



# Internet Banking: Impact of COVID-19

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## Abstract

Customers' lives have been made easier by the use of internet banking and e-payments, which make digital payments more convenient. In internet banking, the effects of purpose, attitude, perceived utility, and convenience of use has long been acknowledged. Moreover, only a few researches have looked at such principles in the context of COVID-19 outbreaks. The aim of the research is to investigate the influence of COVID-19 on consumers' internet banking as well as e-payments use using a conceptual framework drawn from TAM. According to the results, the willingness to utilize internet banking has a considerable favorable impact on digital banking and e-payment employment. Likewise, during COVID-19 outbreaks, attitudes about internet banking have a considerable favorable influence on willingness to utilize internet banking and e-payment. During COVID-19 outbreaks, reported utility and simplicity of use have a strong favorable impact on attitudes toward digital banking and e-payment usage.

**Keywords:** COVID-19, Internet Banking, Perceived Utility (PU), Perceived Ease of Use (PEU), Subjective Norm (SN).

## 1. Introduction

COVID-19 has given a significant boost to India's banking digitalization. Online banking was a major part of consumer banking before the pandemic; however as the April 2020 survey found, customers have been going digital in growing numbers during the pandemic. As well as the transformation isn't done yet: online banking is here to stay, even if customers want it to be part of a larger package of services. The number of persons who used online banking for the first time during the pandemic is growing year after year, according to our most recent research, which questioned 2,021 Indian adults of productive age. Nevertheless, despite rising consumer desire, not everyone wishes to bank online, as well as especially those that do would not use it for all banking services. The results demonstrate the importance of a convincing multi-channel approach, particularly hybrid solutions, in meeting the demands of various client segments, especially with regard to sophisticated financial transactions like mortgages or even more complicated investments.

The desire to accept or utilize technology to solve specific issues, like online banking or e-payment, has been studied in depth in the literature. Despite the fact that there have been prior studies on the issue, the technology adoption model stands out since it tries to explain how certain factors impact a customer's choice on how or when to employ technology. COVID-19, on the contrary, is now having a significant impact on numerous economies throughout the globe. In the majority of the nations impacted, financial firms have been shut down. To slow the transmission of the infection, African governments have implemented policies that promote social distance and prohibit big meetings, forcing banks and other financial institutions to shut down altogether<sup>[1]</sup>. As a result, the COVID-19 epidemic has altered how people buy, study, socialise, bank, as well as make payments. As the pandemic spreads, the lockdown of most bank buildings and branches has resulted in the emergence of new technology: working remotely. Many customers have no option but to change their banking and payment routines. Some clients were compelled to adopt online choices as a form of payment as a result of need, while others made

the switch for the first time. As a result, researchers have yet to identify the bounce of COVID-19 outbreaks on customers' decisions to utilize internet banking as well as e-payment systems.

As a result, the current research employed the innovation adoption framework to analyze how the COVID-19 outbreak affects consumers' attitudes about online banking including e-banking services. According to a literature review, technological adoption has received little attention, whereas others have suggested that the approach is more successful in certain circumstances than others. As a result, the current research aims to close the information gap by measuring how COVID-19 pandemics induced users to utilize internet banking as well as e-payment facilities using five factors modified from the technology adoption model<sup>[2]</sup>. Clients' use of internet banking and e-payment (OBEU) was the response variable in the research, with the purpose to use internet banking (IUOBE) and attitude toward the use of internet banking and e-payment (ATUBE) serving as the mediating factors. As a result, background variables in the model include perceived usage of online banking and e-payment services (PUOBE) and perceived ease of use of online banking and e-payment services (PEU).

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- **Transforming customer satisfaction:** Numerous banks had already started implementing any or all of the below, but COVID-19 has underlined the significance of these four areas in making digitalization more successful for both customers and banks.
- **Take a mobile-first approach:** Users expect mobile access to services and products at all times, from mobile banking to account accessibility.
- **Making a personalised data strategy:** Making way-out needs to considerate which information they have, which information they intend, which questions users need to ask of that information, as well as how to understand the responses. The value of centralising existing datasets cannot be exaggerated.
- **Selecting the appropriate technological systems:** Identifying which provides the platform to practice or how to utilize them is serious when incorporating innovative facilities into trades with large past measures as well as resources that are exposed to high levels of legal oversight, such as banking.

Nowadays' bank CEO must contract with an overabundance of complications. In the near time, there are financial, technical, as well as legal challenges to contend with. There's also a thorny discussion over which innovation would be the most damaging or changing. Several argue, for instance, that the cloud presents the greatest chance for banks. It provides the advanced tailored and real-time facilities that clients and consumers want, whereas Artificial Intelligence offers the highest payback for others. Banks, on either side, have a great opportunity because they have the trust of their customers and should have enough capital to carry out the correct strategy. Sustainability will be dependent on advanced technology as well as a virtual ecosystem that cuts costs while enhancing products and user interactions.

## 2. Theoretical Background

The most extensively used framework for studying societal attitudes about and use of innovation is the Technology Acceptance Model (TAM). This is due to the fact that this concept emphasizes the usage of data systems, and it was developed as a result of a study undertaken to justify IBM employees' adoption of word processing techniques. The Technology Acceptance Model has been used in a variety of cross-sector studies, including those involving telemedicine, computers, the Internet, and e-commerce. TAM has been utilised in a number of studies, including Abbad and Martins', to examine the acceptance and use of ATMs, mobile banking, and Internet banking in the context of digital banking.

Bhatt evaluated consumer trust (TR) in IB services using the Theory of Planned Behaviour (TPB) and found that perceived behavioural power, consumer attitude (AT), and subjective norms (SN) all affected customer intention to adopt IB<sup>[3]</sup>. Varaprasad then adds in a few other variables, such as perceived risk, relative reward, and attention. The key factors of IB acceptability have been identified as perceived utility (PU), perceived ease of use (PEU), perceived risk, and relative benefit.

The goal of this research is to find out what factors impact the usage of Internet Banking in India before and after the Covid-19 outbreak. TAM as well as perceived behavioural control (PBC) was also updated in this research by adding various factors and taking into account the compatibility of the issues that arise in Indian banks. This research also takes into account changes in behaviour that happened during and before the Covid-19 outbreak, which started in India in February 2020. The research model presented in this work is shown in Figure 1, and it comprises of five constructs: Perceived utility, perceived ease of use, trust, Subjective Norms, and attitude. The integration of TAM and PBC is supposed to characterize Indian banks' client intentions in adopting Internet banking.

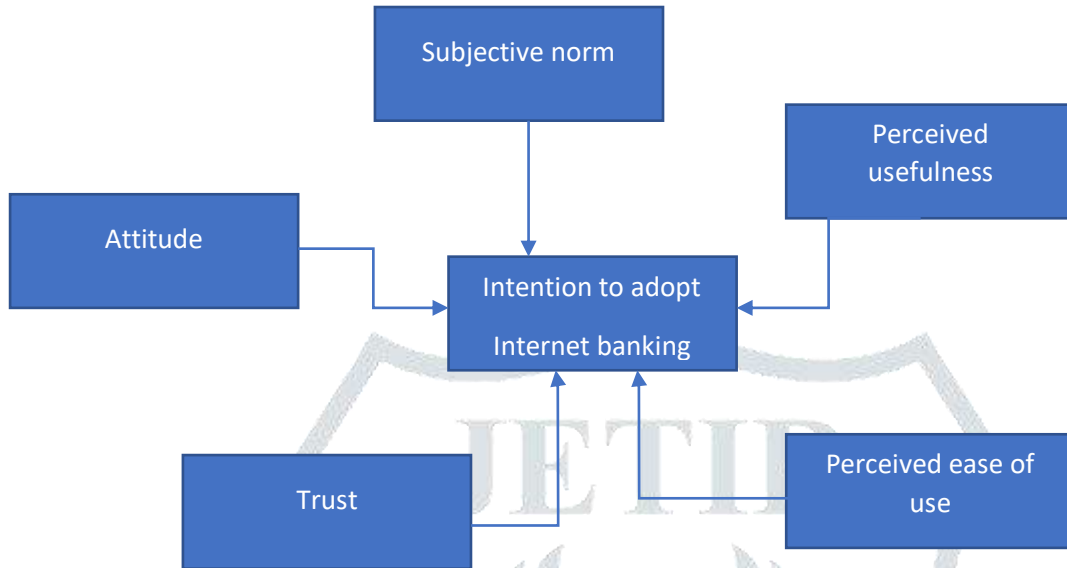


Figure 1: Research Model

### 3. Revolution of Digitalized banking

During the epidemic, a significant number of banks clients used internet banking services for the very first time, and the majority considered them satisfied, according to our 2020 study.

The results of our 2021 poll revealed that this is not a passing trend: a growing number of consumers are opting for internet banking. More participants had used internet banking for the very first moment than in 2020 for each and every product one inquired about, as well as the number of first-time customers has nearly quadrupled over the last year, as shown in graph 1.

Findings of the 2020 and 2021 polls on the %age of all interviewees who utilised the following internet services for the first moment during the epidemic.

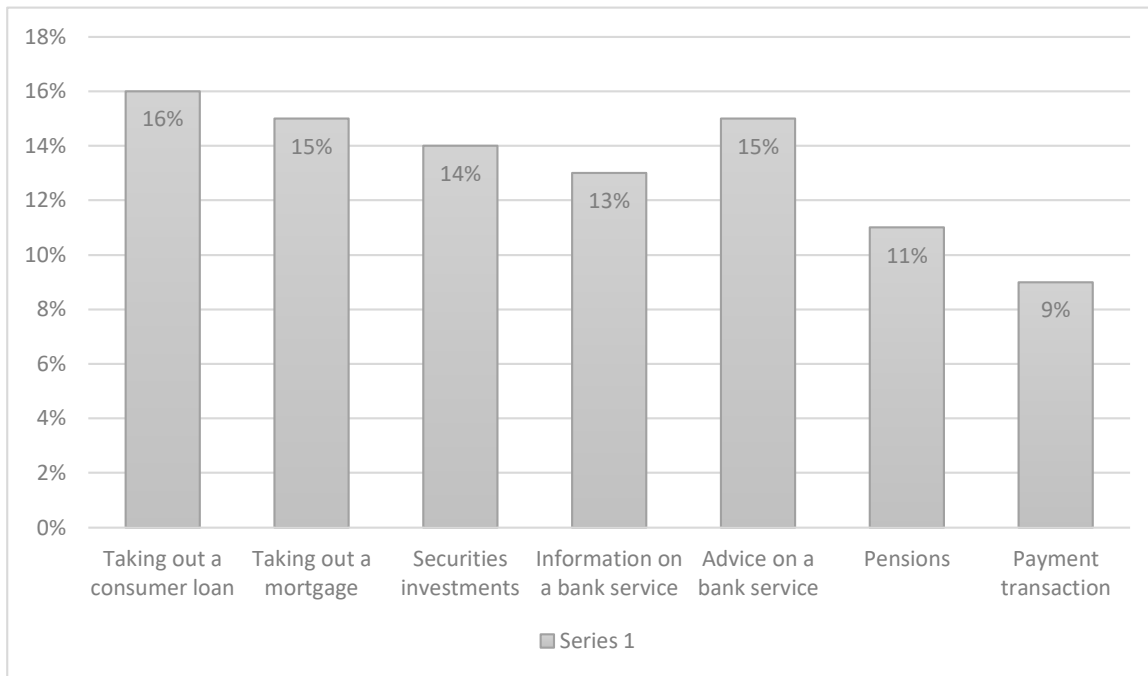


Chart 1. During the pandemic, first-time consumers of internet banking for various services in the year 2020

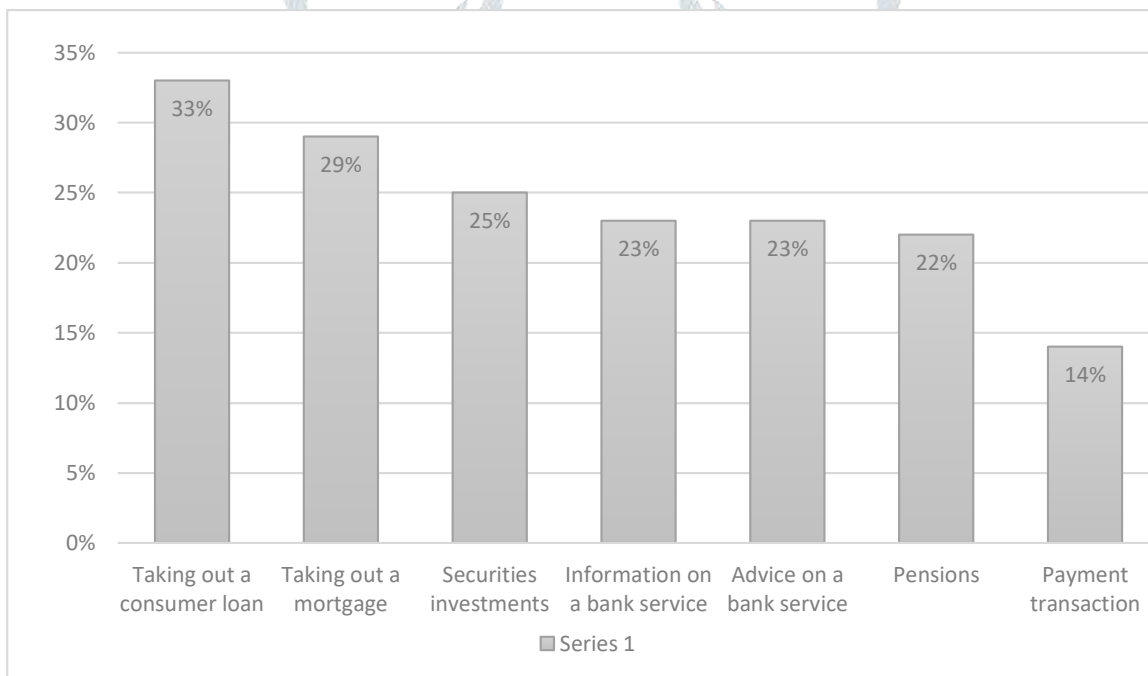


Chart 2. During the pandemic, first-time consumers of internet banking for various services in the year 2021.

As a result of the epidemic, the transition to internet banking has quickened, putting the trend several years ahead of schedule. Furthermore, this was not a one-time occurrence but is ongoing. Several individuals who originally switched to online media intend to do so again – and also in greater %ages than in the 2020 research. Following the epidemic, 59 % of those polled anticipate using both online as well as in branch services, with 18 % preferring digital services<sup>[4]</sup>. After a lengthy period of use during the pandemic, a rising share of consumers says they will remain to utilize internet services at least some of the time, implying that digital banking will become a permanent element of the banking spectrum. Generally, newer entities are more amenable to digital alternatives, although

the share of over-50s who bank online has increased significantly. This group also has a higher interest in smart systems, with nearly two-thirds planning to utilize both digital and in-branch solutions after the outbreak.

- **Perceived Usefulness (PU)**

The amount to which consumers' feel that using an IB service would enhance their banking efficiency or activity is referred to as PU. PU has been found to have a positive impact on Attitude and the willingness to utilize TAM to implement IB in a variety of studies in the field of information systems (IS). Furthermore, previous IB research has shown that Perceived Usefulness has a significant positive impact on attitude and intention. Perceived Usefulness has also been shown to modulate the influence of external stimuli on Attitude and intention in prior studies.

- **Perceived Ease of Use (PEU)**

PEU stands for the %age of clients who believe that utilizing the Internet Banking service is straightforward. PEU is the most important element affecting a customer's decision to use Internet banking. It has been shown to influence an individual's personal inclination to use Internet banking in a variety of studies. PEU has been established to impression consumers 'purpose to use IB in many investigations. Furthermore, multiple researches have demonstrated that IB's Perceived Ease of Use would increase customers' willingness to utilize different transactions<sup>[5]</sup>. Consumers prefer it simple to use Internet banking if the menu is simple, easy to recall, and tailored to their requirements.

- **Trust (TR)**

Trust is described as the customer's belief in Indian Banking services' capacity to provide services as promised. Trust is critical in instilling trust in the ability to meet client requests. In the event of a quarrel between banks and consumers, Trust plays a critical role in mitigating vulnerability. In the decision-making process, danger, as well as Trust, is two components that cannot be separated. Furthermore, poor technology increases the possibility of a loss in consumer contentment and desire to utilize Internet banking.

- **Subjective Norm (SN)**

Trust is described as the customer's belief in Indian Banking services' capacity to deliver services as promised. Trust is critical in instilling trust in the ability to meet client requests. In the event of a quarrel between banks as well as consumers, Trust plays a critical role in mitigating vulnerability. In the decision-making procedure, danger, as well as Trust, is two components that cannot be isolated. Furthermore, poor innovation increases the possibility of a loss in consumer contentment and desire to utilize Internet banking.

- **Attitude (AT)**

A tendency to act consistently in response to a certain thing might be described as an attitude. Attitude was defined as customers' favourable or negative attitudes towards using IB services in this study. Fishbein and Ajzen were the first to include attitude in TRA, followed by Davis, who said that attitude is a component of TAM that ultimately effects individual purpose<sup>[6]</sup>. Since the customer's confidence in risk and security in utilising Internet Banking shapes Attitude, it becomes an indivisible aspect in the setting of Internet Banking. Customer Attitude impacts the desire to utilise Internet Banking services, according to a prior study done by Chiou & Shen as well as Kaur & Malik.

## 4. Technology in Banking Sector

- **Product innovations**

The Central Bank of India (RBI) said in a press statement in the year 2019 that it is in the initial stages of contemplating an independent virtual currency for the nation. Moreover, the Central Bank of India's mandatory tokenization of cards may provide a much-needed lift to the digital card market, ushering in greater development for digitalization<sup>[8]</sup>. The withdrawal of the merchant discount rate (MDR) on RuPay cards as well as UPI money transfers, and also the establishment of the Payment Infrastructure Development Fund (PIDF), is two governmental policies that are anticipated to enhance vendor admittance facilities and attract more people into the digital environment.

Furthermore, we anticipate growing QR code usage across areas, which will not only benefit urban consumers but also enable those who are less digitally knowledgeable, thanks to the drive for digital literacy outside tier one and tier two towns<sup>[9]</sup>. In India, among the most important product breakthroughs in the payment systems market involve:

**a. QR Code:**

QR code-based transactions are gaining traction since they may be used to pay for petrol, groceries, utility bills, meals, transportation, as well as a variety of other activities, and they can be read both from paper and computer.

**b. UPI for Merchant transactions:**

It is an immediate payment method in which a consumer may use any mobile-driven UPI app to read a dynamic QR code created on the POS screen that might incorporate wireless financing options.

**c. Payment gateway:**

Traders may take payments through numerous payment methods through an e-commerce platform using an online payments gateway. This enables retailers to make large payments in a secure way while complying with COVID-19, which is particularly useful for internet shopping, leisure, restaurant, and some other e-commerce businesses.

**d. Contactless payments:**

Clients may pay with their wireless credit or debit cards or through a 'Tap and Pay' function on a Smartphone app by touching them on the PoS terminal using the Near Field Communication (NFC) function, which is combined with magnetic secure transmission (MST) innovation.

**e. SMS-based payments:**

A trader's SMS payment link is being used to shop for items or services, particularly for businesses that need the upfront payment for reservation or booking, like restaurants as well as hairdressers. Such capability is being used by e-commerce enterprises to convert their cash-on-delivery (COD) customers to mobile transactions<sup>[10]</sup>. With the proliferation of powerful cell phones and the development of alternative payment methods, SMS-based transactions have become less common. In the service industry, though, it has a lot of potentials.

**f. Prepaid cards:**

Prepaid debit cards may be refilled or exchanged at terminals, and they can be used as meal cards, transport cards, or any other kind of transaction option with a specific purpose. Due to the susceptibility of cashless transactions to cyber attacks, there is a concurrent need to improve cyber security regulations and build safe structures as mobile transactions get to be the favored alternative in the future.

**• Infrastructure Innovations**

India may be credited for advanced payment technologies, specifically with the evolution of interoperable QR codes, which were among the first of their variety in the world. While this has made payments easier and the user experience smoother, comparable technologies and activities are needed to speed up merchant acquisition. The crucial thing for India's rural people is a low bar for merchant on boarding and a poor understanding of operations<sup>[11]</sup>. An Indian merchant in a tier three or tier four city may not feel comfortable at using PoS machines since they don't have basic technical skills and do not have regular access to technology support services. With the exception of government schemes to streamline merchant on boarding, advancements in local language affirmation, portable device-based transactions, and biometric approvals such as fingerprint images, facial detection, as well as voice-based transactions are anticipated to be critical in leveraging the COVID-19 scenario and increasing the appropriateness of digital cashless transactions, particularly in tier one and tier two towns.

**• Analytics-based solutions**

The ease of the transaction, the smooth user experience it provided, and cash back all contributed to the initial wave of digital payment acceptance. Existing players may lead the coming phase of growth by offering value added services such as payment notices, electronic debit directions, personal cash flow management, as well as analytics focused on customer expenditure, as well as supplying users with the information on/location of shops willing to accept cashless transactions<sup>[12]</sup>. In which the cash-to-digital conversion is not an attractive value proposition for the merchant, alternative value-added services might be used to generate a compelling value offer for MSMEs. Customer relationship management, current investment management, access to finance, including

business analytics based on the sales data can all help small businesses manage their cash and inventories by using and organizing data collected as part of their daily operations.

## 6. Conclusion

COVID-19 has had a major but not irreversible influence on the payment environment. Less reliant on infrastructure, components of the financial framework have survived, mitigated, and sometimes even capitalised on the situation, converting an impending danger to their benefit. The epidemic has forced people and companies to reassess their payment structure and infrastructure to address interruption mitigation and business continuity. The epidemic has also highlighted underlying faults in many legacy firms in the sector and also individual customers' over-reliance on money as a single means of payment. As a result of the COVID-19 crisis, payers are re-evaluating cash as a sacred payment option with the greatest availability and ease. Payers are wary about returning to cash payments after accepting digital payments. However, the currency is not anticipated to vanish soon. Cash transactions in the NFS network have returned to pre-COVID-19 levels, demonstrating that the Indian people prefer to deal in cash. COVID-19 may have aided in the marginalization of money transfers, but not in their eradication.

Nonetheless, COVID-19 has been a positive aspect of payment systems acceptance in India. The inscrutability of current payment infrastructures was a major impediment to digital expansion. Furthermore, the pandemic's interruption enabled companies to rethink their payment methods and include digital for convenience and simplification. Also, they preferred digital payments over preventing actual accessibility to their assets. Individual payers have not adopted online currencies owing to lack of understanding, technological infrastructure, difficulty, and expenses associated. For a firm to implement digital payments, the whole transactions chain surrounding it, notable suppliers, had to accept them. As a common platform for whole enterprise payment services to explore adopting digital at the same moment, COVID-19 facilitated many of these universal and entrenched improvements. The pandemic and its limitation of travel served as the primary motivator, to examine, in both urban and rural locations. After the lockdowns, rural economies were forced to examine the AePS process, resulting in record transaction volumes. Online fraud, as well as cyber security, will be given more attention. Concerns about increased contactless card transaction limits and the use of alternative virtual payment options have been noted in polls. Furthermore, as more Indians interact online, purchasing patterns and habits will become even more available, highlighting the already rising significance of corporate analytics to monitor and analyze payer activity. Banks as well as other payment providers are likely to substantially engage in machine learning and artificial intelligence for fraud prevention and detection. In summary, COVID-19's influence on digitalization has been ambiguous. Short-term acceptance will likely speed the long-term migration to electronic payments. The epidemic has also revealed new views and possibilities for Indian enterprises and people that can only be exploited by anticipating transformation.

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