



# DIGITAL INNOVATIONS IN BANKING SERVICES: INDIA TOWARDS CASHLESS ECONOMY

**SWATI YADAV<sup>1</sup>**

RESEARCH SCHOLAR

**DR.BRIJESH KUMAR<sup>2</sup>**

PRINCIPAL (Retd.)

**CMP DEGREE COLLEGE,  
UNIVERSITY OF ALLAHABAD,  
PRAYAGRAJ, INDIA**

## ABSTRACT

*The banking industry is continuously changing; new technology is constantly being incorporated into banking systems. New regulations and updated banking standards have been produced as a result of the banking industry's constant change. The most significant change to the banking sector in recent years may have been the move toward digital-only banking.*

*Over the past ten years, the public's purchasing habits and methods of payment have undergone a significant transformation. Today's consumers are fast migrating away from paper-based and cash-based transactions and toward online, mobile, and internet-based ones. In response, banks are offering a wide range of innovative services and amenities that are appropriate. The internet serves as a doorway for the new "cashless economy," which operates electronically. Owners of accounts can manage the majority of their accounts online, eliminating the need to go to a physical location or call customer service. Many financial institutions are dedicated to continuing the development of cutting-edge services, and there are many mobile apps that allow safe and secure transactions.*

*This paper discusses significantly the virtual banking market and includes transactions made with mobile wallets, online payment methods, credit cards, debit cards, etc.*

**Keywords:** Digital Banking, Cashless Economy, Mobile Wallet, E-Commerce, Vigil aunity, Cyber threat.

## INTRODUCTION

The banking industry is continually changing, new technology is always being incorporated into banking systems, and leaders in the banking sector continue to put forward ground-breaking financial products and services. New rules and updated banking standards have been created due to the banking industry's constant change. Perhaps the biggest development in the financial sector in recent years has been the shift to digital-only banking.

In the economy, banks serve a number of crucial roles. The fundamental one entails taking short-term deposits and making long-term loans to provide liquidity and transform maturity. Along with this function, there is monitoring for loans that are difficult for the market to fund. Services for payments and transactions make up a second function. Both tasks rely on the processing of hard information that can be verified and codified as well as soft information that is based on relationship banking.

With the advent of artificial intelligence (AI) and machine learning (ML), which primarily use big data to process codifiable information, both their weight and the tools available to do so have significantly expanded. Payment and transaction services, for example, will be more impacted because they are more open to information processing. The impact of fintech on efficiency is covered in this section after first discussing the factors driving supply and demand in the digital disruption.

By using big data, AI/ML, and blockchain technology to address information asymmetries, deliver a more user-friendly customer experience and a higher standard of service, and eventually replace outmoded technology, the digital disruption of banking promises to result in an overall improvement in efficiency and service. Banking will consequently transition to a platform-based, customer-centric paradigm.

## REVIEW OF LITERATURE

**Irabatti (2013).** Customers can conduct financial transactions through the Internet or through online banking, according to Irabatti (2013). For a better lifestyle, everyone needs fast banking solutions, which make things much easier and save time.

**Jayshree Chavan (2013)** This study examines the significance of new information technologies in the future expansion of financial services, with the banking sector being impacted more than any other group of financial providers. With the increased use of mobile services and the Internet as a new distribution channel for banking transactions and international trade, e-bank security against misleading conduct requires more attention. The evolution of information and communication technology has resulted in numerous advancements in practically every aspect of life.

**Varda Sardana and Shubham Singhania (2018)** investigated the rise and direction of digital technology's impact on the Indian banking industry. The study looks at issues including infrastructure, privacy, and data security when it comes to deploying digital technologies. In India, cybercrime and hacking were major issues. New types of products/services necessitate additional legal information, such as electronic signatures and permissions. All of these activities rely heavily on digital technology.

**Antonios Kalaitzakis (2020)** As we all know, banking is dynamic with loads of environmental changes, and banking services are shifting towards a customer-centric business model. It helped to know the perspective of an average customer. The future of banking is full of uncertainty, and it should provide services to customers with special needs and visually impaired customers.

**Vipin Jain et al. (2021)** The Indian banking sector, at present, is witnessing an IT revolution and is heading towards digitalization, and not only the banking landscape has the potential to change the overall structure and direction of the economy. The economy Coming a long way from 1980s digital banking, with demonetization in November 2016, digital banking has come a long way from the 1980s. But the present era is also ruled by smartphones, and the introduction of UPI has brought a revolution in digital banking. However, with all the facilities, the Indian banking sector has to overcome internet connectivity and many challenges which may cause disruptions in banking services to be insured for making the digital dream a reality.

**Pawan Kumar Verma (2022),** In his study, after COVID-19, took almost 400 respondents of the benefits availed and significant factors in his findings during COVID-19 in 3 phases. This study showed that COVID-19 has surely influenced the banking industry and its customers. One can comfortably sit at home and do all transactions online, and with e-banking services, those who are tech-savvy, are utilizing all those services. Banks should generate trust in the minds of the customers, and awareness camps must be organized by expert officials in colleges, societies, and organizations.

## OBJECTIVES OF STUDY

- To know the cashless economy.
- To analyze the virtual banking market.
- To know about transactions made with mobile wallets, online payment methods, credit cards, and debit cards.
- To analyze the risk inherent in Digital banking (Cyber Crime).

## DIGITAL BANKING

The term "digital banking" refers to the extension of all online functions provided by traditional banks to include business-related activities like scheduling travel arrangements and making online purchases of goods and services. Only in 1999 did digital banking become mainstream due to decreased internet costs, increased internet awareness, and growing internet trust. Following ICICI's lead, HDFC, IndusInd, and Citibank began offering online banking services in 1999. Millions of individuals have been absorbed by the rapid growth of IT, which has also significantly altered the global commercial and economic landscape. The main program of the Indian government, "Digital India," aims to make that nation a digitally empowered one. One of the purported functions of Digital India is "Faceless, Paperless, and Cashless."

Building a strong foundation for electronic payment systems is essential to any nation's ICT-driven development.

Compared to cash, e-payments have advantages in portability, security, and convenience. Without requiring huge amounts of actual money to be moved around and traded, e-payments demand the rapid exchange of funds for informal transfers. Additionally, e-payments eliminate the time-related delays associated with transactions across long distances by enabling rapid money transfers to any receiver, regardless of location. Any ICT platform whose services demand payment, especially those based on mobile technology, must have integrated e-payment systems in order to function.

The Reserve Bank of India established a group headed by Dr. C. Rangarajan in 1988 after realizing that the banking industry needed to be computerized in the late 1980s. When personal computers were first introduced, banks began utilizing information technology. As local area networks evolved, banks later embraced the "**Core Banking Platform.**" It was at that time that branch banking was replaced by bank banking. In order to increase consumer comfort through so-called "**Anywhere and Anytime Banking,**" banks were able to do so with the help of core banking solutions, which were lauded as a positive step in that direction.

## CASHLESS ECONOMY

Over the past ten years, there has been a significant shift in the purchasing habits of the general public, which is now rapidly migrating away from paper-based and cash-based transactions and toward online, mobile, and internet-based ones. Banks and other financial institutions are responding by offering a variety of new services and amenities that are suitable. The internet now serves as a doorway for this brand-new "cashless economy." Instead of having to go to a "bricks-and-mortar" local branch or call someone, account owners can manage the majority of their accounts online.

Finally, e-payments are more transparent than cash transactions, which helps to legitimize broad economic sectors, broaden the tax base, improve expenditure and consumption data, and lessen the corrupting effect of black money.

Although India has long had a cash-based economy, it has recently begun the process of becoming a cashless society. The demonetization of 87 percent of the nation's paper money by value in November 2016 accelerated this transition. The macroeconomic effects of demonetization are still being disputed, but the policy shock has given India a fantastic chance to replace outdated systems with ones that might work with current IT infrastructure and the nation's Aadhaar national ID database.

UPI, which is a platform developed on top of the RBI's Immediate Payment Service (IMPS), allows member banks to combine fundamental banking operations, efficient fund routing, and merchant payments into a single mobile app. Customers can do financial transactions remotely using their mobile devices. Additionally, UPI supports requests for "peer-to-peer" donations, which the user is free to plan and arrange.

## MOBILE WALLETS

Mobile banking, often known as smartphone applications, significantly expands the possibilities for virtual banking transactions by including mobile wallets, online payment methods, prepaid debit cards, etc. These are more versatile, provide a greater range of functions, and are typically less expensive than conventional computer-based applications since they are simpler to create, manufacture, and market. Many financial institutions are committed to the continued development of cutting-edge services, and there are many mobile apps that allow safe and secure transactions.

When phone manufacturers began integrating NFC and QR technology into their products, they opened the door for phones to function as payment terminals. Banks and card networks now have the option to dematerialize payment cards and store them in wallets like Google Pay and Apple Pay, thanks to NFC technology from Google and Apple. Customers find this useful because they can put several cards in one wallet. Because the user must unlock the app before tapping on the reader, it is also quite safe. In the interim, the sector has developed cutting-edge security frameworks to safeguard the saved payment credentials.

The sector released a significant update to its Card Verification Method for Consumer Devices in 2021. (CD-CVM). The EMV biometric payment card was introduced. By connecting their cards to a mobile wallet application or by making online money transfers to their mobile wallet, users of mobile wallets can carry cash electronically. In this approach, consumers can make purchases without a physical card by using their smartphones, tablets, or smartwatches. E-wallet services are provided by a number of private businesses in addition to the majority of banks, including Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, itz Cash, Citrus Pay, Vodafone M-Pesa, Axis Bank Lime, ICICI Pockets, and SpeedPay.

## USE OF CARDS

Banking cards provide users with the most security, ease of use, and control of any form of payment. Additionally, the wide variety of cards available—including credit, debit, and prepaid cards—offers a tremendous amount of versatility. These cards offer two-factor authentication for safe financial transactions. RuPay, Visa, and MasterCard are some of the most popular card payment systems. People can purchase goods with payment cards from shops, the internet, catalogs, and over the phone. They expedite and simplify transactions, saving time and money for both customers and retailers.

## BANKING GOES GREEN

Innovation does not always include technology. Businesses occasionally need to reevaluate their procedures to better address client issues. This is true of green banking.

Let's take single-use plastics. Investigating recycling options makes sense because banks use a lot of plastic material. Thales is one of the suppliers looking into it. The Thales Gemalto Recycled PVC Card reduces the amount of PVC used in first-use products by 85%.

Additionally, recycling is planned.

The first bank card ever produced using 70% recycled plastic gathered from beaches, islands, and coastal communities were introduced by Thales in partnership with a payment card provider in September 2019. One plastic bottle or so is used to make each new card.

In line with a recent trend known as "green banking," financial institutions are now focusing more on environmentally friendly loans and sustainable technologies.

One area of emphasis is investment. It already had an effect. According to the American Green Bank Consortium, green banks alone contributed \$1.69 billion in investments to initiatives promoting sustainable energy and energy efficiency in 2020.

However, many banks are increasingly rethinking their goods, services, and procedures on a more "micro" scale to make them more sustainable.

## NEW BANKING TECHNOLOGY INNOVATIONS

One of the outcomes of the second Payment Services Directive, a piece of EU legislation, is the ability to obtain comprehensive banking services in real-time through any channel the consumer chooses (PSD2). Customers have the freedom to select how and where to access their accounts, whether it be online, from an ATM, a voice call, or an online terminal in a bank branch.

In order to stay up with the continuously evolving needs of their customers, traditional banks are investing a significant amount of money in the development of new services and systems.

The institutions are also looking for methods to streamline their own operations, boost productivity, and save costs because any bank that doesn't do this would swiftly fall behind the competition from both traditional banks and the new fintech businesses.

Even if they don't compete with traditional banks in typical business areas like credit, overdrafts, mortgages, and so forth, completely "digital only" financial institutions still offer users smooth access to the whole range of activities. In general, they can provide brick-and-mortar banks with a number of distinct benefits, including lower prices, user-friendly interfaces, a broader variety of functions, and simple account opening.

## WITH NEW INNOVATIONS COMES CYBER THREAT

**Cybercrime:** A crime against an individual, an organization, or a nation in which the perpetrator uses a computer or network for all or part of the crime.

The use of a computer to steal, modify, or obtain unauthorized access to a computer system or network is known as computer fraud. Internet fraud may be used to describe computer fraud that uses the Internet. Depending on the jurisdiction, computer fraud has several legal definitions, but most commonly entails accessing a computer without The use of a computer to steal, modify, or obtain unauthorized access to a computer system or network is known as computer fraud. Internet fraud may be used to describe computer fraud that uses the Internet. Depending on the jurisdiction, computer fraud is defined legally in a variety of ways, but often entails unauthorized access to a computer.

Hacking means an illegal intrusion into a computer system. Hacking is the act of breaking into a computer system without the user's permission (also known as cyber trespass or intrusion). However, it replaces the victim's wrongful loss or harm, or it updates or deletes any data that is kept in a computer resource. includes mischief, harm, gains, data destruction, and tampering with debit/credit accounts or restrictions. According to Section 66 of the Information Technology Act, hacking is illegal. Being vigilant means being conscious of your surroundings.

## How to ensure secure financial transactions and banking :3 pillars

### 1. People (Aware, align)

Websites, emails, SMS warnings, advertise me newsletters, customer meetings, placing POS in conspicuous locations in branches and cubes, and Dos and Don'ts are some of the major pillars that support awareness of and alignment with emerging banking concerns.

### 2. Processes (Develop)

Create policies and procedures for information security (Internet and email). an ongoing vulnerability assessment. To prevent phishing attacks, the banking website "Brand Monitoring Service" is monitored around the clock.

### 3. Technology (Deploy)

Dependable antivirus and antispyware on servers EV(Extended Validation) Secure Socket Layer, or SSL.

## VIGIL AUNTY: HDFC

Today, HDFC Bank revealed that it will begin a new campaign called "Vigil Aunty" to promote safe banking practices nationwide in honor of India's 75th year of independence. This will go along with the bank's well-known "Mooh Band Rakho" campaign, which exhorts individuals not to disclose their private financial information to strangers.

The star of this campaign will be Ms. Anuradha (Anu) Menon, who made the Lola Kutty persona popular. Ms. Menon, playing the role of Vigil Aunty, will be raising awareness of safe banking practices through a series of videos, reels, and talk programs.

By keeping people informed about the tactics used by financial fraudsters, how to spot cyber fraud attempts, and how to be safe, Vigil Aunty will encourage residents to maintain their vigilance. She will host chat shows on social media platforms where she and celebrity guests will talk about some of the most recent instances of cyber fraud. Social media influencer Vigil Aunty will have a presence on Facebook and Instagram. To engage with customers, she will also have a personal WhatsApp number (+91 72900 30000). A specific page on the website of HDFC Bank will raise awareness about online scams. By keeping people informed about the tactics used by financial fraudsters, how to spot cyber fraud attempts, and how to be safe, Vigil Aunty will encourage residents to maintain their vigilance. She will host chat shows on social media platforms where she and celebrity guests will talk about some of the most recent instances of cyberfraud.

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"In the internet world, consumers are interacting more frequently with social media influencers and content producers to seek advice and information on a wide range of topics, including cuisine, travel, and entertainment. Therefore, we made the decision to develop Vigil Aunty, our very own social media influencer, to advise clients about safe banking practices. Anu Menon was the ideal choice for the job because she is very good at interacting with people. Her comical demeanor and grasp of various languages give us hope that she would be able to encourage people all throughout the nation to embrace safe banking practices to promote freedom from fraud by raising awareness of the issue in order to commemorate the 75th anniversary of India's independence, according to Mr. Ravi Santhanam, chief marketing officer and head of corporate communications, liability products, and managed programs at HDFC Bank.

For four to six weeks, a campaign will be undertaken to promote Vigil Aunty and entice people to follow her on social media and/or WhatsApp. However, Vigil Aunty, a social media influencer, will remain active in the digital environment and continue to educate clients about the numerous tactics used by financial fraudsters and how to avoid them.

In an effort to combat fraud, HDFC Bank has been aggressively educating and improving consumer awareness. The Bank has held more than 2,800 workshops on secure banking around the nation since November 2021. Students, teachers, educational institutions, law enforcement agencies, senior citizens, channel partners, and housing societies have all participated in the workshops.

## CONCLUSION

The future of banking is full of uncertainty, and it should provide services to customers with special needs and visually impaired customers. These are more flexible and typically less expensive since they are simpler to create, manufacture, and market.

The Indian banking sector has to overcome internet connectivity and many other challenges that may cause disruptions in banking services to make the digital dream a reality. Banks must put more emphasis on business results than online activity. Customers desire a smooth and straightforward transactional experience that is made possible by

technology and numerous digital channels. Banks are rethinking how they provide value to their digital consumers in light of evolving financial models, delivery systems, and customer expectations in the banking sector. Now that anytime, anywhere banking is the norm, banks will need to provide customers with creative, reliable, secure, and flexible alternatives.

The secret to remaining alert in your daily affairs is to develop routines and habits that encourage continued watchfulness and enable you to evaluate how you are doing in terms of secure behavior. SOPs Security, prudence, and self-worth are reasons to keep an eye out.

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