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## Digital banking: It's role, impact & challenges

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### Abstract

In the past 20 years, the internet, cell phones, and communication technologies have grown at an exponential rate. As a result, the digital banking industry has made significant advancements in the areas of user-friendly, effective, and quick financial transactions. Cashless transactions are made possible in large part by digital banking in the COVID-19 pandemic.

The Indian banking industry has undergone a significant transformation in the recent past years. The Indian banking industry has seen a remarkable transition, leading to the rise of digital banking. In actuality, the advent of digital banking has drastically altered human lifestyles worldwide. The majority of societal sectors have surely profited from digital banking.

Numerous changes occur in the banking sector as a result of technological advancements. After pandemic people are more aware about digital banking system and government also promote Digital India. With the knowledge of digital banking, people no longer need to go to the bank to complete a variety of tasks, such as opening bank accounts, depositing checks, making payments, and much more. As time has gone on, digital banking has emerged and is proving to be a success for the banking industry.

The idea of digital banking is widely accepted in today's world, and it quickly gained popularity as a method of conducting business. This paper examines the idea of digital banking. The study uses secondary data as its foundation. The role, impact, benefits, drawbacks, risks & challenges of digital banking are all examined in this study. It comes with obstacles, but there are also a lot of potential to make banking digital to better serve the demands of the public. An overview of the major phases in the development of digital banking in India is also included in this article. In the financing industry, digital banking is revolutionizing way financial services are provided, accessed, and used by businesses and consumers. Digital banking has transformed the financial landscape, challenging traditional banking models by offering convenience, accessibility, and lower costs.

**Keywords:** Digital banking, digital finance, digital innovation, FinTech, risk

### Introduction

The banking industry plays an essential role in the daily life of modern society worldwide. From its inception, innovation is not new to the global banking system, evolving from the utilization of coins, banknotes, ATMs, and the lending system. Likewise, technology and innovation in the banking sector have transformed from time to time (Scardovi, 2017) <sup>[1]</sup>. Disruptive innovation, digitalization, and new technology are transforming traditional business models and processes. As a result, banks should modify their business strategies to change how they interact with customers, handle middle and back-office operations, be competitive, and be prepared for the future (Kitsios & *et al.*, 2021) <sup>[2]</sup>. New banking and financial payment methods have emerged due to the widespread adoption of the internet and mobile devices worldwide. Digital banking was established as a cutting-edge, practical, and effective method of financial transactions. There are numerous types of digital banking available right now, including mobile wallets, online banking, internet banking, and electronic banking (Alkhowaiter, 2020) <sup>[4]</sup>. Digital banking refers to the provision of banking services and products through digital channels such as websites, mobile apps, and online platforms, instead of traditional physical branches. It allows customers to perform various financial transactions and activities electronically, including account management, fund transfers, bill payments, loan applications, and investment activities. Digital banking leverages technology to offer convenient, accessible, and efficient banking services to customers anytime, anywhere, using internet-enabled.

**Table 1:** Definition of digital banking

Definition	Reference
Digital banking refers to employing technology to conduct banking transactions, including online banking, electronic banking, and mobile banking. Contrary to traditional banking, digital banks aim at developing adaptable digital products and services to meet the needs of digital customers.	(Sardana & Singhanian, 2018) <sup>[5]</sup>
Digital banking refers to the use of technology to conduct banking transactions smoothly. It includes commonly used terms such as electronic banking, internet banking, and online banking.	(Wassan Abdullah, 2020) <sup>[6]</sup>
Digital banking refers to interactive financial services online, including web and mobile apps.	(Megargel & Shankarararman, 2021) <sup>[7]</sup>

**Objectives of the study**

1. To study the Digital Banking Transformation in Indian Banking Sector.
2. To know the role & impact of Digital Banking
3. To explore the advantage & disadvantage of Digital Banking in Indian Banking Sector.
- 4) To explore the emerging Risk & challenges of Digital Banking Indian banking sector

**Research methodology**

The present study is purely descriptive in nature, based on secondary data. The data is collected from various sources like reports relating to digital banking published in banking sector, research papers, articles, journals, newspapers, internet, etc.

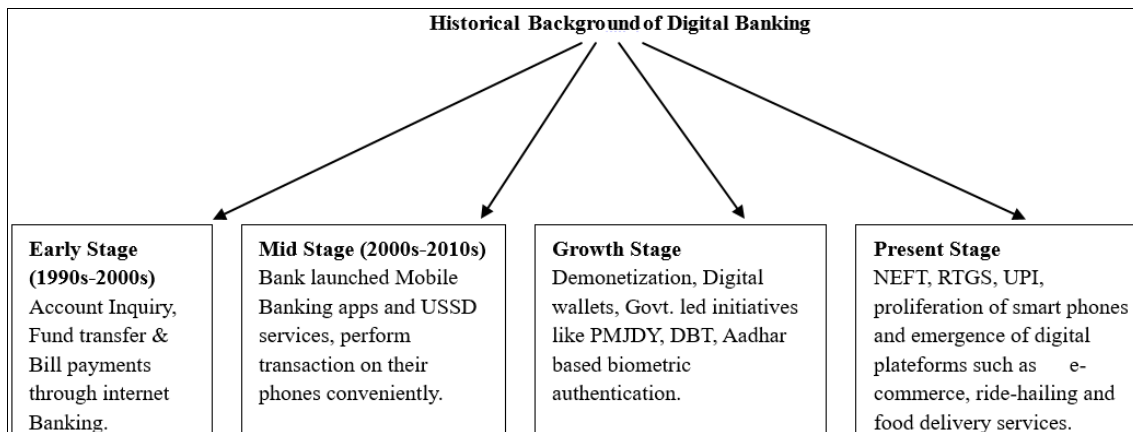
**Historical Back ground of Digital Banking Transformation in Indian Banking Sector**

The evolution of digital banking in India has been significant, driven by various factors including technological advancements, regulatory reforms, changing consumer behavior, and increasing internet penetration. Here’s an overview of the key stages in the evolution of digital banking in India:

1. **Early Adoption (1990s-2000s):** The journey of digital banking in India can be traced back to the late 1990s and early 2000s when banks started offering basic online banking services such as account inquiries, fund transfers, and bill payments through internet banking platforms.
2. **Mobile Banking Revolution (Late 2000s-2010s):** The introduction of mobile banking revolutionized digital banking in India, making banking services accessible through mobile devices. Banks launched mobile banking apps and USSD (Unstructured Supplementary Service Data) services, enabling customers to perform transactions on their phones conveniently.
3. **Government Initiatives:** Initiatives such as the National Electronic Funds Transfer (NEFT), Real-Time Gross Settlement (RTGS), and Unified Payments Interface (UPI) were introduced by the Reserve Bank of India (RBI) to facilitate electronic fund transfers and

4. **Demonetization (2016):** The demonetization drive in 2016 aimed to curb black money and promote a cashless economy, leading to a surge in digital transactions. This event served as a catalyst for the rapid adoption of digital banking services and digital payment platforms in India.
5. **Fintech Disruption:** The rise of fintech startups and digital payment platforms in India has disrupted the traditional banking landscape. Fintech companies introduced innovative solutions such as digital wallets, peer-to-peer lending platforms, and roboadvisors, offering customers alternative ways to manage their finances.
6. **Government-led Initiatives:** The Indian government launched various initiatives to promote digital banking and financial inclusion, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY), Aadhaar-based biometric authentication, and Direct Benefit Transfer (DBT) schemes, which aimed to provide banking services to the unbanked population and streamline subsidy payments.
7. **Regulatory Reforms:** The RBI and other regulatory authorities introduced regulatory reforms to support the growth of digital banking while ensuring consumer protection and data security. Regulations such as Know Your Customer (KYC) norms, Payment and Settlement Systems Act, and data localization requirements have shaped the digital banking landscape in India.
8. **Expansion of Digital Ecosystem:** The digital ecosystem in India has expanded rapidly with the proliferation of smart phones, affordable internet connectivity, and the emergence of digital platforms such as e-commerce, ride-hailing, and food delivery services. This has further fueled the adoption of digital banking services among Indian consumers.

Overall, the evolution of digital banking in India has been characterized by innovation, regulatory reforms, government initiatives, and changing consumer preferences, driving the country towards a more digitally inclusive and cashless economy.



**Demand for digital banking services**

The demand for digital banking services is indeed growing rapidly, driven by changing customer preferences and advancements in technology. Here’s why:

- 1. Convenience:** Customers increasingly value convenience in managing their finances. Digital banking offers the flexibility to access accounts, make transactions, and conduct financial activities anytime, anywhere, through smartphones, tablets, or computers, without the need to visit physical bank branches.
- 2. 24/7 Accessibility:** Digital banking provides round-the-clock access to banking services, eliminating the constraints of traditional banking hours. Customers can check account balances, transfer funds, pay bills, and perform other transactions at their convenience, even outside of regular banking hours.
- 3. Enhanced User Experience:** Advances in digital technology have led to the development of intuitive and user-friendly banking interfaces. Modern digital banking platforms offer seamless navigation, interactive features, and personalized services that enhance the overall user experience and make banking more enjoyable and engaging for customers.
- 4. Mobile Banking:** The proliferation of smartphones and mobile internet connectivity has fuelled the popularity of mobile banking apps. Mobile banking allows customers to manage their finances on the go, leveraging features such as mobile check deposits, biometric authentication, and real-time transaction alerts.
- 5. Innovative Features:** Digital banks and fintech companies continuously innovate by introducing new features and services that cater to evolving customer needs and preferences. These may include budgeting

tools, financial management apps, peer-to-peer payments, digital wallets, and cryptocurrency services, among others.

- 6. Cost Savings:** Digital banking often involves lower fees and charges compared to traditional banking services. Customers can save money on transaction fees, account maintenance fees, and other expenses associated with in-person banking, making digital banking a cost-effective option.
- 7. Safety and Security:** Despite initial concerns, digital banking has become increasingly secure due to advancements in cybersecurity technologies and practices. Banks employ robust encryption, multi-factor authentication, and fraud detection mechanisms to protect customer data and transactions, enhancing trust and confidence in digital banking platforms.
- 8. COVID-19 Pandemic:** The COVID-19 pandemic has accelerated the adoption of digital banking as people seek contactless and remote banking solutions to minimize the risk of exposure to the virus. The pandemic has highlighted the importance of digital banking as a resilient and essential component of the financial ecosystem.

Overall, the growing demand for digital banking services reflects a fundamental shift in consumer behavior and preferences, driven by technological advancements, changing lifestyles, and the need for greater convenience, accessibility, and security in managing financial affairs.

**Role of digitization in Indian banking**

Digital banking plays a crucial role in enhancing financial inclusion by addressing barriers to accessing traditional banking services for underserved populations. Here's how:

**Table 2:** Digital banking provides convenient

Accessibility	Digital banking provides convenient access to financial services for individuals in remote or underserved areas where traditional banks may not have a physical presence. With just a smartphone and internet connection, people can open accounts, make transactions, and access a wide range of banking services anytime, anywhere.
Cost-effectiveness	Digital banking often involves lower transaction costs compared to traditional banking services, making it more affordable for individuals with limited financial resources. Lower fees and minimum balance requirements enable underserved populations to participate in the formal financial system without facing excessive financial burdens.
Simplified Account Opening	Digital banking platforms offer streamlined account opening processes that require minimal documentation and paperwork, reducing barriers for individuals who may face challenges in providing traditional forms of identification or proof of address.
Financial Education and Literacy	Digital banking platforms can incorporate financial education resources and tools to help users improve their financial literacy and make informed decisions about managing their money. By providing educational content and interactive features, digital banks empower users to develop essential financial skills and understanding.

Customized Solutions	Digital banking allows financial institutions to leverage data analytics and artificial intelligence to tailor products and services to the specific needs of underserved populations. By understanding the unique financial needs and preferences of different demographic groups, banks can design inclusive solutions that address their specific challenges and preferences.
Microfinance and Microcredit	Digital banking enables the delivery of microfinance and microcredit services to individuals and small businesses that may not qualify for traditional loans or credit facilities. Through digital lending platforms, underserved populations can access small loans and credit lines to support income-generating activities and improve their livelihoods.
Government Initiatives	Many governments and regulatory authorities are actively promoting digital banking as a means of enhancing financial inclusion. Through policies and initiatives that support the development of digital infrastructure and promote digital literacy, governments can help expand access to financial services for underserved populations and drive inclusive economic growth.

Overall, digital banking serves as a powerful tool for promoting financial inclusion by expanding access to financial services, reducing transaction costs, providing tailored solutions, and empowering individuals to build better financial futures.

**Table 3: Advantage & Disadvantage of Digital Banking**

Advantage	Disadvantage
1. Convenience Access your accounts, transfer money, pay bills, and manage finances anytime, anywhere, without visiting a physical branch.	1. Security Risks Despite advancements in security measures, digital banking can be susceptible to cyberattacks, phishing scams, and identity theft.
2. Cost-effectiveness Digital transactions often incur lower fees compared to traditional banking services.	1. Technical Issues Glitches, system outages, or maintenance periods can temporarily disrupt access to accounts and services, causing inconvenience to users.
3. Accessibility People in remote or underserved areas can access banking services through digital platforms, promoting financial inclusion.	2. Dependency on Technology Reliance on digital platforms means that technical issues or failures could prevent users from accessing their funds or conducting transactions.
4. Efficiency Digital banking streamlines processes, reducing paperwork and processing times for transactions and account management.	3. Lack of Personal Interaction Digital banking lacks the face-to-face interaction offered by traditional banks, which some customers may prefer for certain transactions or assistance.
5. Security Advanced encryption and authentication methods help protect personal and financial information, enhancing security compared to traditional methods.	4. Digital Literacy Barriers Not everyone is comfortable or familiar with using digital devices or navigating online platforms, which can exclude some individuals from accessing banking services.
6. Personalization Digital banking platforms can analyze your spending habits and offer personalized financial advice or product recommendations tailored to your needs.	5. Privacy Concerns Digital banking involves sharing personal and financial information online, raising concerns about data privacy and potential misuse of customer data.
7. Innovation Banks continuously develop new features and technologies to improve user experience and offer innovative services, such as mobile check deposits and virtual wallets.	6. Limited Services Some banking services, such as large cash withdrawals or complex financial transactions, may still require in-person visits to a physical branch.

**Impact of digital banking on traditional banking model**

The rise of digital banking has significantly impacted the traditional banking model in several ways: Digital banking has improved banking in many ways, increasing

accessibility, efficiency, and convenience. It has, nevertheless, also brought about a few drawbacks that should be taken into account. Here are a few instances of each:

**Table 4: Positive Changes**

Convenience	Online banking enables users to do a range of financial operations at any time, from any location, without having to visit a physical branch. Time and effort are saved by this convenience.
Accessibility	A wider range of people, especially those living in distant locations with little access to traditional banking infrastructure, can use digital banking services
Cost-effectiveness	Banks can offer reduced fees and greater interest rates to customers by operating digitally, which lowers overhead costs.
Enhanced efficiency	Digital procedures simplify banking activities by cutting down on paperwork and physical labour, which expedites transaction processing and enhances customer support.
Innovation	Digital banking encourages innovation in financial services, leading to the development of new products and features that enhance customer experience and financial management.

**Table 5:** Negative Changes

Cyber security risks	Customers who use digital banking are at danger from identity theft, phishing, and hacking. Sensitive information may be compromised via data breaches, which can result in monetary losses.
Digital divide	The difference between those who can take use of digital banking and those who cannot is widened by the fact that not everyone has access to the internet or the digital literacy needed to use online banking services efficiently.
Loss of personal touch	Digital banking eliminates in-person contacts with bank employees, which some clients may find impersonal or annoying, particularly when handling intricate financial matters.
Technology dependence	Customers who rely on digital platforms are more susceptible to disruptions like network outages, system breakdowns, or technical issues, which can make it more difficult for them to access money and other banking services.
Privacy concerns	With the necessity of collecting and storing enormous volumes of financial and personal data for digital banking, privacy and data protection are becoming more and more important, especially in light of the rise in surveillance and data breaches.

All things considered, even though digital banking has many advantages, it's critical to handle the risks and difficulties that come with it in order to guarantee a safe, welcoming, and customer-focused banking experience for all.

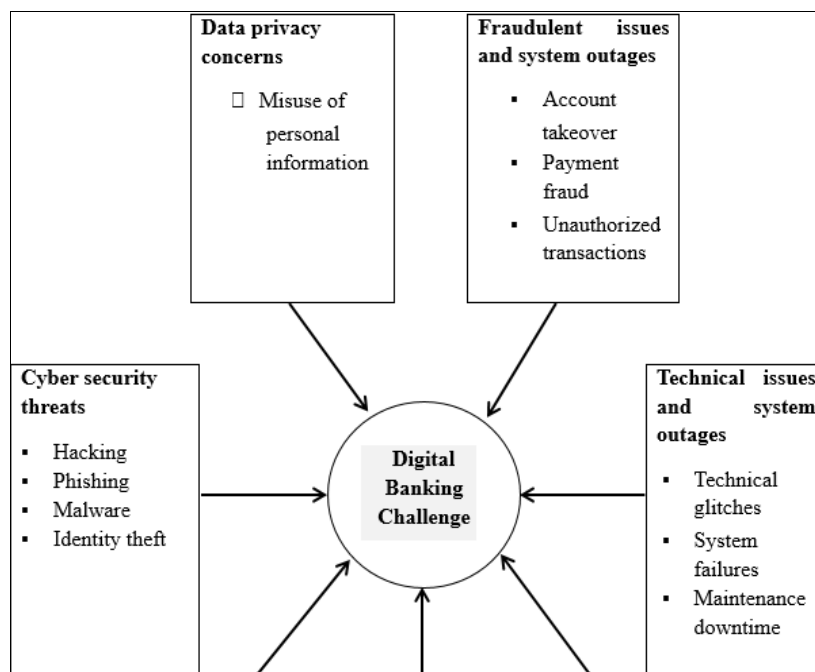
**Several challenges and risks are associated with digital banking**

- 1. Cyber security Threats:** Digital banking platforms are vulnerable to cyberattacks such as hacking, phishing, malware, and identity theft. Banks must continually invest in robust cybersecurity measures to protect customer data and prevent unauthorized access to accounts.
- 2. Data Privacy Concerns:** The collection and storage of customer data in digital banking raise concerns about data privacy and potential misuse of personal information. Banks must comply with data protection regulations and implement stringent privacy policies to safeguard customer data
- 3. Technical Issues and System Outages:** Technical glitches, system failures, or maintenance downtime can disrupt digital banking services, causing inconvenience to customers and potentially impacting their ability to access funds or conduct transactions.
- 4. Fraudulent Activities:** Digital banking provides opportunities for various fraudulent activities, including account takeover, payment fraud, and unauthorized

transactions. Banks need robust fraud detection and prevention mechanisms to mitigate these risks effectively.

- 5. Dependency on Technology:** The reliance on digital platforms makes banks vulnerable to risks associated with technology failures, including hardware malfunctions, software bugs, and network disruptions. Banks must have contingency plans in place to address these issues promptly and minimize service disruptions.
- 6. Digital Divide:** Not all customers have equal access to digital banking services due to factors such as socioeconomic status, digital literacy, and internet connectivity. Banks must ensure that their digital banking platforms are accessible and user-friendly for all customers to promote financial inclusion.
- 7. Regulatory Compliance:** Digital banking operations are subject to various regulatory requirements related to consumer protection, data privacy, cybersecurity, and financial crime prevention. Banks must stay compliant with relevant regulations and adapt to evolving regulatory landscapes to mitigate compliance risks.

Addressing these challenges requires a comprehensive approach involving investment in technology, cybersecurity measures, staff training, regulatory compliance, and customer education to ensure a secure and seamless digital banking experience for customers.



Dependency on technology	Digital divide	Regulatory compliance
<ul style="list-style-type: none"> <li>▪ Technology failures</li> <li>▪ Hardware malfunctions</li> <li>▪ Software bugs</li> <li>▪ Network disruptions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Socioeconomic status</li> <li>▪ Digital literacy</li> <li>▪ Internet connectivity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Consumer protection</li> <li>▪ Data privacy</li> <li>▪ Cyber security</li> <li>▪ Financial crime prevention</li> </ul>

**Conclusion**

Digital banking has transformed the financial landscape, challenging traditional banking models by offering convenience, accessibility, and lower costs. Digital banking has become indispensable in meeting the evolving needs and expectations of customers in today’s digital age. It offers convenience, accessibility, efficiency, cost-effectiveness, innovation, security, and resilience, making it a need of the time for individuals, businesses, and financial institutions alike. To remain competitive, banks must adapt by investing in digital infrastructure, enhancing cybersecurity measures, and focusing on personalized customer experiences. Embracing innovations like mobile banking, AI-driven services, and block chain can help banks stay relevant and meet evolving customer expectations in the digital age.

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