



IT in Banking – Overview, Pitfalls and Way Forward

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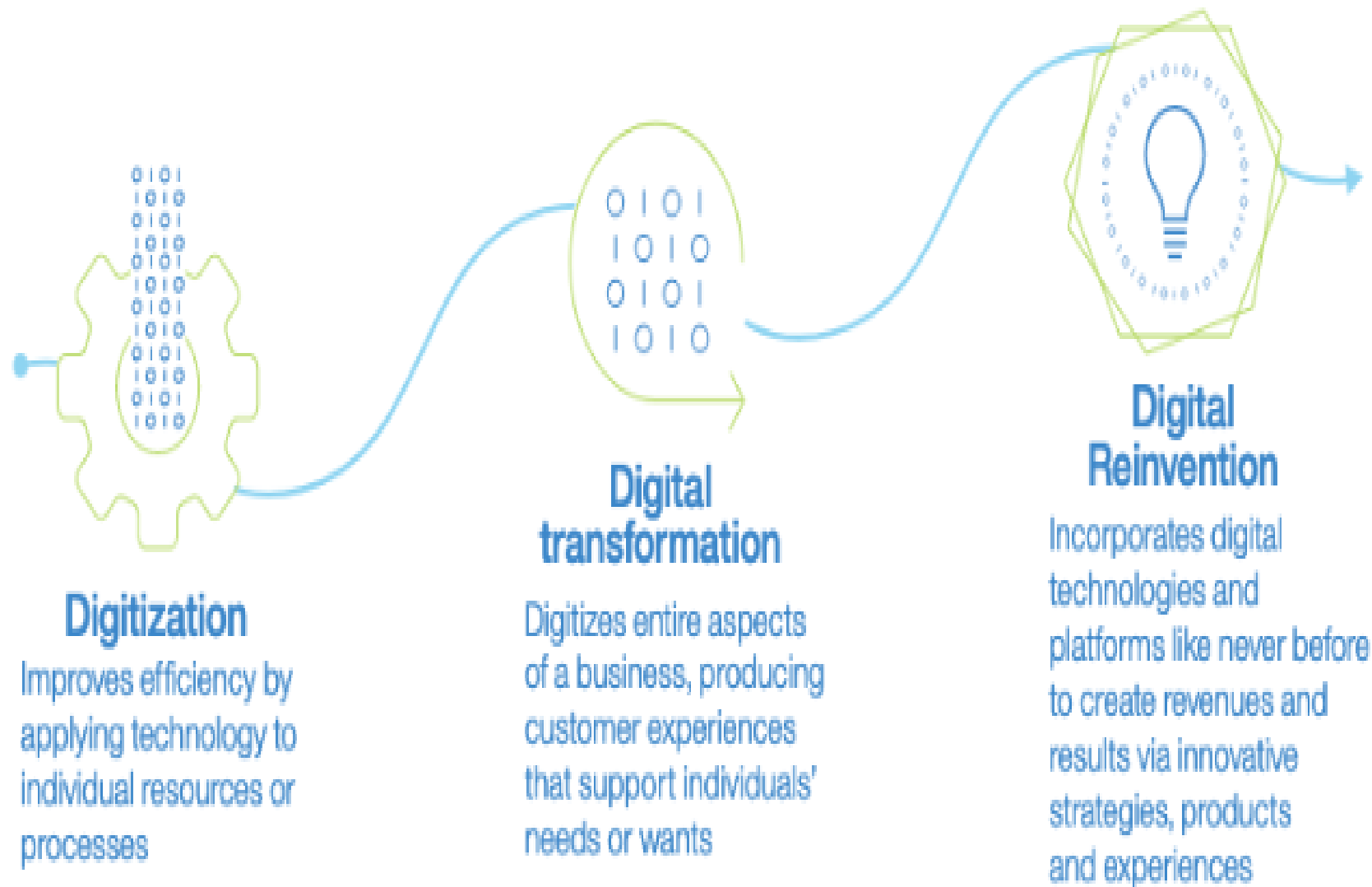
Key Takeaways

- Digitalization has been at the forefront of the Indian banking sector for the past few years.
- Digitization in banking is only expected to grow as newer trends continue to emerge.
- The emerging digital banking trends focus on taking the current digital advancements a step ahead.
- adoption of Artificial Intelligence, contactless payments, boom of neobanks, blockchain technology, etc.
- the changing trends and enhancing your banking experience.

TECHNOLOGICAL DEVELOPMENT IN BANKS

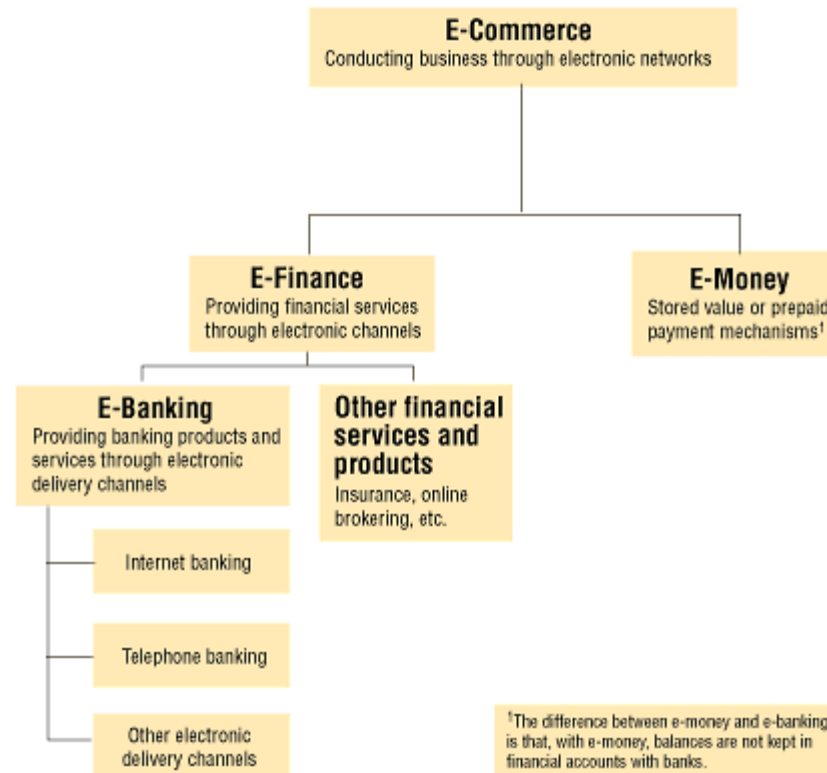
- Arrival of card-based payments- Debit/ Credit card in late 1980s and 90s.
- Introduction of Electronic Clearing Services (ECS) in late 1990s.
- Introduction of Electronic Fund Transfer (EFT) in early 2000s.
- Introduction of RTGS in March 2004.
- Introduction of National Electronic Fund Transfer (NEFT) as a replacement to Electronic Fund Transfer/Special Electronic Fund Transfer in 2005/2006.
- CTS in 2007.

The path to digital maturity for India's banking industry



Information Technology in Banking

What is electronic banking?



Advantages of online banking

Pay bills online

- This might be one of the top advantages of online banking because you don't have to take time out of your day to go to the bank.
- You can simply log into your account and pay your bill online right away.
- For increased efficiency, you may also set up automated bill payments, which helps you manage your cash flow when you have monthly payments to and from vendors.

Advantages of online banking

- **Transfer money**
- You may need to do a rapid money transfer to a client or vendor, or you may need to transfer money from one account to another. Instead of sending a registered cheque and waiting for it to clear, you may securely transfer the money online.

Advantages of online banking

Deposit cheques online

- Rather than driving to a bank branch and waiting in line, you may be able to deposit cheques online in minutes. And because most financial institutions have an app that replicates its services from your phone, you have the ability to always bank on the go. Plus, some banks offer 24/7 customer service, so you can speak to a customer service representative at any time.

Advantages of online banking

Lower your overhead fees

- If your business banks online, your banking fees may be lower, as online banks may not have to pay for the cost and upkeep of branches, and those savings may be transferred to you. Plus, they may have more no-fee options that add to your savings.

Disadvantages of online banking

Technology disruptions

- Online banking relies on a strong internet connection. If your internet is disrupted by a power outage, server issues at your bank, or if you're in a remote location, your ability to access your accounts might be affected. Scheduled site maintenance also means you can't access your accounts and may have to seek an alternative.

Lack of a personal relationship

- A personal relationship with your bank may be able to offer an advantage over online banking. If you need a business loan, a new line of credit, a waived fee or to make changes to your current banking needs, having that relationship can help.
- In-person banking relationships can also help you craft a business account tailored to your specific needs. They can also make notes in your files about cheques, cash deposits and international payments so you can avoid extended holds on your money.
- An ideal relationship would be a blend of online banking for your day-to-day transactions and a personal relationship with your banker to assist with bigger needs. That way, you have multiple options to support your business.

Privacy and security concerns

- Financial institutions have very good security, but no system is foolproof. Valuable information is always prone to hacks, but you might be able to prevent this if you:
- Always use the mobile app and the website directly. You should see a small lock to the left of the search bar, which indicates the site is secure.
- Make sure you have a strong password based on a combination of numbers, symbols and letters. It's also important to change your password regularly.
- Do not click on any links in text messages if you haven't agreed to that method of communication.
- Use two-step authentication, which adds an extra layer of security.

Limited services

- Online banking features a lot of services, but some of them still require business owners to go into banks to “wet sign” documents. This includes loan and credit applications, a large cash withdrawal or large deposits. But as online banking technology continues to evolve, you may eventually be able to electronically sign for these in the future.
- These days, banks know business owners want the ease and convenience of online banking, so they’re constantly upgrading and improving their digital assets. You may take advantage of this rapidly changing banking technology and tailor an online banking system that is unique to your business needs. If you think online banking could benefit your business, talk to your bank about the time- and cost-saving advantages of going digital.

The Way Forward

- India's digital-banking ecosystem has experienced a remarkable surge, fuelled by the government's ambitious Digital India initiative and the increasing prevalence of smartphones, with more than 600 million users.
- This technological revolution has empowered millions of Indians, spanning from urban hubs to rural areas, by granting them convenient, secure and efficient access to financial services.
- Popular digital-banking services, such as mobile applications (apps), online payments and digital wallets, have gained widespread adoption—fundamentally reshaping how individuals manage their finances, conduct transactions and interact with financial institutions.

Unified Payments Interface (UPI)

- India currently leads the global charts in real-time digital payments volume, representing more than 40 percent of all such transactions worldwide.
- The UPI has emerged as a game-changer in digital payments in India, with 2.96 billion digital payment transactions recorded in July 2023.

Financial inclusion: creating space for all

- financial inclusion is the availability of digital payment solutions.
- Digital wallets and mobile payment platforms have gained immense popularity, allowing individuals to make transactions, pay bills and shop online without physical currency.
- This has particularly benefited the unbanked population, who previously relied heavily on cash transactions.
- Digital lending is also expected to significantly plug the approximately \$250-300-billion credit gap in the MSME sector, which contributes 30 percent to India's GDP (gross domestic product).

The digital-transformation wave: enabling the ecosystem

- The digital public infrastructure in India has been a game-changer, enhancing accessibility and inclusivity in financial services.
- The much-talked-about India Stack forms the backbone of this revolution, with Aadhaar, the world's largest biometric-identity system, at its core.
- The UPI, another component of the India Stack, allows users to send and receive money instantly using Virtual Payment Addresses (VPAs) linked to their bank accounts, eliminating the need for traditional bank-account numbers and IFSC (Indian Financial System Code) codes.

DigiLocker

- a digital document-storage platform that enables citizens to store and access their official documents securely in a cloud-based repository, eliminates the need for physical documents.
- eKYC (electronic KYC, or know your customer) leverages Aadhaar-based authentication to verify customers' identities quickly and remotely, while Account Aggregator, an essential component of India Stack, enables individuals to share their financial data securely across multiple institutions.
- It allows users to consolidate their financial information from various banks and financial institutions, promoting transparency and facilitating better financial planning.
- Thus far, around 67 billion digital identity verifications have been carried out, while 10 Account Aggregators are operational in the ecosystem.

Central Bank Digital Currency (CBDC)

- The launch of the pilot has garnered significant attention, presenting exciting possibilities for a tokenized form of money.
- Several banks, including Axis Bank, have actively participated in the CBDC pilot, paving the way for potential cross-border transactions, programmability and offline usability.
- The pilot has been successful, with more than one million users and approximately 262,000 merchants participating.
- Similar to the success of the UPI, the tokenized form of the rupee is likely to witness significant innovation in the future.

Addressing the challenges and driving innovation

- Security concerns arise as digital transactions increase in volume. Safeguarding customer data and ensuring secure transactions are paramount to maintaining trust in digital-banking platforms. Robust security measures, such as encryption, multi-factor authentication and AI-based fraud-detection systems, are essential to mitigate these risks.
- The digital divide represents a substantial challenge to achieving financial inclusivity. Many individuals, particularly in rural areas, still lack digital literacy and access to smartphones or computers. Bridging this divide requires concerted efforts to provide digital literacy training and ensure equal access to digital-banking services for all segments of society.
- According to a report by Oxfam International, India's internet penetration is relatively low, with only 57.29 internet subscribers per 100 people. Moreover, this number is notably lower in rural areas than in urban regions.

Embracing the future: opportunities ahead

- Open banking, for instance, is gaining traction in India, paving the way for a more collaborative and customer-centric banking landscape. By allowing customers to share their financial data with authorized third-party providers securely, open banking fosters innovation and competition. Through open APIs (application programming interfaces), banks can seamlessly integrate with third-party platforms, expanding the range of services available to customers. This not only enhances customer experiences but also drives innovation in the digital-banking ecosystem.
- Blockchain technology, on the other hand, has the potential to revolutionize various aspects of digital banking.
- Blockchain offers significant advantages in areas such as remittances, trade finance and KYC processes. With its secure and transparent nature, blockchain enables faster and more cost-effective cross-border remittance transfers. It also streamlines trade-finance transactions, reducing fraud and improving traceability.
- Additionally, blockchain-based KYC processes enhance data security, privacy and compliance, making customer onboarding more efficient.

Decentralized finance, or DeFi

- is an emerging trend that leverages blockchain technology to provide financial services in a decentralized manner.
- DeFi platforms enable peer-to-peer lending, decentralized exchanges and other financial services without intermediaries. This could potentially democratize access to financial services, improve transparency and foster financial inclusion. However, regulatory frameworks and security considerations must be carefully addressed to ensure the safe and sustainable growth of DeFi in India.

AI-powered chatbots

- are revolutionizing customer service in digital banking. These chatbots leverage natural language processing (NLP) and machine learning (ML) algorithms to interact with customers, provide real-time assistance and offer personalized recommendations. AI-powered chatbots enhance customer experiences by reducing response times, addressing routine queries and freeing human agents to focus on more complex issues. As AI technology advances, chatbots are expected to play an even more significant role in delivering seamless and efficient customer support.

Voice-enabled banking

- is another tool gaining popularity as customers embrace the convenience of interacting with banking services through voice commands.
- Voice assistants such as Amazon Alexa and Google Assistant enable users to check balances, make payments and perform other banking tasks using natural language.
- Voice-enabled banking offers a hands-free and intuitive experience, making banking more accessible to individuals with limited digital literacy or physical disabilities.

Conclusion

- The potential of digital banking in India presents an exciting and promising future. With a young and tech-savvy population—around 66 percent of the total population (more than 800 million) is below the age of 35—the country stands at the brink of a digital-banking revolution that will fuel innovation, introduce new business models and revolutionize the accessibility of financial services.
- To fully harness these emerging trends, addressing regulatory and security challenges is paramount. Establishing robust frameworks to safeguard customer interests, ensure data privacy and security, and maintain transaction integrity is crucial. The government's ambitious Digital India initiative and collaborative efforts between banks, fintech firms and regulatory authorities will foster an environment that encourages innovation while protecting customers' interests.
- As the largest democracy in the world, with a population of 1.42 billion, takes steady strides toward a digital era, the potential to make a positive change and create an impact is colossal.



Mobile Banking



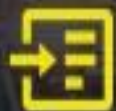
Blockchain



Personalization



Artificial Intelligence



Open Banking



Digital Payments