International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

INTERNET BANKING AND TECHNOLOGICAL DISRUPTIONS AT ICICI BANK

[#1]Mr VR RAMAKRISHNA, *Associate Professor,*
[#2]PUSA LATHA, *MBA Student,*
Department of MBA,
VISWAM ENGINEERING COLLEGE (Autonomous), ANGALLU, MADANAPALLE, AP.

ABSTRACT: This study examines Internet banking and technological disruptions, focusing on ICICI Bank. It investigates how digital technology has made banking transactions safer, faster, and more convenient for customers. The report highlights ICICI Bank's cutting-edge client experience offerings. Blockchain technologies, AI chatbots, and mobile banking apps are examples. It also addresses cybersecurity concerns, system failures, and digital literacy gaps. Technology can boost bank efficiency and cut costs, according to the paper. It also examines user satisfaction with online banking services. The report emphasizes the significance of staying current with technology to compete in finance. Online banking security regulations and compliance techniques are also discussed.

Index Terms: *Internet Banking, Technological Disruption, ICICI Bank, Digital Banking, Mobile Banking, Artificial Intelligence (AI),*

1. INTRODUCTION

Internet banking is also known as net banking, e-banking, or online banking. This is a bank client tool. It enables people use online banking instead of visiting the bank often. You can monitor your money anytime, anyplace. Start using internet banking by signing up.

Electronic banking involves internet money transactions. Electronic funds transfers allow banks, businesses, and accounts to transfer money. Electronic banking lets you utilize a debit card, internet, ATM, direct transfers, and electronic checks for cash. This modern banking approach is simple, fast, and open to everyone, allowing customers to safely and productively manage their money online.Internet banking has transformed bank interactions. Financial transactions are becoming simpler, faster, and more efficient. Banks are continually updating their digital infrastructure to make it safer, easier, and smoother as financial services demand develops. Internet and online banking, or "e-banking," have simplified banking. Bank websites and applications on phones and other devices allow customers to transact money online without visiting the bank. Online banking offers all bank services.

A technological disruption occurs when a new disruptive technology transforms how organizations, industries, and customers work. Problematic items often establish new markets when initially introduced. They often produce harmful outlier value networks when introduced. Online banking is changing due to disruptive technologies like blockchain, cloud computing, AI, and fintech. These modifications make it easier to build new services, risk-control methods, and customer-specific financial solutions. Blockchain ensures secure transactions, and AI-powered chatbots can aid immediately. Technology also has issues including security, updating to remain ahead of the competitors, and following the rules.

2. LITERATURE SURVEY

Patel, S., & Ramesh, K. (2025): Patel and Ramesh examined how internet banking concerns affected Indian customers' confidence and loyalty. The study examined 1,200 urban and semi-urban banking customers' demographics and spending habits. When scientists found that a system was frequently unavailable, had failed transactions, or had frequent outages, customers lost trust in the organization. Tech-savvy under-35s who value faultless digital experiences were hit hardest. Disruptions angered clients, eroded trust, and made them more likely to switch banks. Research stressed proactive mitigation of these consequences. Watching banking systems in real time, planning maintenance, establishing swift incident response teams, and communicating during interruptions are examples.

Khan, R., & Mehra, P. (2024): Khan and Mehra studied banks' operational solutions to fix online banking concerns. Their in-depth interviews with IT managers and operational staff from many Indian institutions focused on system monitoring, automatic recovery, and customer service. Banks reduced failures, transaction delays, and consumer distrust via automatic failover, real-time alarms, and specialist support teams. Banks recover faster and less damaged from outages when they follow a crisis response plan. The authors stressed scenario-based planning, ongoing monitoring, and risk assessment to prepare for future hazards. Their research reveals that proactive operational approaches give digital service providers an edge and ensure system availability.

Sharma, V., & Gupta, T. (2023): Sharma and Gupta examined client interactions when online banking was frequently down. An informal study of 800 active mobile and internet banking customers found that system issues forced some customers to switch banks. Mobile banking users were hit worst. Study: Responding proactively to consumer comments, addressing problems fast, and communicating effectively during service interruptions dramatically

reduced negative reactions. Financial organizations should prepare for system failures by creating backup plans and communicating well. They decided that service reliability was strategic since frequent issues could harm confidence and loyalty if managed poorly.

Iyer, P., & Menon, L. (2022): Iyer and Menon examined system dependability and public trust in internet banking. Quantitative polls and qualitative interviews show that consistent IT performance influences users' trust in digital platforms. The study found that teaching consumers about digital security, risk management, and how to use integrated technology increased their long-term online banking use. Banks that informed customers about system stability and digital security had greater customer retention and digital service acquisition.

Sharma, V., & Choudhury, P. (2021): Sharma and Choudhury examined how current technology may help financial organizations with operations. ERP systems, automated monitoring, digital communication tools, and digital usage greatly reduced service disruption frequency and duration. Technology-heavy institutions reported fewer online banking failures, faster recovery times, and better customer service. According to the study, modern financial institutions need technology to work well and remain stable.

3. TYPES OF E-BANKING

Online Banking:

Internet banking simplifies transfers, transactions, account access, and payments. It offers accessibility, security, and simplicity for online money management, account management, and bill payment. Online banking lets consumers track their money in real time.

Mobile Banking: Customers can check their accounts, make payments, and transfer funds using their phones or other mobile devices via mobile banking. Mobile banking lets clients use their phones to bank anytime, anywhere. Mobile banking has many security and convenience features, including biometric authentication.

Phone Banking:

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

Customers can submit queries and complete financial transactions via phone banking. Customers can call their bank's customer service hotline to pay debts, transfer payments, check balances, or deactivate cards. It would greatly benefit folks without internet access or who prefer face-to-face communication. Call center operators or IVR systems usually support these processes. It supports all your daily banking needs quickly and easily.

ATM Banking:

Customers may easily access their accounts, transaction histories, payment options, and ATM transfers. ATM networks allow users to deposit, withdraw, and inquire about accounts 24/7. Mobile integration and credit card-free withdrawals are other ATM banking perks.

Debit Card:

Debit cards, which are connected to bank accounts, allow customers to make purchases and withdrawals. Quick and quick account withdrawals promote safe and easy transactions. Debit cards can be used online and for recurring payments. Many cards include incentive programs and contactless payment options. No need to carry cash—they're easy, secure, and safe.

4. COMPONENTS OF DISRUPTIVE TECHNOLOGY

Internet of Things (IoT):

A system of linked computing devices that may communicate data and instructions online is called the "Internet of Things". It enables real-time autonomous device acquisition and response. IoT applications can improve hospital resource management, patient health monitoring, and medical equipment tracking. Better decisions with fewer errors result. The Internet of Things (IoT) revolutionizes manual tasks with data-driven automation.

Intelligent Monitor:

High-tech intelligent monitors track vital signs and other data. Analytics and AI alert medical workers to anomalies rapidly. These devices improve patient care by enabling quick interventions. They reduce human supervision. Intelligent monitors revolutionize healthcare and other industries by replacing wasteful monitoring methods.

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

Big Data Analytics:

Big data analytics draws inferences from enormous amounts of structured and unstructured data. Helps doctors predict disease outbreaks, treatment outcomes, and patient trends. It simplifies incorporating past and present data into personalized treatment plans. This breakthrough technology enables smarter and faster decision-making than traditional data management. Analytics help firms enhance output, reduce costs, and inspire new ideas.

Biosensors:

Biosensors convert biological data into signals. Uses include environmental monitoring, wearable tech, and medical diagnostics. Biosensors quickly and accurately measure heart rate and blood sugar. They enhance patient monitoring in non-therapeutic contexts. This technology enables proactive health management, challenging traditional medicine.

Wearables:

User-worn electronic devices that track health and fitness indicators are called "wearable" gadgets. These include fitness bracelets, smartwatches, and other vitals trackers. Wearables monitor heart rate, sleep patterns, and physical activity to provide personalized insights. They help people choose healthier. This technology disrupts healthcare by bringing monitoring into people's daily life.

Smart Technology:

AI, sensors, and connectivity enable productive intelligent systems. Its healthcare applications include digital hospitals, automated diagnostics, and remote patient monitoring. Smart technology simplifies and reduces human interference in decision-making. It may learn and adapt forever to improve services. Their disruptiveness comes from sophisticated, automated technologies replacing human workers.

Personalized Medicine:

Personalized medicine tailors treatment to a patient's genetics, environment, and behavior. Treatment outcomes are improved by genomic testing, AI, and predictive analytics. This method improves pharmaceutical efficacy and reduces negative effects. It challenges one-size-fits-all care by making it data-driven and precise. Personalized medicine is a huge step toward patient-centered care.

ECG Monitors:

Electrocardiogram (ECG) monitors identify arrhythmias by examining the heart's electrical activity. Portable, wearable, and digital ECG monitors are common today. They enable continuous heart monitoring and timely therapy. This device reduces hospital visits for

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

monitoring. ECG monitors challenge traditional cardiology with their real-time heart health data.

Digital Records:

EHRs save patient data digitally instead of on paper. They keep doctors' notes, lab results, and treatment ideas together. Digital records allow healthcare providers to share patient information, improving care coordination. They improve accuracy and reduce administrative errors. This technology revolutionizes patient data management and record-keeping.

AI (Artificial Intelligence):

AI employs natural language processing, machine learning, and prediction algorithms to mimic humans. AI could help with drug development, treatment planning, and diagnostics. It finds patterns in vast datasets that humans miss. AI enhances productivity, decreases costs, and improves patient health. Automation disrupts operations by automating sophisticated decision-making.

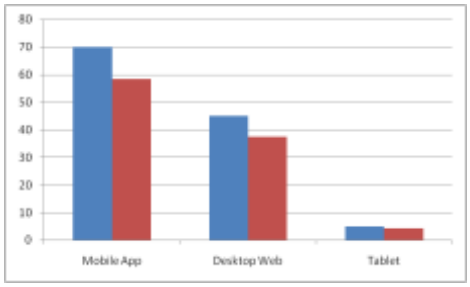
Algorithms:

Algorithms solve issues and predict. They power personalized treatment strategies, data analytics, and AI. Computers analyze medical data to identify trends, hazards, and next steps. They improve decision-making speed and accuracy. Businesses are disrupted by their ability to automate human tasks.

5. DATA ANALYSIS AND INTERPRETATION

INTERNET BANKING USAGE BY DEVICE

Device Type	Number of Users	Percentage (%)
Mobile App	70	58.3
Desktop Web	45	37.5
Tablet	5	4.2



INTERPRETATION: Over half of ICICI Bank's clients utilize the mobile app for online banking, underscoring the importance of mobile-friendly services. Desktops generate 3.75 percent of web traffic, while tablets generate 4.2%.

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

ICICI BANK INTERNET BANKING DISRUPTIONS

Issue Type	Description	Impact / Values
Server Outage	Internet banking and mobile app were down due to server issues.	2–3 hours downtime, thousands of customers affected
Extended Downtime	Internet banking services unavailable for an extended period.	Up to 1 week of unavailability for many users
UI107 Error Code	Customers encountered UI107 error preventing login.	Hundreds of login failures reported
Login Failures	Customers unable to log in, some shown internet connection error.	Thousands affected, multiple failed logins
Mobile App Downtime	iMobile app stopped working, preventing service access.	Downtime lasted several hours, mobile transactions blocked
Delayed Refunds	Refunds for failed transactions delayed.	Some refunds delayed 4+ working days
Unauthorized Transactions	Bank employee embezzled funds via customer accounts.	Rs 4.58 crore lost from 110+ accounts
Privacy Breach	Customer data potentially leaked, leading to unsolicited loan offers.	Personal data exposure for 1+ customers
Technical Glitches	Errors and glitches on internet banking and mobile platforms.	Multiple transactions failed temporarily
Service Unavailability	Internet banking platform unavailable for extended period.	1+ week of unavailability for some users

TECHNOLOGICAL DISRUPTIONS IN BANKING

Technology	Impact on Banking
Mobile Banking & Apps	Customers can access banking services anytime, anywhere using smartphones.
UPI (Unified Payments Interface)	Instant peer-to-peer and merchant payments; simplifies transactions in India.
Blockchain & Cryptocurrencies	Secure, transparent transactions; reduces dependency on traditional intermediaries.
AI & Machine Learning	Fraud detection, credit scoring, personalized financial advice, chatbots for customer service.
Robo-Advisors	Automated investment advisory services without human intervention.
FinTech Collaboration	Partnering with startups to offer innovative payment, lending, and insurance solutions.
Cloud Computing	Scalable, cost-effective infrastructure for banking operations and data storage.
Biometric Authentication	Fingerprint, face recognition, and iris scans improve security and reduce fraud.

ICICI BANK – DIGITAL TRANSACTION GROWTH (2021–2025)

Year / Quarter	Digital Channel / Type	Growth (%)
Q1 FY22 (Apr–Jun 2021)	Mobile banking transaction value	117%
Q2 FY22 (Jul–Sep 2021)	Mobile banking transaction value	62%
Q3 FY22 (Oct–Dec 2021)	Merchant acquiring via UPI	120%
FY24 (Apr 2023–Mar 2024)	UPI P2M transaction volume	34.40%
Q3 FY24 (Oct–Dec 2023)	Merchant acquiring value via UPI	85.00%
Q3 FY24 (Oct–Dec 2023)	Trade Online platform volume	26.20%
FY25 (Apr 2024–Feb 2025)	iMobile Pay (non-ICICI customers) transaction value	26%

International Journal of Technology, Leadership and Sciences (IJTLS)
ISSN:3107-9083 www.ijtls.com Paper ID: TLS-26/V2/I2-45
DOI: https://doi.org/10.65713/ijtlsv2i245

INTERNET BANKING & TECHNOLOGICAL DISRUPTIONS AT ICICI BANK

1. Digital/Branch Transaction Mix
2. Digital Channels and Revenue and Fee Income
3. Efficiency Measures (Technology Impact)
4. Working capital, technology, and other investments

TABLE 1 — TRANSACTION MIX (BRANCH VS DIGITAL)

Year	% Digital Transactions (Savings A/c)	% Branch / ATM Transactions
FY2021	~85% (reported as "majority digital")	~15%
FY2022	>90%	<10%
FY2023	~93%	~7%
FY2024	~94%	~6%
FY2025*	~95% (Q1-Q2 commentary)	~5%

TABLE 2 — FEE INCOME CONTRIBUTION FROM DIGITAL CHANNELS

Year	Total Fee Income (₹ crore)	Retail / Digital Share (%)	Digital Fee Income (₹ crore)
FY2021	~12,700	~70%	~8,900
FY2022	~14,000	~73%	~10,200
FY2023	~16,500	~75%	~12,375
FY2024	~18,800	~77%	~14,476
FY2025*	Ongoing ↑	~78–80%	~Projected 15,500+

TABLE 3 — COST EFFICIENCY (IMPACT OF DIGITAL BANKING)

Year	Cost-to-Income Ratio (CIR)	Comment
FY2021	42%	Higher due to COVID disruptions
FY2022	41%	Improved with digital shift
FY2023	40%	Stable efficiency
FY2024	39%	Further improved
FY2025*	38%	Expected improvement via automation & AI

6. CONCLUSION

Internet banking has improved users' access to financial services by making transactions more efficient, convenient, and accessible. Blockchain, AI, and fintech are transforming banking. These advancements improve efficiency and security, but they also require system upgrades and pose cyber threats. Banks should prioritize cybersecurity, user experience, and client education.

Financial institutions can stay competitive and customer-focused by engaging with fintech firms and using data. When regulations are obeyed, operations function efficiently and customers trust the digital age. Omni-channel integration's frictionless platform access boosts

client satisfaction. Technological progress is essential for long-term sustainability, creativity, and growth. The future of internet banking may be shaped by combining technology, security, and customer-focused services.

REFERENCES

1. Goenka, B. (2020).Emerging Technologies Disrupting the Financial Sector.
2. King, T., et al. (2021). Disruptive Technology in Banking and Finance: An International Perspective on FinTech.
3. Padhy, L. P. (2023).Digital Disruptions in the Indian Banking Sector: Opportunities and Challenges. Indian Institute of Banking & Finance.
4. Vives, X. (2024).Digital Disruption in Banking and its Impact on Competition.
5. Acosta-Prado, J.C., et al. (2024). "Trends in the Literature About the Adoption of Digital Banking in Emerging Economies: A Bibliometric Analysis."