faced by banks, including high implementation costs, digital literacy gaps, and cybersecurity threats. It underscores the importance of continuous innovation, regulatory compliance, and customer trust to leverage IT effectively. The findings

emphasize that IT is not merely a support function but a strategic enabler of growth, efficiency, and inclusivity in the Indian banking ecosystem.

This research provides valuable insights into the role of IT in shaping the future of banking in India, offering a foundation for policymakers and industry leaders to build a resilient and

inclusive financial system.

I. INTRODUCTION

The banking sector in India has witnessed profound changes over the past few decades, driven by the rapid evolution of Information Technology (IT). Traditionally, banks operated with manual

processes and paper-based systems, which were timeconsuming and prone to inefficiencies. However, the advent of IT has revolutionized the banking landscape, enabling seamless, secure, and efficient service delivery to customers.

In India, IT has played a pivotal role in bridging the gap between urban and rural banking

services, promoting financial inclusion, and fostering economic growth. Technologies such as Core Banking Systems (CBS), mobile and internet banking, digital wallets, and fintech platforms have redefined how banks operate and interact with customers. Digital payment systems like

Unified Payments Interface (UPI) and Real-Time Gross Settlement (RTGS) have further catalyzed the transition toward a cashless economy.

This study explores the multifaceted impact of IT on the Indian banking sector, focusing on its role in enhancing operational efficiency, improving customer experience, and fostering innovation. It also delves into the challenges banks face in adopting and integrating IT, such as

cybersecurity threats, high implementation costs, and the need for robust regulatory frameworks.

By examining the transformative role of IT, this study aims to provide insights into its significance for the sustainable growth of the banking industry in India, offering valuable

guidance for policymakers, financial institutions, and stakeholders in navigating the digital era.

II. STATEMENT OF THE PROBLEM

The banking sector in India is undergoing rapid digital transformation, driven by advancements in Information Technology (IT). While IT has significantly improved operational efficiency,

customer experience, and financial inclusion, it has also introduced several challenges. Indian banks face issues such as high implementation costs, digital literacy gaps, inadequate

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infrastructure in rural areas, and growing cybersecurity threats. Additionally, the integration of new technologies with legacy systems poses significant operational and strategic hurdles.

Despite widespread adoption of IT solutions, the extent to which these technologies have

addressed key banking challenges, such as service accessibility, fraud prevention, and regulatory compliance, remains unclear. Furthermore, there is a need to evaluate the role of IT in bridging urban-rural financial disparities and its contribution to achieving the government's vision of a digital and inclusive economy.

This study seeks to address these gaps by analyzing the role of IT in transforming the Indian banking sector. It aims to identify both the opportunities and challenges associated with IT

implementation and provide actionable insights to enhance the sector's resilience, inclusivity, and efficiency in the digital era.

Objectives of the Study

- 1. Evaluate IT's impact on banking efficiency and operations.
- 2. Assess improvements in customer experience through digital services.
- 3. Analyze IT's role in promoting financial inclusion.
- 4. Examine the effectiveness of IT in enhancing security and fraud prevention.
- 5. Identify challenges in IT adoption and implementation.
- 6. Explore emerging IT trends and their potential in banking.
- 7. Provide recommendations for optimizing IT in the banking sector.

III. SCOPE OF THE STUDY

This study focuses on the transformative role of IT in the Indian banking sector, covering its

impact on operational efficiency, customer service, financial inclusion, and security. It examines the adoption of digital technologies like internet banking, mobile banking, and payment systems, alongside emerging trends such as AI and blockchain. The study also explores challenges in IT

implementation and provides insights for policymakers and banks to enhance IT integration for sustainable growth and improved accessibility across urban and rural areas.

IV. RESEARCH METHODOLOGY

The present study is based on Primary data. Primary sources of data collection have been adopted for the study through well-structured comprehensive questionnaire. The Area of study is confined to SAHARANOUR City. Nature of Population are from peoples on both urban and rural areas. Banking customers are the samples. The Sample size of the study will be 50

respondents. Data collected through Questionnaire was prepared in master table.

V. LIMITATIONS OF THE STUDY

The study was primarily limited by small sample size. The primary data collected should not be accurate, it may be biased. The project does not include case study related to hackers and fraud.

VI. REVIEW OF LITERATURE

E. Indriasari, H. Prabowo, F. L. Gaol, B. Purwandari, and et al., (2022) "Adoption of Design Thinking, Agile Software Development and Co-creation: A Qualitative Study towards Digital Banking Innovation Success" Digitalization in the financial sector challenges banking

institutions to develop new methods of innovation processes by incorporating current concepts such as design thinking (DT), agile software development (ASD), and co-creation. This

qualitative study is based on empirical research conducted at three Indonesian banks. Semistructured interviews with three IT executives and a questioner of 31 middle managers

participating in digital banking efforts were used to gather data. A Systematic Literature Review based on Kitchen Heim processes generates keywords in the VOS Viewer software. NVIVO 12 qualitative software is employed to aid data analysis for illustrating the process

integration. The research's contribution is identified, including process integration, obstacles, potential solutions, and enhanced framework on adopting DT, ASD, and Co-creation.

R. Arjun, K. Abisek, and K. Subrabha, (2021)

"Developing banking intelligence in emerging markets: Systematic review and agenda" The current banking industry is heavily dependent on technological artifacts supported by intelligent systems for performance on operational and marketing parameters. However, the attributes for enabling practice between such technological

interfaces with managerial adoption are been lagging creating acknowledge gap. To address this, present research surveys the prior work from 1970 to 2020 on intelligent decision support models specific to banking. Subsequently, findings are synthesized on quadrant outcomes; technology; employees, customers, and organizations for service ecosystems. In addition, the managerial

perceptions of technology on work are captured through short survey. Finally, scope of

advancements like big data, internet of things (IOT), virtual reality (VR) along other untapped conceptual relationships into this framework are discussed.

Y. Shen, C. J. Hueng, and W. Hu, (2020) "Using

digital technology to improve financial inclusion in China" We investigate the channels through which financial inclusion can be

achieved in China. The Partial Least Squares approach to Structural Equation Modelling is used to analyses the relationships among financial literacy, Internet usage, digital financial products usage, and financial inclusion. We show that Internet usage has no direct impact on financial

inclusion. Rather, the direct impact comes from the level of financial literacy and the use of digital financial products, which are advanced by popularity of the Internet. Internet usage and digital financial products usage play a multiple mediation role between financial literacy and

financial inclusion. We conclude that to achieve the goal of advancing financial inclusion,

Chinese policymakers should improve the consumers' financial literacy and promote the use of digital financial products.

PERCENTAGE ANALYSES

| PARTICULAR | FREQUENCY | PERCENTAGE | |
|----------------------------------|--------------------|------------|--|
| BANK ACCOUNT | | | |
| Current | 6 | 12% | |
| Savings | 30 | 60% | |
| Fixed deposits | 14 | 28% | |
| Others | 0 | 0 | |
| AWARENESS ABOUT TYPE OF SERVICE | | | |
| Internet banking | 40 | 80% | |
| Mobile banking | 45 | 90% | |
| ATM | 50 | 100% | |
| Debit/Credit card | 34 | 68% | |
| Electronic fund transfer | 42 | 84% | |
| Others | 30 | 60% | |
| OPINION ABOUT MONEY TRANSFER OF | FERED BY E-BANKING | | |
| Excellent | 20 | 40% | |
| Good | 15 | 30% | |
| Bad | 10 | 20% | |
| Very bad | 5 | 10% | |
| FREQUENCY OF USING DIGITAL BANKI | NG | | |
| Daily | 8 | 16% | |
| Weekly | 15 | 30% | |
| Monthly | 27 | 54% | |
| Half-yearly | 0 | 0% | |

VII. ANALYSES

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PRIMARY DATA INTERPRETATION

The above table shows that 60% of respondents use savings accounts in bank and about type of service 100% people is aware about the ATM service and the opinion about money transfer

offered by e-banking 40% people suggest the money transferred offered by E-Banking is a excellent service and frequency of using digital banking is the many respondents uses digital banking in monthly like paying bills of electricity LIC premiums and daily using of digital

banking is less it is 16%

CHART SHOWING RESPONDANTS BANK ACCOUNT



CHART SHOWING RESPONDANTS ABOUT TYPE OF SERVICE



RELATIONSHIP OF EDUCATION QUALIFICATION & USING INTERNET BANKING

| EDUCATION | LEVELS | | | | | TOTAL |
|---------------|----------|-------|---------|----------|----------|-------|
| QUALIFICATION | | | | | | |
| | STRONGLY | AGREE | NEUTRAL | DISAGREE | STRONGLY | |
| | AGREE | | | | DISGAREE | |

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| HIGHER EDUCATION | 27 | 0 | 0 | 0 | 0 | 27 |
|------------------|----|---|----|----|----|----|
| UNDERGRADUATE | 5 | 0 | 0. | 7. | 0 | 5 |
| POST GRADUATE | 0 | 0 | 0 | 0 | 8 | 8 |
| PROFESSIONAL | 0 | 0 | 0 | 0 | 10 | 10 |

VIII. FINDINGS

- 1. Majority of 50% of the Respondents age between 18 - 20.
- 2. 26% of the Respondents are Female.
- 3. Majority of 64% of the Respondents are Under Graduate.
- 4. Majority of 60% of the Respondents Students.
- 5. Majority of 50% of the Respondents are Unmarried.
- 6. Most of the 56% of the Respondents are in urban area.
- 7. Majority of 60% of the Respondents has Savings account.
- 8. Majority of 100% of the Respondents are aware about ATM.
- 9. Majority of 83% of the Respondents says Online Banking are Safe.
- Most of the 54% of the Respondents use 10. Digital Banking MONTHLY.
- Majority of 86% of the Respondents says it 11. is easy to use new technologies offered by banks.
- 12. Majority of 88% of the Respondents says yes for proper security for E-Banking.
- Majority of 80% of the Respondents says yes 13. for ATM facility satisfaction.

IX. SUGGESTIONS

1. The Banks has to give more awareness to customers with age group of 31-40.

2. Near to 50% of respondents are not using Internet Banking Daily. Bank has to improve their technologies day by day.

- 3. Banks has to improve service quality towards customers with reduced cost.
- 4. Banks has to improve service quality towards rural areas.

5. Majority of E-Banking customers are using savings account; Bank has to popularize their current account and fixed deposit account through information technology.

6. Bank has to popularize their E-Banking services

offered for customers.

X. CONCLUSION

The study focusses on the role of information technology in banking sector. Majority of respondents are now using e-banking services. Technology is one among the foremost factor of human

beings. Customers are started using e-banking made their banking transactions easy.

Respondents rated E-Banking as good after computerization. Customers feeling safety about their transactions. Bank also changed their approach from conventional banking to convenient banking. There is also need to maintain e-banking services easy as possible. IT enabled better market infrastructure, implementation of reliable technique for control of risk and help the

financial intermediaries to reach geographically distant and diversified markets. But IT can be fully useful only if they enable to meet the challenges in the present environment. There is also need to maintain privacy and confidentiality of data. Another important responsibility is to ensure that the data is only used for the purpose intended. For this there is a need to implement IT and other cyber laws properly. This will ensure the developmental role of IT in banking industry.

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