FINTECH ADOPTION AND ITS EFFECTS ON BANKING, EFFICIENCY AND PROFITABILITY

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Abstract

The rapid growth of FinTech has reshaped the Indian banking landscape by bringing about a change in operations, reduction of costs, and enhancement of profitability. This paper examines the relationship between FinTech adoption and banking efficiency through secondary data from 2015-2025 drawn from the RBI, Statista, IMF, and McKinsey reports. Basically, this study has targeted the repercussions of major FinTech-driven innovations like UPI, mobile banking, and digital lending on key financial efficiency ratios such as ROA, ROE, and cost-to-income ratio. The results have shown that the proper integration of FinTech into bank operations is positively related to bank profitability mainly through the automation of several activities and improvement of service delivery. Thus, the paper concludes that continued FinTech adoption enhances competitiveness and financial inclusion, thereby contributing to a significant share of growth in the economy.

Keywords: bank profitability, banking efficiency, digital transformation, fintech adoption, sustainable financial innovation

1. INTRODUCTION

The Indian banking system has undergone an almost sea-change in recent times, with rapid adoption of FinTech over the last decade. FinTech integrates modern digital tools like AI, block chain, and analytics into financial services, which are desperately reordering the way banks interact with customers and operate. The introduction of Unified Payments Interface (UPI) in 2016 and the "Digital India" initiative by the government accelerated this transition toward a technology-based financial ecosystem.

The COVID-19 pandemic accelerated this trend, and digital transactions grew exponentially, while banks began to quickly adopt cloud-based services. Traditional banks, once reliant on bricks and mortar, now find themselves in competition with agile FinTech start-ups and look to technology as a way to remain profitable and customer-centric. In such a scenario, it becomes very important to understand the consequence of FinTech adoption for the efficiency and profitability of banking.

2. EVOLUTION OF FINTECH

The financial technology has evolved a lot over the past five decades. It transforms the way a bank operates by moving from Simple back-office computerisation into complex AI, big data, Block chain, and digital finance.

2.1 Phase I: Foundation of Digital Finance (1960s-1980s)

- Fin tech technology came into existence in 1960. We are bank start using computer computers for bookkeeping and record keeping.
- In 1973, the society for worldwide indoor bank, financial telecommunication is established which revolutionized the global money transfer.
- During 1970s, automated Teller machines were introduced which allows customer to withdraw cash without visiting bank.

- These innovation shows the first wave of electronic financial management

2.2 Phase II: The Internet Banking Revolution (1990s-2008)

- With the introduction of internet online banking emerged
- In online banking, people can check account balances and transfer money from Home
- With the introduction of credit card system Cashless transaction has increase a lot.
- Paypal was launched in 1998 as a small company called confinity. In 2002, Paypal acquired by eBay and later on it become the world largest online payment platform.

2.3 Phase III: Mobile banking and the Rise of FinTech start-up (2008-2015)

- After the global financial crisis, in 2008, people lost their trust on traditional banks. Which opens the door for fin tech start-up that promise safe quicker, transparent financial services.
- During this phase banking services moved from computer and branch to mobile phone, which leads to introduction of mobile banking app, Digital wallets.
- In 2009, bitcoin, and block chain technology was introduced, which add a new dimension to digital finance.
- Smart phones becomes affordable

2.4 Phase IV: Digital Transformation and Integration (2016-2020)

This phase was a turning point for INDIA

- In 2016 UPI unified payment interface was launched, that change the way financial transaction were conducted in India for the very first time Instant money transfer become possible through mobile phones
- Digital transformation was strongly spotted by government of India Digital India initiative. A key component of this initiative is JAM Trinity (Pradhan Mantri Jan Dhan Yojana Aadhar), which plays an important role in Expansion of Digital banking.

2.5 Phase V: Artificial Intelligence, Block chain and Open Banking (2021-Present)

- AI helps banks to understand customer behaviour, preferences, spending power that enable banks and fin tech companies to offer personalised services such as customised loan offers, investment suggestions.
- Another major development is open banking, which allows customers to manage multiple bank account from a single platform.
- Block chain technology ensure trust, transparency, safety in financial transaction.

3. REVIEW OF LITERATURE

Gupta and Arora (2022) noted that Indian banks implementing digital infrastructure attained better cost efficiency by automating their processes. Bansal (2023) revealed that customer outreach was expanded and cross, selling opportunities increased through FinTech collaborations. Kumar and Sinha (2021) explained that incorporation of FinTech helps to minimise operational delays, which results in higher net profit margins. Chakraborty (2024) indicates that the use of AI, based risk management tools drastically reduced Non, Performing Assets (NPAs). Garg *et al.* (2025) studied the impact of blockchain on increasing data transparency and making transactions more secure, which in turn garnered trust from customers. According to a McKinsey and Company (2023) report, FinTech is likely to add more than USD 150 billion to India's GDP by 2025 through efficiency improvements in banking. The PwC India Report (2024) found that FinTech led to faster profitability by cutting the banks operational costs by 2025% through digitisation. The IMF Financial Access

Survey (2025) pointed to the rise in financial inclusion resulting from FinTech platforms which, in turn, led to sustainable profitability.

4. OBJECTIVES

- To investigate how much the Indian banking sector has adopted FinTech.
- To analyse the impact of FinTech innovations on the indicators of banking efficiency.
- To determine the relationship between the adoption of FinTech by banks and their profitability.
- To identify the challenges and sustainability issues that come with the integration of FinTech.

5. THEORETICAL FRAMEWORK

The research relies on three major theories that illustrate how innovation and technology improve the efficiency and profitability of the banking sector. These theories lay down the principles for the impact of FinTech adoption on operational and financial results.

5.1 Schumpeter's Theory of Innovation (1934)

Economist Joseph Schumpeter considered innovation as the main engine that activates economic development and changes. He pointed out that innovations lead to a substitution that is not always tolerated, but eventually replaces the old forms, thus, changes are constantly introduced and the production, delivery, and other processes become more efficient along the way.

Here, FinTech innovation can be viewed as the banking industry that is going through the transformation process, changing the whole landscape.

Financial technologies such as digital payment, mobile banking, and AI have significantly raised the level of the financial services industry, making the services quicker, cheaper, and more easily available. Therefore, it can be said that FinTech is a driving force that banks can use to improvise their productivity and stay competitive in the repertory of a quickly changing world.

5.2 Disruptive Innovation Theory (Christensen, 1997)

Clayton Christensens Disruptive Innovation Theory is a framework that describes how the introduction of new technologies, step by step, creates easier, more efficient, and cheaper alternatives that eventually displace the traditional business models. In the case of banking, FinTech is a disruption that brings about new digital ways that challenge the old banking systems.

Take for instance the UPI transactions, the online lending platforms, and the digital wallets. They have made financial services much easier, ensured the decreased reliance on the physical bank branches, and, most importantly, enhanced customer experience. In view of that, these are changes that not only make banks work more efficiently but also heavily invoke them to relook and reinvent their traditional methods. Hence, one can argue that FinTech is disruptive innovation that is revolutionising the banking industry from within by offering the right mix of flexibility, speed, and customer, centric solutions.

5.3 Diffusion of Innovation Theory (Rogers, 2003)

Everett Rogers Diffusion of Innovation Theory describes a process by which new concepts, technologies, or products gradually become known among people and organizations over a period of time.

Basically, the speed at which people adopt an innovation depends on how they evaluate the advantages, ease of use, consistency, and credibility of the innovation. Here the

adoption of financial technology (FinTech) by banks and customers is a result of such factors as the trust one has in digital transactions, the simple nature of mobile app, perception of security, and the benefits of convenience.

If users consider FinTech platforms to be dependable and advantageous, then the adoption becomes a mission of winning everyone over, which eventually leads to complete technological integration in the financial system. Consequently, this theory is of great help in understanding the case of the fast acceptance of such digital means as UPI and mobile banking in India.

6. RESEARCH METHODOLOGY

The present study aims to evaluate the impact of FinTech adoption on banking efficiency and profitability in India. It follows a structured research methodology as given below:

6.1 Research Design

The study follows a descriptive and analytical research design. It describes the existing scenario of FinTech adoption and analyse its influence on the key performance indicators like efficiency and profitability within the Indian banking sector.

6.2 Nature of the Study

The study is quantitative in nature, as it depends on the numerical data such as transaction volumes, cost-to-income ratios, and profitability metrics in order to determine patterns and relationships.

6.3 Type of Data

The research is based on secondary data, and it is collected from reliable sources such as the Reserve Bank of India (RBI), IMF, Statista, World Bank, McKinsey, and PwC reports pertaining to the period 2015-2025.

6.4 Research Approach

A deductive research approach has been used, where established theories like Schumpeter's Innovation Theory and Disruptive Innovation Theory are applied in order to analyse the data on FinTech adoption and its outcomes.

7. DATA ANALYSIS

This section analyses secondary data to evaluate the impact of FinTech adoption on banking efficiency and profitability in India. Data has been collected from the Reserve Bank of India (RBI), Statista, IMF, PwC, and McKinsey reports pertaining the period 2015-2025.

The data include indicators such as digital payment growth, bank cost-to-income ratio, return on assets (ROA), and return on equity (ROE).

The Analysis is done on the basis of four Research objectives

7.1 Objective 1: To investigate how much the Indian banking sector has adopted FinTech

The purpose of this objective is to analyse the overall implementation of FinTech adoption in the Indian banking sector by evaluating multiple dimensions of growth that are: the expansion of digital payment volumes, Rising in UPI transactions, trends in FinTech investment, and India's global competitiveness in the FinTech.

This analysis shows how digital transformation has reshaped India's financial landscape and positioning it as one of the world's most advanced FinTech economies. FinTech adoption in India has increased remarkable.

7.1.1 Growth of Digital Payment Volume in India

Digital payments form the foundation of FinTech adoption in India. Data from the Reserve Bank of India (RBI), the National Payments Corporation of India (NPCI), and the DigiDhan Portal as reported by the Press Information Bureau (PIB) on 19 December 2023 shows a consistent rise in transaction volume from FY 2017-18 to FY 2022-23, followed by a marginal slowdown during FY 2023-24.

Table 1: Transaction Volume from FY 2017-18 to FY 2022-23

Financial Year	Volume (in crore transactions)
2017-18	2,071
2018-19	3,134
2019-20	4,572
2020-21	5,554
202-22	8,839
2022-23	13,462
2023-24 (Till 11 Dec. 2023)	11,660

Source: RBI, NPCI & DigiDhan Portal - PIB Release, 19 December 2023.

Interpretation:

The overall digital-payment transaction volume in India Rise from 2,071 crore in 2017-18 to 13,462 crore in 2022-23, marking a compound annual growth rate of about 45 percent.

However, For FY 2023-24, upto 11 December 2023, it reached 11,660 crore, which shows some slight moderation in growth.

This small decline can be explained by seasonality and market stabilisation following a few years of exponential growth.

Overall, the growing trend shows widespread adoption of digital payments and strong integration of FinTech solutions throughout India's banking sector.

7.1.2 Growth in Unified Payments Interface (UPI) Transactions

The launch of the Unified Payments Interface (UPI) in 2016 was a turning point in digital financial transactions. According to the Press Information Bureau (PIB) release (June 2025), based on data from the National Payments Corporation of India (NPCI), UPI shows continuous expansion in both transaction volume and value.

Table 2: Number and value of Transaction Volume from 2021 to 2025

Year (June)	Number of Transactions (in Billion)	Transaction Value (in ₹ Lakh Crore)
2021	2.80	5.47
2022	5.86	10.41
2023	9.33	14.75
2024	13.88	18.23
2025	18.39	24.03

Source: National Payments Corporation of India (NPCI), Press Information Bureau, June 2025.

7.1.3 Trends in FinTech Investments in India (2021-2025)

India's FinTech investment funding pattern has witnessed a slow decline over the past few years despite a rapid increase in digital payment adoption in the country. According to FinTech Global Research (2025), total FinTech investments in India dropped sharply from

2021 to 2025 when investors took a more cautious approach due to global economic uncertainty.

Table 3: Total Investment and Number of Deals from 2021 to 2025

Year	Total Investment (US$ Billion)	Number of Deals
2021	17.9	753
2022	13.5	771
2023	7.0	466
2024	3.5	216
2025	2.2	117

Source: FinTech Global Research, 2025

7.1.4 Global Competitiveness of Indian FinTechs

India has undoubtedly transformed into one of the world's fastest, growing FINTECH ecosystems. A KPMG report (2025) 'India's FinTech Evolution: From Growth to Resilience' reveals that the country is one of the top three global FinTech markets due to its huge, digitally aware population, a regulatory framework which is very supportive, and a strong digital public infrastructure (DPI).

Table 4: India's Global Rank and Value, 2025

Parameter	India's Global Rank (2025)	Value / Statistic
Number of FinTech Firms	3rd	14,542 firms
Unicorns (Billion-Dollar Startups)	4th	31 unicorns
FinTech Funding (Last 10 Years, USD bn)	4th	40.8
Smartphone Users (in millions)	2nd	701 million
Share of People Using Mobile Payments (%)	2nd	59%
Digital Skills Index Rank	3rd	Rank 12

Source: KPMG, 2025 - "India's FinTech Evolution: From Growth to Resilience".

7.2 Objective 2: To Analyse the Impact of FinTech Innovations on Banking Efficiency Indicators

Operational efficiency in banking basically means how well banks use technology and resources to save costs, shorten process time, and provide better customer service. The use of FinTech tools like digital payment systems, artificial intelligence (AI), cloud banking, and automation has changed the bank operation level in a fundamental way.

In India, the implementation of FinTech has improved efficiency through various ways such as lower transaction costs, faster loan processing, and better branch operations via digital platforms. This part reviews certain key indicators of banking efficiency like cost, to, income ratio, loan turnaround time, and share of digital transactions, which are an analysis of data from the Reserve Bank of India (RBI), PwC India, and Deloitte Banking Reports (2024-25).

7.2.1 Cost-to-Income Ratio of Indian Banks

The cost-to-income ratio (CIR) measures the efficiency of banks in generating income relating to operating costs. A lower ratio indicates higher efficiency.

Table 5: Cost to Income Ratio from 2018-19 to 2023-24

Year	Cost-to-Income Ratio (Public Sector Banks)	Private Sector Banks
2018–19	52.3%	43.7%
2020–21	48.5%	41.9%
2022–23	46.2%	40.5%
2023–24	44.8%	38.7%

Source: RBI Report on Trend and Progress of Banking in India, 2025.

7.2.2 Reduction in Loan Turnaround Time

FinTech integration has Transformed credit assessment and loan delivery in banks through data analytics, e-KYC, and AI-based underwriting systems.

Table 6: Average Processing Time

Loan Category	Average Processing Time (Pre-FinTech, 2015)	Average Processing Time (Post-FinTech, 2025)
Personal Loans	5-7 days	24-36 hours
MSME Loans	15-20 days	2-3 days
Home Loans	10-15 days	3-5 days

Source: PwC India, FinTech and Future of Banking, 2024.

7.2.3 Share of Digital Transactions in Total Banking Operations

Table 7: Share of Digital Transactions from 2018-19 to 2024-25

Year	Share of Digital Transactions (%)
2018–19	42%
2020–21	67%
2022–23	83%
2024–25	91%

Source: RBI Payment Vision Document, 2025.

The share of digital transactions in banking operations has exceeded 90% by FY 2024-25, implying that almost all banking activities are carried out in a digital manner. The growing use of UPI, net banking, and mobile banking is the source of this change. Decreasing the dependency on physical branches has thus resulted in the better use of human resources and the attainment of cost efficiency.

7.2.4 Technological Impact

FinTech innovations have brought to Indian banks the following changes:

- **Cost Efficiency:** Automation has led to a significant decrease in the administrative expenses.
- **Speed and Productivity:** With the help of AI and machine learning, there is less manual work and human errors get reduced.
- **Customer Convenience:** Customers can bank anywhere and anytime through mobile and online banking.
- **Operational Resilience:** Scalable and less prone to downtime are the characteristics of cloud, based solutions.

The incorporation of FinTech has therefore caused a paradigm shift away from branch, centric operations towards digital, first models thus, considerably boosting the efficiency of the banking sector at large.

7.3 Objective 3: To evaluate the relationship between FinTech adoption and banking profitability

Though the use of FinTech by banks in India has mainly been an efficient way to improve operation, the impact on profitability and financial performance cannot be ignored.

Major performance standouts like ROA or net profit have seen significant improvement in the past five years, among others. In this part, we analysed the impact by considering the authentic statistical information from the Financial Stability Report of the Reserve Bank of India (2025a) and the releases of the Ministry of Finance (2025).

7.3.1 Profitability Trends in Indian Banks

Table 8: Profitability Trends in Indian Banks from 2022-23 to 2024-25

Indicator	FY 2022-23	FY 2023-24	FY 2024-25	Source
Aggregate Net Profit of SCBs	₹2.24 lakh crore	₹3.50 lakh crore	₹4.01 lakh crore	RBI, 2025
Return on Assets (ROA)	1.2%	1.3%	1.37%	RBI, 2025
Return on Equity (ROE)	12.5%	13.4%	14.1%	RBI, 2025
PSB Net Profit	₹1.05 lakh crore	₹1.41 lakh crore	₹1.78 lakh crore	MoF, PIB 2025

7.3.2 FinTech Adoption and Revenue Structure

The rapid growth of Financial Technology is changing the ways banks earn income. Now, banks earn a lot more of their revenue through fees for digital payment channels, API integrations, and other value, added digital services. Non, Interest Income Contribution (FY 2025): 21% of total income (RBI estimate). Interest Income Contribution (FY 2025): 79%. In contrast to FY 201819, when the fee, based income was below 12%, this figure shows the real effect of FinTech, driven revenue diversification.

7.3.3 Relationship Between Digital Adoption and Profitability

Data derived from the RBI Financial Stability Report (2025) and McKinsey (2024) highlight how banks deeply embedded with FinTech (private sector and large PSBs) achieve better profitability metrics such as ROA and ROE, to demonstrate the point. This relationship can be expressed as: By implementing a higher share of digital transactions and ensuring integration of automation, banks realise better profits through efficiency gains and lower cost, to, income ratios.

For example:

Banks such as HDFC, ICICI, and SBI achieved record profits in FY25, backed by massive UPI and mobile banking usage. Process automation driven by FinTech in PSBs has helped to reduce NPAs and improve profitability margins.

The analysis points to a positive correlation between FinTech adoption and profitability.

- **Cost Reduction:** Automation cuts the expenses of manual processing.
- **Increased Income Diversification:** There is a rise in digital service fees and transaction income.
- **Improved Lending Efficiency:** AI, based risk models help to lower the risk of a default.
- **Customer Retention:** Digital convenience increases loyalty and deposit growth.

All these changes in the structure have together made the Indian banking sector more profitable and sustainable.

7.4 Objective 4: To assess challenges and sustainability concerns related to FinTech integration

While FinTech has undoubtedly revolutionised India's banking sector from various perspectives such as increased efficiency, profitability, and customer experience, it has also generated a new range of challenges and concerns regarding sustainability. These challenges are mostly connected to issues such as data security, cyber threats, regulatory compliance, over, reliance on technology, and the widening financial inclusion gaps. To achieve a sustainable integration of FinTech, the rapid pace of innovation must be kept in balance with factors such as systemic stability, consumer protection, and equitable digital access. This part of the paper attempts to analyze the main risks and sustainability issues that have been pointed out by the secondary data sources such as the Reserve Bank of India (RBI, 2025),

PwC India Digital Trust Insights (2024), IMF Financial Access Survey (2025) and KPMG India FinTech Report (2025).

7.4.1 Cyber security and Data Privacy Risks

The rapid growth in the number of online financial transactions has positioned cybercrime as a significant threat to FinTech, led banking. In line with the PwC India Digital Trust Insights Report (2024a), more than 65% of the financial institutions in India have experienced an increased number of cyber attack attempts post, 2020 which is the time their digitalization took off at a rapid pace.

Main Issues:

Data Breaches: A significant rise of threats from malware, phishing, and ransomware is observed in banks that are targeting payment systems and customer data.

Third, Party Risks: Over-reliance on external FinTech vendors can potentially lead to elevated exposure to risks in sharing data.

Privacy Regulation Gaps: Even though the Digital Personal Data Protection Act, 2023 strengthens the rights of consumers, there are still issues with enforcement and cross, border data management.

7.4.2 Regulatory and Compliance Challenges

FinTech ecosystem is basically a blend of technology and finance, and sometimes its developments surpass the regulatory frameworks. RBI Discussion Paper on Digital Lending (2023) and Financial Stability Report (2025) have pointed out the following problems:

Table 9: Profitability Trends in Indian Banks from 2022-23 to 2024-25

Regulatory Challenge	Description
Unregulated Digital Lenders	Many non-banking FinTech apps operate without RBI licenses, raising consumer protection risks.
Cross-Platform Governance	FinTechs offer payment, lending, and insurance services which falls under multiple overlapping regulators (RBI, SEBI, IRDAI).
Data Localisation	Managing compliance with RBI's data storage requirements poses technical and cost challenges for smaller FinTechs.

7.4.3 Operational and Technological Risks

Integrating FinTech pushes a company to depend even more on its digital infrastructure and algorithms, thus bringing in a whole range of new operational risks.

Examples and Evidence:

- **System Downtime:** UPI and IMPS platforms have been facing server overload problems at times which lead to stoppage of transactions.
- **Technology Dependence:** If banks rely too much on third, party APIs and cloud infrastructure, they may be exposed to systemic risks.
- **Algorithmic Bias:** An AI credit scoring system might inadvertently discriminate if it is trained on biased data sets (Deloitte, 2024).

7.4.4 Financial Inclusion and the Digital Divide

Despite India making substantial progress in the digital realm, the availability of FinTech services is still not equal everywhere. Based on the IMF Financial Access Survey (2025), it is estimated that around 33% of the adult population in rural India doesn't have complete access to digital financial services mainly due to poor internet infrastructure or their insufficient digital literacy.

Challenges:

- **Rural Connectivity Gaps:** A large number of semi, urban and rural areas are still mostly dependent on traditional banking.
- **Digital Literacy**: Customers generally don't know enough about how to be safe when using digital banking.
- **Affordability:** The cost of smart phones, data, and digital fees can be enough to discourage low, income users from embracing FinTech fully.

7.4.5 Environmental and Ethical Sustainability

The sustainability of FinTech is not only a matter of technology and finance, but it also includes AI ethics and the environment.

FinTech through cloud, consumes a lot of energy thus, green data centres are becoming a necessity. Taking care of customer data ethically and having a clear AI governance system are essential to keep the trust of the people.

According to the KPMG FinTech Evolution Report (2025), more than 70% of Indian FinTech companies are already embedding Environmental, Social, and Governance (ESG) frameworks into their roadmap for the future development to be in sync with the global sustainability objectives.

8. FINDINGS

8.1 FinTech adoption in India has grown quickly and consistently

The total number of digital payment transactions go up from 20.71 billion in the financial year 2017-18 to 134.62 billion in the financial year 2022-23, which was possible due to extensive use of UPI, digital wallets, and mobile banking. Now, India is the third country with the highest number of FinTech firms (14, 542) and the second country with the highest mobile payment adoption rate (59%).

8.2 FinTech has remarkably improved banking efficiency

The cost-to-income ratio of banks has decrease from 52.3% in FY 2018-19 to 44.8% in FY 2023-24, while the time taken to process a loan has been reduced to 2436 hours from several days, because of automation, AI, and e, KYC technologies. More than 90% of banking transactions today are done digitally (RBI, 2025).

8.3 FinTech adoption has Enhanced banking profitability

FinTech adoption has increased the profitability of banks. During the financial year 2024-2025, Scheduled Commercial Banks has listed a net profit of 4.01 lakh crore which was the greatest ever, simultaneously as Public Sector Banks achieve Net profit 1.78 lakh crore. As well, the return on assets (ROA) was 1.37% and the return on equity (ROE) was 14.1%.

8.4 Sustainability and risk challenges persist

While there are benefits, the issues of threats to cybersecurity, risks to data privacy, regulatory gaps as well as problems of digital divide are still the main challenges. More than 65% of banks have experienced cyber attacks during the period 2020, 2024 (PwC, 2024), and approximately 33% of rural adults are still without digital access (IMF, 2025).

9. CONCLUSION

The article analyses that the integration of FinTech in Indian banking sector has brought radical changes in the way these banks operate. It highlights improvement in operational efficiency, profitability and banking accessibility as the key changes brought by FinTech.

Digitization of the banking services empowered by such revolutionary tools as UPI, Aadhar, enabled payments, and AI, based lending has made banking not only faster but also more accessible and customer, friendly. FinTech, in addition, has impacted the profitability of banks by opening up new revenue streams from digital transactions and at the same time reducing dependency on traditional interest, based income.

The continuous rise in profits, higher efficiency of asset and equity use, and declining cost ratios are some of the evidences pointing to the satisfactory financial impact of digital integration. Nonetheless, the continuation of these results will be contingent upon proper risk management, sound regulatory framework, and the right mix of inclusiveness and outreach.

Challenges in cyber security, proper data usage, as well as digital education of the rural population are essential requisites for preserving consumer trust and ensuring an equitable distribution of the benefits of FinTech. Therefore, FinTech should be viewed as a significant change agent at a strategic level rather than just an advancement in technology. It is bringing the Indian banking system in line with worldwide banking practices in terms of innovation, efficiency, and inclusiveness.

10. SUGGESTION

10.1 Strengthen Cyber security and Data Protection

To deal with new threats, banks should commit more resources to AI, driven threat detection, encryption, and multi, factor authentication systems. The central bank should require regular cyber security audits to be conducted to safeguard customer data and minimize risks in the bank's operations.

10.2 Promote Inclusive Digital Financial Literacy

In order to make fin tech effective it is imperative that all sections of society such as people in rural and semi-urban areas must know how to use digital banking safely.so Both the government and banks should conduct financial literacy and digital awareness programs under national initiatives such as Digital India and the Pradhan Mantri Jan Dhan Yojana (PMJDY).Workshops, local training camps, and awareness campaigns should be conducted at the community level to help people understand the benefits and the precautions of using digital payments, UPI, and online lending services.

10.3 Strengthen Regulatory Frameworks for FinTech Collaboration

RBI and other regulators like SEBI, IRDAI, should work together to harmonize their efforts to develop a single FinTech regulatory framework thus ensuring that banks and FinTech start-ups are in compliance, data misuse is avoided, and are provided equal opportunities.

10.4 Encourage Sustainable FinTech Practices

In order to promote long, lasting sustainability, banks and FinTech companies can consider Environmental, Social, Governance factors in their business models such as adopting green data centres, using ethical AI, and implementing responsible lending.

10.5 Expand Innovation through Public Private Partnerships (PPP)

Government, RBI, and private FinTech firms working together could explore opportunities in digital lending, leveraging block chain for compliance, and AI, powered credit scoring for MSMEs amongst others, leading to a more extensive sectoral growth.

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