

# Digitalization in the Indian Banking Sector During Covid-19

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**Abstract:** *Driven by financial inclusion drive and 2020's pandemic work-at home environment, the future of Indian Banking sector seems to bend its ways with disruptive changes from being a traditional product-based approach to more sustainable technology-based approach. Digital technology is changing the business model through innovative instruments, value creating opportunities and disruption of traditional system. Traditional banking system is also unlocking versatile opportunities, revolutionizing through computerized services, simplification of bank procedures and embracing e-banking for expansion of digital retail client base. The aim of the paper is to analyze the role and status of digitalization in the Indian Banking sector during Covid-19 pandemic. Further, study elucidated that the digitalization is a tool to render retail electronic payment services. Even during Covid-19 pandemic, it sustainably run the business channels. The disruptive growth and changes in digital banking have accelerated the innovative tools, new knowledge and work culture to vitalize in the competitive environment.*

**Keywords:** Financial inclusion, Digital Banking, Banking services, Digitalization of banking industry, Covid-19 Pandemic.

## I. INTRODUCTION

Financial Inclusion, which was officially adopted in 2005, is defined as the process of rendering timely adequate access to financial services and credit to the needy or vulnerable or the disadvantaged group at a reasonable rate. Financial Inclusion, implicitly is one of the seventeen goals of the Sustainable Development Goals and it has been observed that expansion of financial services has made significant considerable progress across the globe. However, there are gaps which are to be bridged and render financial services and connect to the last mile. To make financial inclusion more sustainable and trickle down its benefits, it has been realized globally that digital technology can play an effective role in plugging out the gaps.

Covid-19 Pandemic which has not only changed but also affected most of the businesses and the world economy, is an opportunity to change the banking business. It involves not only the digitalization and modernization of financial activity of banks, but also the development of skills and the promotion of a sustainable bank-customer relationship. Globally, economies have taken tremendous steps to transform manual labour into innovative digital services to cater better faster time saving services which can cope up with competitive business environment and construct huge retail customer base. Digital technology is changing the business model through innovative instruments, value creating opportunities and disruption of traditional systems. Traditional Indian banking system is also unlocking the versatile enterprising opportunities, revolutionizing through computerized products and services, simplification of bank procedures and embracing cashless hassle free online or e-banking for expansion of digital retail client base.

Though in late 1980s, Indian banking system had felt the need of computerization to improvise the customer services, record keeping and accounting. Therefore, to analyse the same, a committee was set up by Reserve Bank of India under the governance of Dr. C Rangarajan in 1988. Later in 1991, introduction of new economic reforms worked as catalyst and game changer in speeding up the digitalization process by creating competitive environment when Indian private and foreign banks were allowed to enter the Indian banking market. Gradually, internet banking/online banking/e-banking became the new buzz after the enactment of the Information Technology Act, 2000 as it provided

legal recognition to electronic transactions and commerce. Magnetic ink character recognition, electronic funds transfer, real time gross settlement, automated teller machines, point of sale terminals among others had been developments over a period of time. Moreover, Reserve Bank of India and National Payment Corporation of India had progressively worked to promote and strengthen payment and settlement systems in banks through United Payments Interface (UPI) and Bharat Interface for Money (BHIM).

### **India vis-à-vis world**

A number of countries have successfully achieved less-cash economy. While comparing with countries like Kenya, Brazil and Sweden, India had higher currency in circulation. In 2015, the share of cash in circulation in the economy as a percentage of gross domestic products of India was 12.3 percent compared to 3.8 percent in Brazil, 5.6 percent in South Korea and 1.7 percent in Sweden. Sweden is one of the top five countries on globe which is targeting to go cashless. Sweden has effective policies and efficient digital infrastructure. Sweden has promised to go 100 percent cashless and run cashless economy. Central bank of Sweden has claimed to drop cash payments from 2 % to 0.5% by 2020. South Korea is moving faster towards a less cash economy and has attained a higher penetration of cards in comparison to other countries. In 2016, more than 68 percent of the transactions in India were settled in cash. The fixed broadband subscription per 100 populations is 1.34 for India in comparison to 36.07 in Sweden and 40.25 in Korea. But at the same time, a village of Ibrahimpur in Telangana has become completely cashless. Another story, a village, Akodara in Gujarat has been digitalized by private banks in 2015.

## **II. LITERATURE REVIEW**

Covid-19 pandemic have imposed threats to the entire economy and banking sector of India. In order to deal with the situation, banking sector shifted to and developed the customer based electronic banking with diversified range of services. Mobile banking and digital platforms allow the users to access their accounts, check the status of the services and helps to update banking and non- banking transactions and communications with the help of Internet of Things and Artificial intelligence. Mobile banking wallets have enhanced the daily banking transactions during Covid-19.

There are many studies which have tried to highlight different aspects and affects of Covid-19 on the Indian economy. Patil and Alex (2020) and Muzawar (2020) argued that governmental intervention must take necessary actions to diversify the probable risks due to Covid-19. Banks have taken an active participation in modernizing its functioning from conventional banking through mobile and internet banking and making its operation more reliable, time saving, cost saving and smooth. Further, Suhash and Ramesh (2018) stated that all banking operations are easier with adoption of electronic banking. Daniel, Gardan, Claudia, (2020) found that majority of the Indian banks were facing the issue of increasing non-performing assets and bad loans during Covid-19. Simultaneously they explained that there was a significant increase in the usage of electronic banking after pandemic in comparison to prior period and there is need to cater financial education for maximum usage of banking services.

Review of literature shows that there are numerous studies regarding impact of Covid-19 on banking services. The present study focuses on the total digital banking payments and settlement system existing in India such as Real Time Gross Settlement (RTGS), digital payments of APBS, IMPS, NACH, National Electronic Fund Transfer (NEFT), Unified Payment Interface (UPI), BHIM Aadhaar Pay, Debit Cards, Credit Cards and Prepaid Payment Instruments among others.

## **III. OBJECTIVE**

The primary aim of the research paper is to analyze the role and status of digitalization in the Indian Banking sector during Covid-19 pandemic for better understanding of the sustainability of innovative practices in present era.

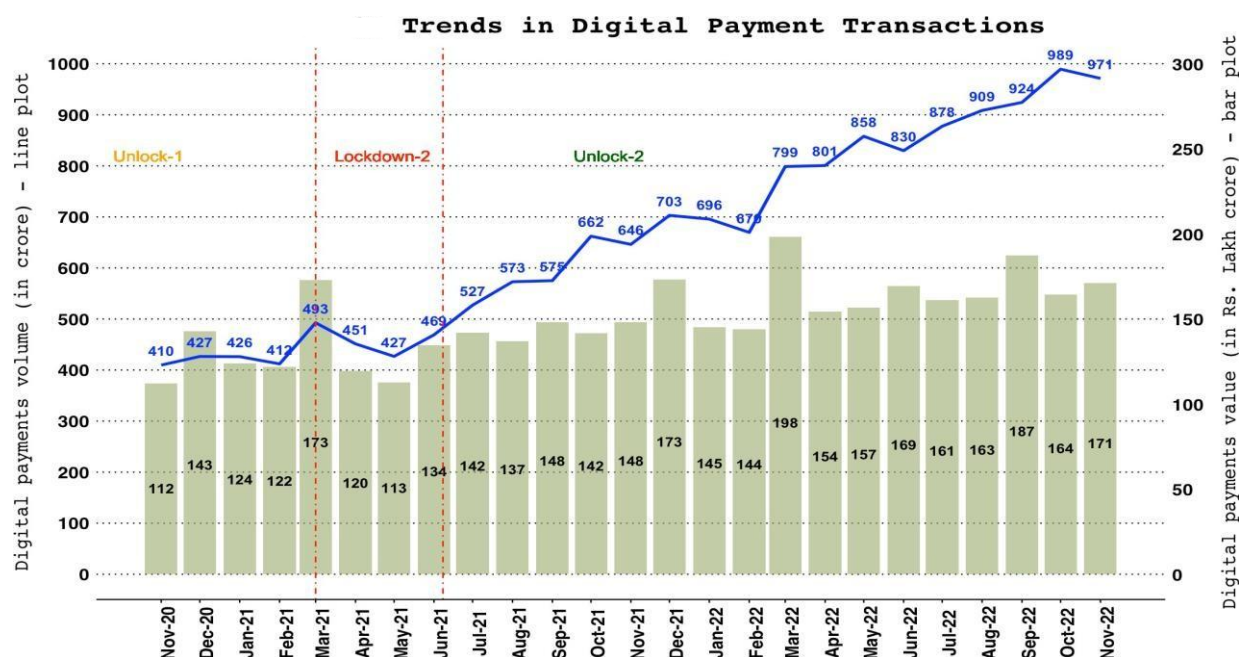
## **IV. METHODOLOGY**

The study is based on the secondary data information. Data has been borrowed from Reserve Bank of India (RBI), National Payments Corporation of India (NPCI), journals and any other sources related to economy and banks. The data is collected for 24 months from November 2020 to November 2022.

## V. STATUS OF DIGITALIZATION IN INDIAN BANKING SECTOR

To understand sustainability and the level of financial inclusion through digitalization, it is important to observe, how the Indian Banking sector have played a major role in rendering financial services in different time periods i.e., crisis and non-crisis period. For the same, study has taken a period of two years which includes normal period (non-crisis/non-Covid 19 period) and abnormal period (crisis/Covid 19 period) following RBI guidelines and Monthly Payment System Indicators. From November 2020 to March 2021 is observed as Unlock-1 period (non-Covid 19 period), March 2021 to June 2021 is observed as Lockdown-2 period and from June 2021 onwards is Unlock-2 period. There are multiple indicators to analyze the status of digitalization, but due to unavailability of complete statistics for indicators for the undertaken time period only a few indicators have been taken into consideration namely, volume and value of digital payment transactions, payment volume of RBI based payment systems, NPCI based payment systems and other payment systems, card acceptance infrastructure and UPI QR codes among others. Here, digital payments include RTGS (customer and inter-bank transactions), retail electronic clearing – NEFT, IMPS, NACH (credit, debit and APBS), card payment transactions (excl. cash withdrawal), PPI payment transactions (excl. cash withdrawal), UPI (including BHIM & USSD), BHIM Aadhaar Pay, AePS fund transfer and NETC (linked to bank accounts). RBI payment systems include RTGS (customer and inter-bank transactions) and NEFT. NPCI payment systems include IMPS, NACH, UPI (including BHIM & USSD), BHIM Aadhaar Pay, AePS fund transfer and NETC (linked to bank account). Other payment systems include debit and credit card payment transactions (excl. cash withdrawal) and wallet and PPI card payment transactions (excl. cash withdrawal).

### 5.1 Digital Payments – Volume and Value



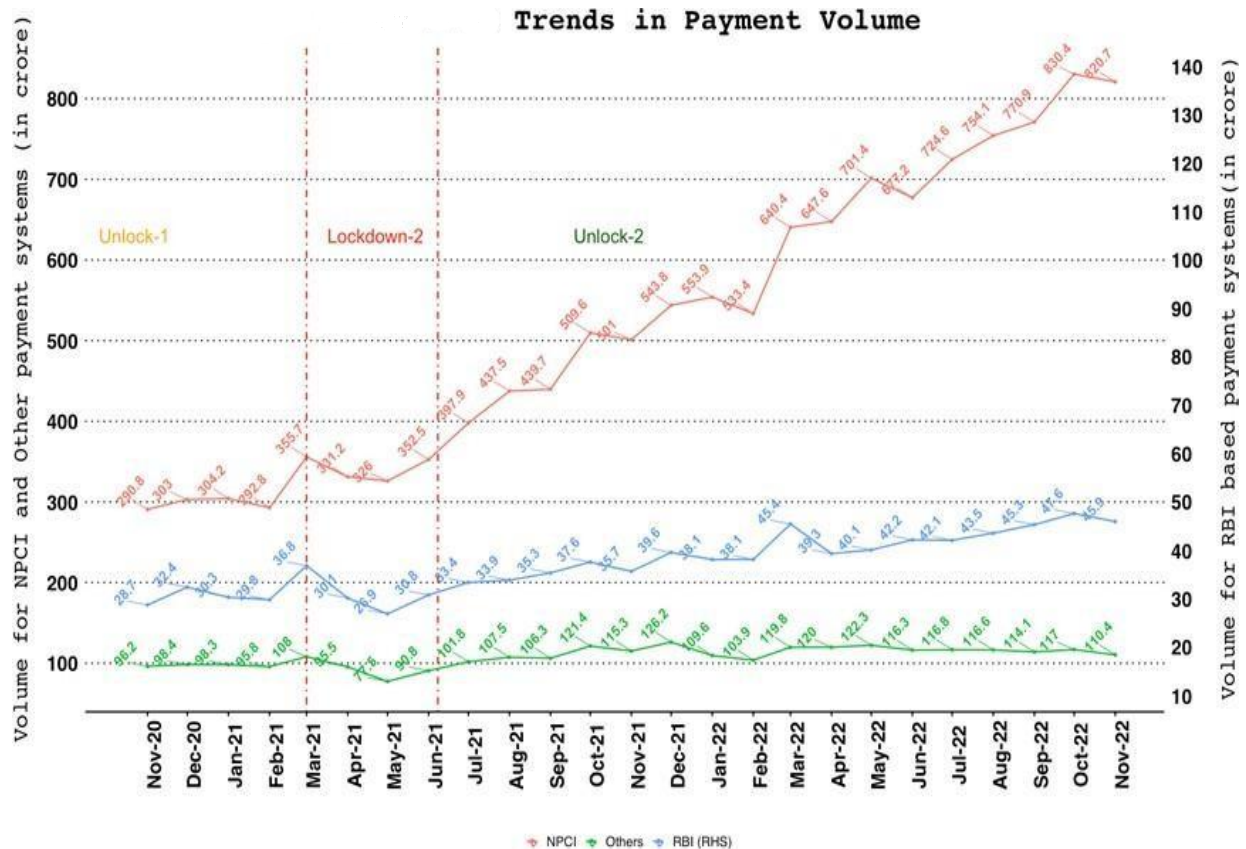
**Note:** Digital payments include RTGS (customer and inter-bank transactions), retail electronic clearing – NEFT, IMPS, NACH (credit, debit and APBS), card payment transactions (excl. cash withdrawal), PPI payment transactions (excl. cash withdrawal), UPI (including BHIM & USSD), BHIM Aadhaar Pay, AePS fund transfer and NETC (linked to bank accounts).

Above figure explains the volume (in crores) and value (in lakh crores) of digital payments from November 2020 to November 2022. Volume of digital payments is shown using bar plot and value of digital payments is shown through line plot. Reserve Bank of India has bifurcated the undertaken period into three sections, namely unlock-1, lockdown-2 and unlock-3 to better understand the true picture of digital payments in Covid-19 period. It can be observed that there were slight fluctuations in the volume of digital payments. March 2021 witnessed high jump in volume and value of digital payments since November 2020. Further, the volume as well as values of digital payments dropped during



lockdown period. Volume of digital payments was maximum in March 2022 and minimum in November 2020 (unlock-1) followed by May 2021 (lockdown-2). Value of digital payments had observed a rising trend with slightest fluctuations.

## 5.2 Comparison of NPCI, RBI and Other Payment Systems



**Note:**

**RBI payment systems** include RTGS (customer and inter-bank transactions) and NEFT.

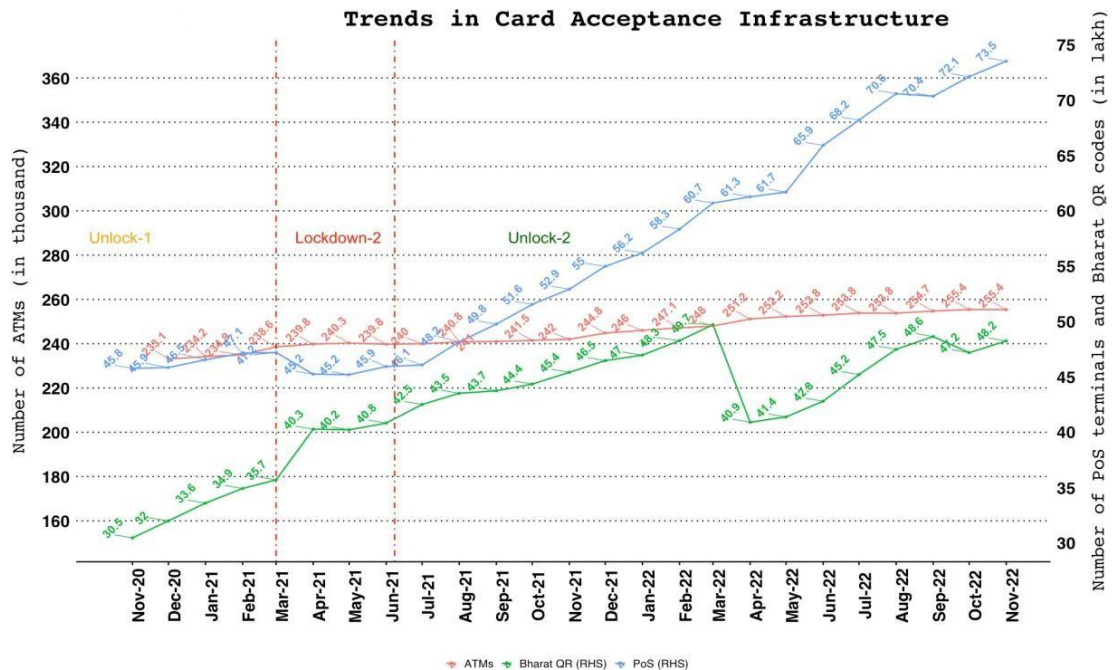
**NPCI payment systems** include IMPS, NACH, UPI (including BHIM & USSD), BHIM Aadhaar Pay, AePS fund transfer and NETC (linked to bank account).

**Other payment systems** include debit and credit card payment transactions (excl. cash withdrawal) and wallet and PPI card payment transactions (excl. cash withdrawal).

Above figure demonstrates the comparison of volume (in crores) of RBI based digital payments, NPCI based digital payment systems and other payment systems from November 2020 to November 2022. Reserve Bank of India has bifurcated the undertaken period into three sections, namely unlock-1, lockdown-2 and unlock-3 to better understand the true picture of digital payments in Covid-19 period. RBI trend, NPCI trend and others trend have used blue, red and green line respectively to reflect the trend of payments volume. It can be witnessed that NPCI payment systems has an increasing trend, however, a slight dip was observed in lockdown-2 period. Other payment systems and RBI payment systems displayed stable trends with slight fluctuations and drops in the lockdown-2 period. The interesting thing to note is that NPCI trends was the highest followed by others trend and RBI trend.

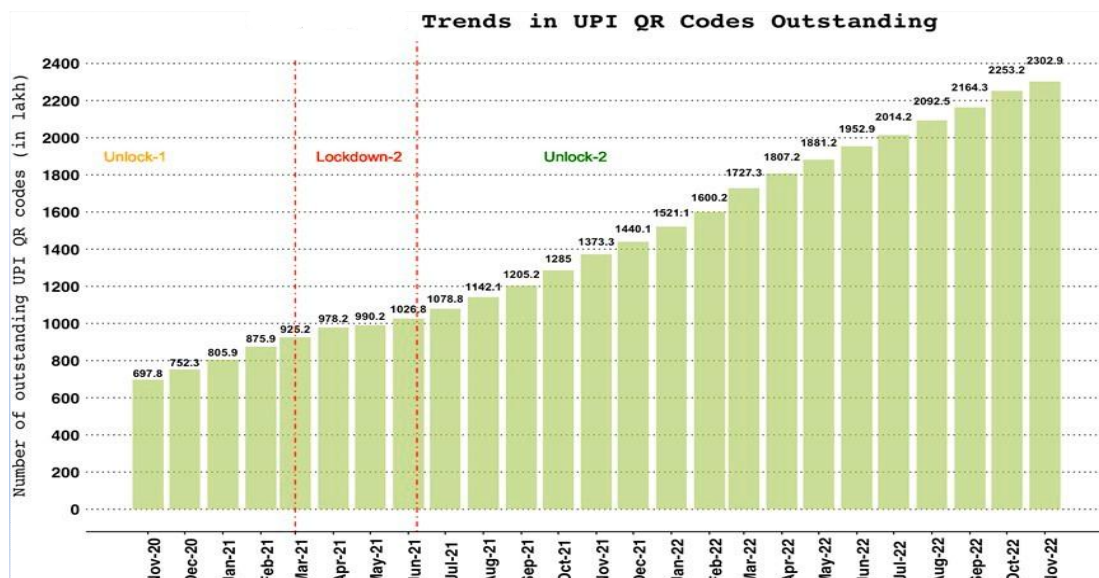


### 5.3 Card Acceptance Infrastructure – ATMs, PoS Terminals and Bharat QR Codes



Above figure explains the card acceptance infrastructure through number of ATMs in thousands, number of PoS terminals and Bharat QR codes in lakhs from November 2020 to November 2022. Reserve Bank of India has bifurcated the undertaken period into three sections, namely unlock-1, lockdown-2 and unlock-3 to better understand the true picture during Covid-19 period. ATMs trend, Bharat QR codes trend and PoS terminals trend have used red, green and blue line respectively to reflect the trend in card acceptance infrastructure. It can be seen that overall, there was a stable and increasing trend of ATMs during taken time period in all the three phases. However, Bharat QR codes observed slight sudden fluctuations in study period. With an increasing trend from unlock-1 period to lockdown-2 period to unlock-2 period, there was a sudden drop in March 2022 and April 2022 and again it bounced back and started increasing. Blue line demonstrating the number of PoS terminals shows a positive increasing trend with a slight fall in lockdown-2 period.

### 5.4 UPI QR codes



Above figure elucidates that the UPI QR codes statistics during the undertaken study period. It can be clearly seen that there is a positive increase in the number of outstanding UPI QR codes in lakhs in all the three phases of the undertaken period. In November 2020, the number of outstanding UPI QR codes was 697.8 lakhs and it made a huge jump to 2302.9 lakhs till November, 2022. Lockdown-2 period also observed a significant increase in the statistics.

## **VI. CONCLUSION**

The banking scenario has turned tables over a period of time. The new wave, the new innovational business model of technology is crucially revolutionizing the way bank clients are moving from social traditional banking system to high tech mobile banking capabilities. The approach has changed from product centric to more sustainable customer centric. It is evident from the above discussion that the digitalization is a tool to render retail electronic payment services. Even during Covid-19 pandemic, it sustainably run the business channels. Rather, it would be right to say that pandemic catalyzed clients to be more receptive of revolutionary technology-based products and services. Now, the target is to extend coverage to the last mile with strict rules and regulations against cybercrimes and fraudulent. The disruptive growth and changes in digital banking have accelerated the innovative tools, new knowledge and work culture to vitalize in the competitive environment.

## **VII. ACKNOWLEDGEMENT**

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