

## **COVID 19 Outbreaks on the Growth of Self Servicing Technology Using Digital Payments**

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### **Abstract**

In comparison to any other International crisis, Covid19 was sudden and did not leave much time for individuals or Governments to prepare in terms of the impact it had on healthcare infrastructure or trade-in various sectors. The modern world is highly connected and stopping the inter-country movement of people is very difficult. Given the rapid increase of cases, Covid19 was declared as a pandemic and for lack of any other viable option, most Governments chose the way of locking down the economy. There was little information on how Covid19 spreads mortality rate or recovery rate, etc. Impetus on social distancing forced people to get wary of any contact including the exchange of cash which in turn resulted in the rapid adoption of alternate measures such as digital payments. Supply chain management was badly hit and demand for essential products and services increased significantly. Although overall volumes of digital payments went down due to adverse impact on several sectors, its usage as a replacement of cash increased significantly. This sudden increase and adoption by people who are not technology-savvy gave rise to frauds and cyber-attacks. Thus there arose a need for stringent regulations, the evolution of technology, and enhanced user education. There has been a significant push by the Government for achieving a cashless economy and digital payments surely will provide robust support for this objective. RBI has also proposed a self-regulatory body for digital payment and has taken initiatives like making NEFT available 24\*7 and removing applicable charges. There are rising impetus and applications of digital payment technologies in day-to-day and business-related trade transactions.

### **Keywords**

Covid19, Digital Payments, E-Commerce, Self-Servicing Technologies, Transactions.

## **Introduction**

The unprecedented and rapid onset of Covid-19 across the world left almost everyone unprepared for an adequate response be it on healthcare, travel, education, or international trade. World Health Organisation, as of May 27, 2020, reported a total of ~5.5 Mn confirmed Covid-19 cases across 217 countries with a death toll of ~0.35 Mn. In absence of reliable information and understanding of the fatality rate of Covid-19, most governments took measures such as lockdown of economy, movement restricted to essential goods and services, focus on improving infrastructure for healthcare, direct transfer schemes for the poor, etc. Continued lockdown resulted in a significant drop in economic activity and many companies announced a significant cut in their manpower, salary cut for top management, and work from home measures for the staff.

As per World Trade Organisation (2020), trade was already taking a hit in 2019 and with Covid-19, double-digit declines are expected in both exports and import volumes. Restricted movement and concerns around the spread of Covid-19 have affected the availability of labor, hotels and hospitality, non – essential retail trade, manufacturing, tourism, etc. Supply chain management is adversely hit in almost all sectors. As per the report by Ficci (2020), India was already witnessing a slowdown for the last few quarters with an economy growing at a six-year low rate of 4.7% and expectations of recovery in the last quarter of FY 2019 & first quarter of FY 2020 were not met in wake of Covid-10.

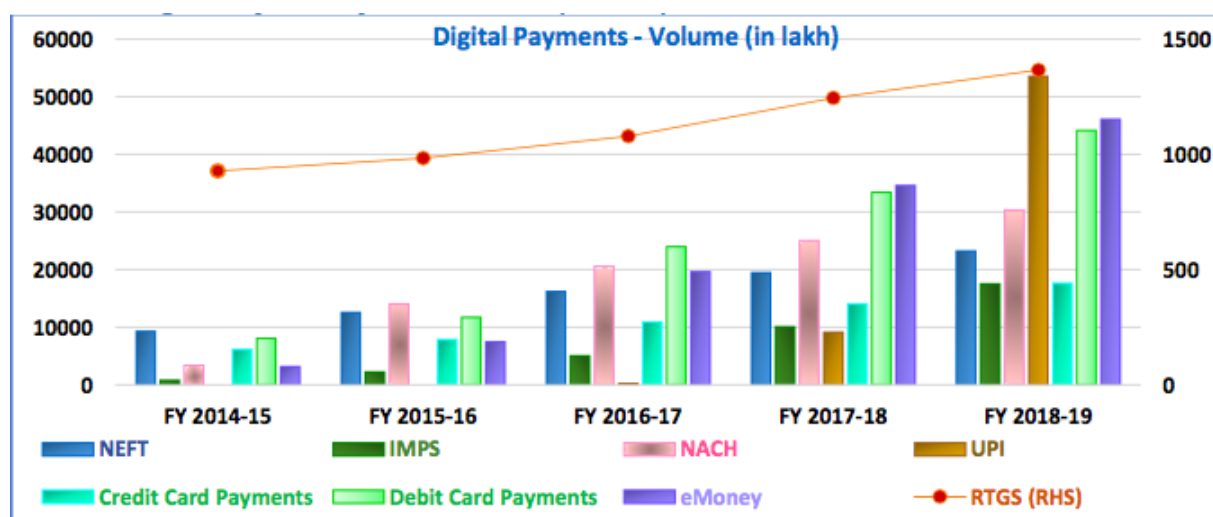
RBI has been pushing contactless card payments (The Hindu 2020) and due to concerns regarding visiting branches and ATMs due to Covid-19, consumers across urban and rural India started using smartphones to make payments. UPI transactions touched a record high of 221 crore transactions with a volume of Rs 3.9 Lakh crores in November 2020. The results towards having a digital economy that was targeted to be boosted by demonetization got an impetus due to Covid-19. Banks have been adopting new technologies such as Video KYC, Whatsapp banking, etc to push adoption.

Nelito.com (2021) mentions that due to Covid19 several factors gave a push for the adoption of digital payments such as P2P payments, use of vending machines, toll payments, cashless payments at gas stations, home delivery of groceries, usage of OTT platforms, etc. As per a Capgemini survey of 11 countries, India emerged as a leader in digital payment adoption during the pandemic. Several organizations worldwide are working on developing Self Service technologies to enable touchless self-serving aspect of digital payments such as biometric scanner, voice recognition, face recognition, etc. (Ron Shevlin 2020).

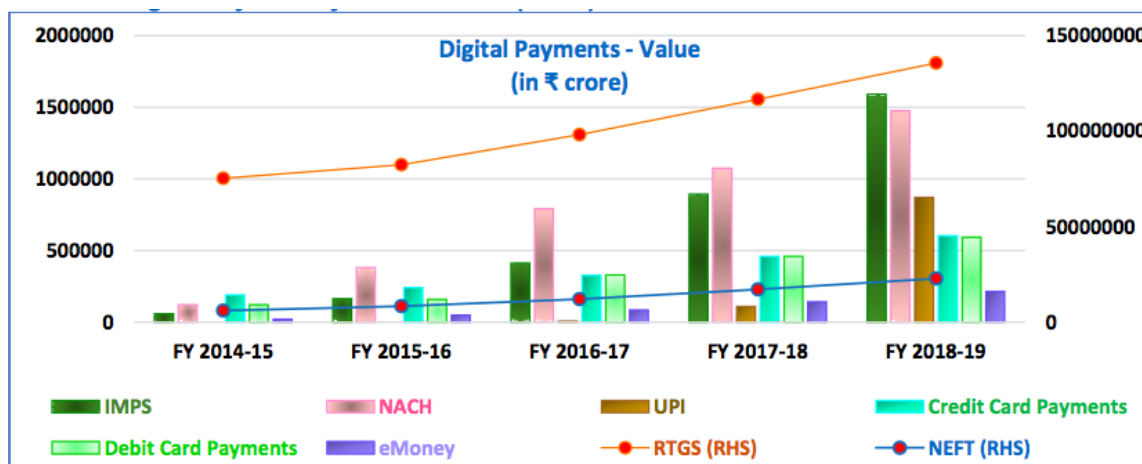
Figure 1 and 2 displays various digital payment methods have been followed in India. Table 1 highlights the features, advantages, and disadvantages of payment methods followed in India

**Table 1 Features of Digital Payment Methods**

Method	Provider	Advantage	Disadvantages
Debit/Credit Card	All major banks	<ul style="list-style-type: none"> <li>• Eliminates need to carry cash</li> <li>• Accepted at most merchant establishments</li> <li>• Most banks offer globally accepted cards</li> </ul>	<ul style="list-style-type: none"> <li>• Not completely contactless given the need of entering a pin.</li> <li>• Prone to phishing given lack of knowledge of users</li> </ul>
NEFT/IMPS	All major banks through net-banking and mobile apps	<ul style="list-style-type: none"> <li>• Contactless transfer of funds</li> <li>• Most billers can be added for recurring payments</li> </ul>	<ul style="list-style-type: none"> <li>• The performance of net-banking and mobile application for many banks is far from satisfactory</li> </ul>
Digital Wallets	Companies like Paytm, Ola Money, Amazon Pay, Google Pay, Mobiquik, PayZapp, Phonepeetc	<ul style="list-style-type: none"> <li>• Convenient to use</li> <li>• Offers &amp; Discounts on purchases and payments</li> <li>• Increasing acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Dependent on mobile usage</li> <li>• Needs a password thus subject to phishing</li> </ul>
Point of Sales	American Express, HDFC Bank, Axis Bank, IDBI Bank, etc	<ul style="list-style-type: none"> <li>• Eliminates need to carry cash</li> <li>• Available at most merchant establishments</li> </ul>	<ul style="list-style-type: none"> <li>• Add to the costs of transactions</li> <li>• Needs swiping of card and entering Pin</li> </ul>
Unified Payment Interface (UPI)	BHIM, My Airtel, Digibank, FinoBpayetc	<ul style="list-style-type: none"> <li>• Instant transfer of funds</li> <li>• Uses Virtual Payment Address, Aadhar, or QR Code rather than an account number</li> </ul>	<ul style="list-style-type: none"> <li>• Dependent on mobile usage</li> <li>• Needs entering of Pin</li> </ul>



**Figure 1 Digital Payment – Volume (in lakh) in India (2014-2019)**



Source: RBI Data

**Figure 2 Digital Payment – Volume (in Crore) in India (2014-2019)**

It can be seen here that while UPI leads in Digital payment volumes, IMPS & NACH are the leaders when it comes to the value of the transactions.

This demonstrates that digital payments were making their mark in the trade transactions and were on track to cover a substantial portion of transactions. It would be interesting to see the impact Covid19 had on this trajectory.

National Payment Corporation of India (NPCI) has covered a lot of distance in retail payments and settlement systems in India. They introduced products like RuPay card, Immediate Payment Service (IMPS), Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), BHIM Aadhaar, National Electronic Toll Collection (NETC FASTag), and Bharat BillPay for boosting usage of digital payments and restricting cash movement in the economy. After the outbreak, NPCI urged citizens to use contactless methods of payments and pushed the usage of UPI. As per the latest data by NPCI, Given the Covid19 outbreak, UPI transactions fell from 1.25 Bn in March 2020 to 990 Mn in April 2020 thereby registering a de-growth of over 19%. This was mostly contributed by sectors like logistics (96%), travel (87%), food & beverages (68%), and groceries (54%). For rebooting the transactions, NPCI is exploring options like bringing recurring payments such as loan EMI on the UPI platform. Vodafone Idea partnered with Paytm for UPI based recharge method. World’s largest messaging service Whatsapp is also looking to launch Whatsapp Pay in India which is planned to be a UPI-based payment method.

Both the Industry and the Government had envisaged a growth path for the adoption of digital payments and the infrastructure being created for handling the growth in the number of transactions and users both in rural and urban India. However, given Covid 19, the process of adoption got accelerated thereby pushing both the Companies and the

Governments to push initiatives for supporting the momentum (Tim Robbins, Sarah Hudson and Pijush Ray et.al, 2020).

The different channels of Self-service technology promote usage of cashless transactions among the public which has a positive impact on consumer behavior and attitudes. Consumers payment behavior is continuously changing in the event of covid-19 outbreak This accelerate usage of E-Wallets and contactless cards which influences more online payments.

Research has been done with prior contexts identifying the trends in digital payments however there is a need for identifying new patterns and factors which are leading to greater adoption and how it is changing the face of the business. Some of the factors mentioned in the paper have been addressed by researchers on a standalone basis and not their impact on each other. This paper aims as studying the factors together thereby

## **Review of Literature**

The Hindu Business Line (2021) mentioned that most banks barring the State Bank of India and some private banks, will not be able to take benefit from rapid digitalization in consumer payment behavior. Payment should be the core of any bank's processes since it helps to build a brand and retaining the customer.

The World Economic Forum (2021) states that strong complaint and feedback channels must be created so that low literacy users can use the services effectively. The government should work towards increasing financial literacy, launch campaigns for enhancing inclusivity, and take care that customers do not have to pay unreasonably for using payment services.

CMS Wire (2021) mentions the evolution of payment systems into self-serving technologies such as robotic click and collect systems in retail, payment volumes in online ordering, adoption of chatbots for solving queries, etc.

Asheeta Regidi (2021) stated that the Government and Reserve Bank of India took various initiatives to enhance the adoption of digital payments in 2020. Zero Merchant Discount Rate (MDR), relaxing additional factor of authentication, permitting additional escrow accounts for payment aggregators, 24\*7 RTGS, etc are expected to have a lasting impact on digital payments in India.

Riya Pahuja (2020), mentions the usage of Bots for providing banking services to users on a self-serving basis. Banks are using AI-powered voice-based transaction systems for giving a seamless experience for various banking and investment services.

Suchintan Chatterjea, Shreya Sarkar (2020) conducted a survey in which 96% of the respondents mentioned that they will use digital technologies for fulfilling their regular financing needs. 72% of the respondents were open to using online technologies for investment purposes. There is a requirement for financial organizations to rethink their marketing strategies keeping in mind that more and more users are getting comfortable with digital tools for banking and investment requirements.

Arner (2020), identified strategies to address the impact on the financial world. This includes liquidity management, transparency on data, use of digital finance and payment options, directing financial resources to essential services, and boosting digital infrastructure in sectors like education, healthcare, finance, etc. It mentions the importance of minimizing physical contact while making payments. Digital wallets and other methods of contactless payment should be used more aggressively.

NPCI (2020), urges Indian's to use digital payments to reduce social contact and contain the Covid-19 outbreak, NPCI in a press release urged usage of digital payment systems for reducing social contact. Dilip Asbe, NPCI MD & CEO requested service providers of essential services to avail digital payment methods. NPCI provided support by fast-tracking vendors on United Payments Interface (UPI) platform.

Accenture (2020), 10 ways Covid-19 is impacting payments mentions that in major geographies like the USA (31% global payment share), China (20% global payment share), and Europe (14% global payment share) spending is dominated by consumers using cards as a method of payment. Due to lockdown and isolation, demand has suddenly gone down for consumer goods. Banks are trying to boost payment by solutions like waiving fees, increase payment limits, increase overdrafts, loan moratoriums, cash-to-door, prepaid cards, etc. Banks are also pushing payment methods like digital wallets to improve the experience on peer-to-peer, point of sales, and e-commerce payments.

Raphael Auer (2020), Giulio Cornelli, and Jon Frost highlights how people over the world are concerned about the role of cash in spreading Covid19. While many banks have done got studies done and announced that the risk associated with usage of cash is very low in spreading the virus, this could change the transaction pattern for the consumers since the nonacceptance of cash may result in a 'payments divide'. Several digital payment options still require physical contacts like entering a pin or signatures.

Asger Lau Andersen (2020), used bank transaction data in Denmark to estimate the change in consumer habits post Covid19. It was found that the spending was down by 27% and mostly related to the goods and services whose supply was adversely affected

due to lockdown. It was found that even the goods and services which were available were impacted due to fear of contracting the virus while availing these.

Mckinsey & co. (2020), analyses immediate challenges and long-term implications on economies & the payment industry. Analysts project a reduction in global payments by 8-10% as against an expected increase of 6% earlier. Cash usage is badly hit despite several sterilization measures being undertaken. Contactless payment adoption is on a rise because of perceived hygiene advantages. The efforts by payment operators to re-boosting the business in the short term will also require a new framework between such operators and regulators to make the model sustainable.

Daniel Shu Wei Ting, Lawrence Carin, Victor Dzau, and Tien Y. Wong (2020), calls for the advancement of digital technologies in various fields to tackle the crisis caused by Covid19. Technologies like the Internet of Things, Big data analytics, Artificial Intelligence, Blockchain, etc may work independently or together to throw solutions in healthcare and healthcare logistics. These technologies can play a major role in the detection and tracking of the spread of the virus. They can also help in the delivery of essential services and transactions related to it.

Impact of the COVID-19 outbreak on digital payments PwC (2020), mentions that while digital payment volumes have declined in sectors like manufacturing, auto, retail, travel, aviation, hospitality, etc, there has been an uptick in fields like online grocery, OTT players, Edutech, online gaming, utility bill payments, etc. Government initiatives of direct transfer have also boosted the payment volumes. While usage of ATMs & POS is expected to be low, methods like contactless cards, digital wallets, payment gateways, UPI, etc will see a rise.

Marcello Ienca and E Y Vayena (2020), emphasize big data collection and processing for tackling the spread of Covid19 and raises concerns surrounding privacy. The government may choose to override the privacy policies and consents however it will lead to distrust and may turn to be counter-productive. Thus there is a need for transparency in data collection policies.

Nets Innovation Hub Payments Outlook (2020), Nets mentions that majority of merchants expect an uptick in mobile payments and will continue to invest in infrastructure related to mobile payments. Advancements are expected in the field of facial recognition, biometric verification, geo-fencing, AR/VR, etc.

Payments shift with COVID-19, Oliver Wyman (2020), states that some fields of e-commerce are witnessing growth as compared to others. As the transaction increase,



frauds are also increasing. Payment operators must revisit their strategies to ensure engagement with their users and the safety of transaction data.

### Objectives of the Study

- To study the buying and consumption patterns and its effect on digital payments during COVID-19 outbreak
- To discuss the growth of digital payments as a Self Service Technology (SST) during COVID-19.

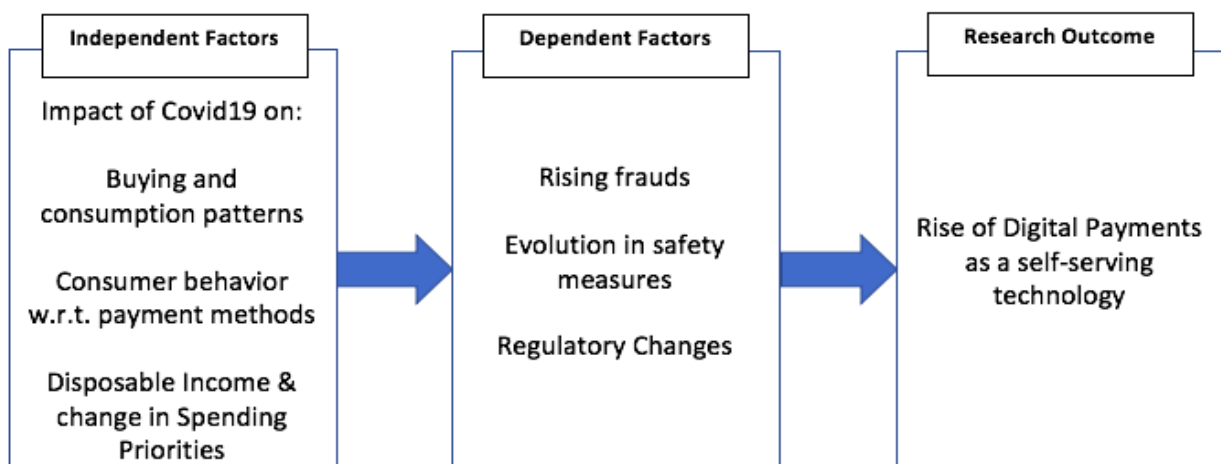
### Statement of the Problem

The government of India has been pushing the adoption of digital payment methods for many years now. However, India being traditionally a cash dominant economy, it will still take many more years for significant adoption of these methods. Having said that, Covid19 has pushed adoption rates significantly. Whether the existing regulatory and Information Technology infrastructure is robust enough to handle the increased volumes remains to be seen.

### Scope of the Study

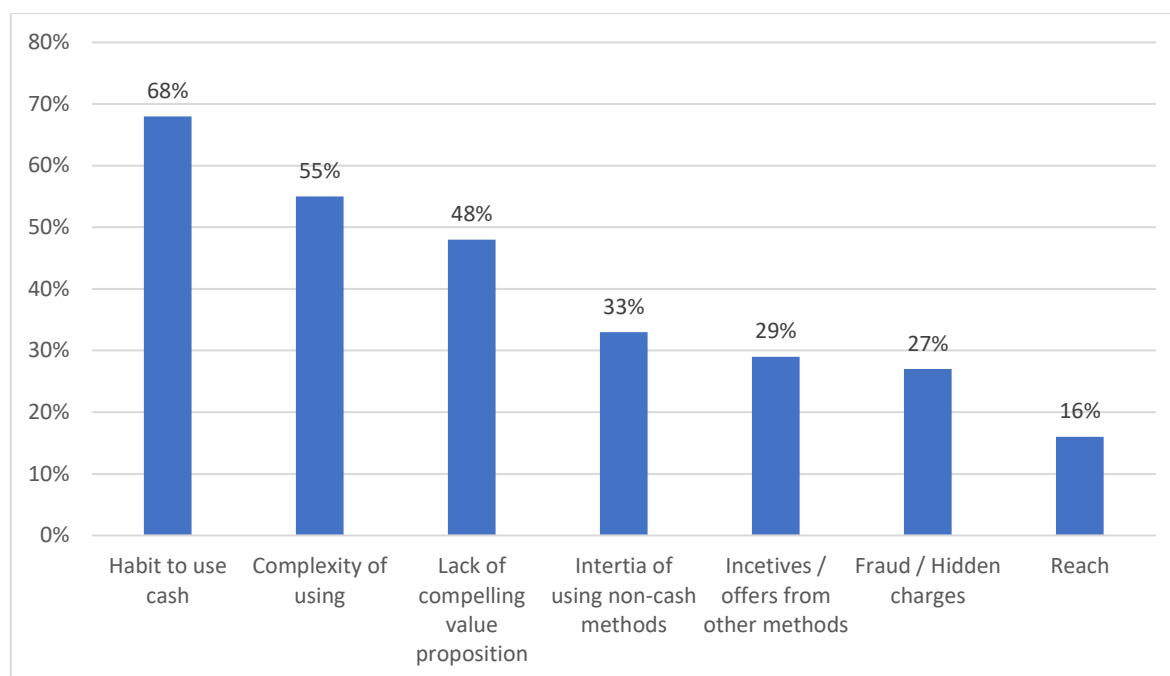
This paper is based on secondary research focused on understanding the rise of digital payments in India. It goes on to study the impact of Covid19 on consumer buying and payment behavior and how it has affected the adoption of digital payments. For understanding this, research papers, industry reports, media reports, Government published reports were studied to understand the factors and gaps in the study done. Figure 3 displays the conceptual model constructed by the researchers and Figure 4 displays various digital payment methods followed in India.

### Conceptual Framework



**Figure 3 Effect of COVID-19 on buying and consumption patterns**





**Figure 4 Various Digital Payment Methods followed in India**  
Source: RBI, 2020

### Paradigm Shift in Consumer Buying and Consumption Patterns

According to the NRF survey report, 9 out of 10 consumers have transformed their traditional shopping behaviors and 50% of consumers purchased their online. These transformation has driven the consumers to adopt digital payment which is progress and permanent

A consumer sentiment survey conducted by Boston Consulting Group in May 2020, found that 79% of the respondents believed that the world was in danger, 82% believed that there will be an economic recession, 85% were avoiding public places, ~50% were reducing spending in malls and increasing spending on local shops and online stores.

As per the study done by EY in April 2020, it was found that consumers have put plans for travel and leisure activities on hold for an indefinite time. Also spending avenues like going out for meals, clothing, big-ticket items, sporting equipment, appliance & electronics are expected to remain badly hit for near future. There would be a sea change in the way people travel, the way they socialize, spend time with family, buy things, etc. It is important to note here that as per a research report by Eurostat, pre Covid19, the majority of spending on online buying was on clothes, sporting goods, travel, hotel, household goods, event tickets, books, music, video games, etc. This spending pattern is expected to completely change towards essentials and health going forward (Sirina Keesara et.al, 2020).

According to Mckinsey's study in China, advocates that consumers desire to go for online shopping even after the COVID-19 outbreak, predominantly for groceries and personal care products which accelerates self-servicing technology. Figure 5 displays a paradigm shift in Consumer behavior decide retailers dependency more on online orders.

## New users are turning to ecommerce, with long-lasting implications

Proportion of purchases made online by infrequent ecommerce users  
 Frequency of online purchases for consumers who used online channels for fewer than 25% of purchases prior to the outbreak

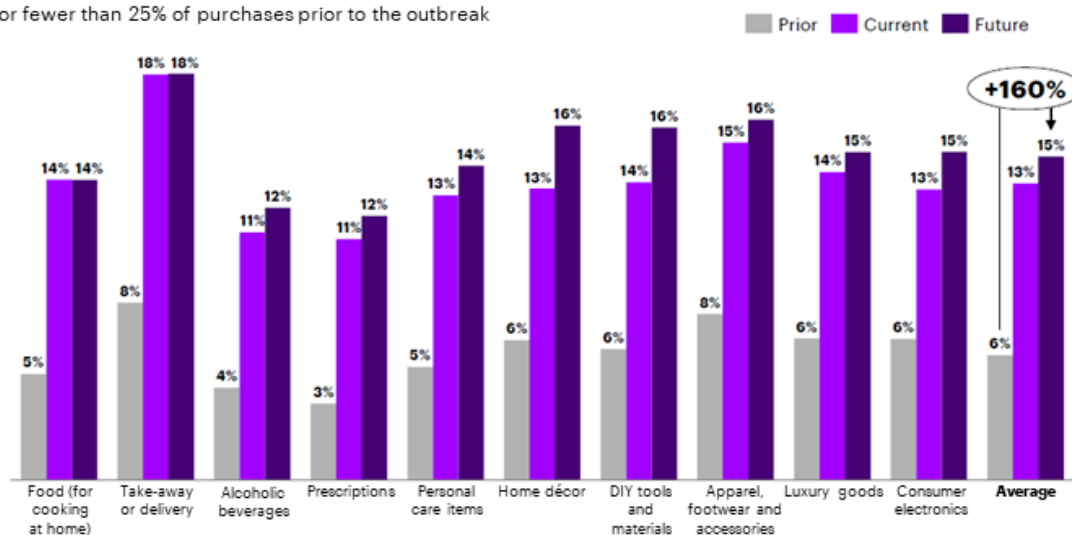


Figure 5 Worldwide Proportion of Purchases made Online by Infrequent e-commerce users  
 Source: 2020, Accenture

### Impact of Covid 19 on Consumer Behavior Concerning Payment Methods

Covid-19 pandemic has changed the payment mode among consumers. Ever since the advent of Covid19, there have been concerns about which surfaces are more conducive for the survival of the virus. Naturally, there was increasing apprehension on the usage of cash be it in paper, metal, or polymer form.

Several governments around the world took measures for allaying such fears by publishing reports which proved there was minimal risk of transmission of the virus through banknotes (Raphael Auer, Giulio Cornelli, and Jon Frost, 2020). Central Banks also took steps such as sterilizing banknotes and refuting the rumors that they were taking cash out of circulation. More significant steps have been taken for promoting acceptance of cashless and contactless payment methods (2020, European Parliamentary Research Service). Popular digital payment methods such as credit cards, ATMs, etc are not entirely contactless whereas methods such as QR-based payments or digital wallets are completely contactless (2020, Vincenzo Gringoli, Glen Williams,

John Ott, Thomas Olsen). A large part of the population either still prefers cash or does not understand digital payment methods. Thus, the transition becomes important to avoid a payment divide. The growth of Smartphone diffusion, universal connectivity, and cloud computing, and the IoT are the most influential factors. Through better service, the download speed of the websites and perceived speed increase usage of mobile technology and the user's satisfaction (K. Vinitha, S. Vasantha, September 2017, March 2018, December 2018). Figure 6 displays the worldwide shopping preferences among consumers for health consciousness.



Figure 6 Shopping Preference among Consumers

Source: Accenture 2020

- **Impact of Covid19 on Disposable Income**

As per a survey conducted on 1124 Indian corporate by MyHiringClub.com & Sarakari-Naukri.info on layoffs (May 2020), 68% of the participants stated that they have either started the layoff process or the same is under planning. 73% said they have plans to reduce the salary of the employees. Only 57% corporate think that this cut is temporary. Industries like aviation, hospitality, travel, retail, FMCG, automobile, and manufacturing are the worst-hit sectors. The layoff in retail and FMCG is highest at 49% followed by hospitality & aviation at 48%, Real estate at 39%, and power at 38%.

India is witnessing a major layoff drive with several reputed companies laying off a significant part of their staff. Some of these companies are Ola (1,400), Swiggy (1,100), Zomato (520), Cure. fit (500), Uber (500-700). Cognizant is planning to let go of 400 senior executives. Companies like Kotak Mahindra Bank, Reliance Industries, The Indian express were the frontrunners in cutting down salaries for staff and senior

executives. Globally situation is not any different with several companies such as Boeing (16,000), Uber (6,700), Lyft (982), Virgin Atlantic (3,150), Airbnb (1,900) making major cuts to their workforce.

As per CMIE, as of May 27, 2020, the unemployment rate in India shot up to 24% with 26% in urban and 23% in rural areas. Highest unemployment is being seen in states like Bihar (46.6%), Haryana (43.2%), Tamil Nadu (49.8%), Tripura (41.2%) and Puducherry (75.8%).

S. Mahendra Dev and Rajeswari Sengupta (2020) mention that the informal sector of India, which contributes of approx. 45% of its overall GDP, was already badly hit since the implementation of demonetization and GST in 2016 & 2017 respectively. Covid19 has significantly worsened the situation due to the absence of both demand and supply. Agri Sector & Dairy is also severely hit due to disruption of supply chain leading to wastage of food and loss for the farmers.

- **Rising Frauds**

One major concern regarding the adoption of digital payments is a surge in frauds both on merchant and transaction levels (Oliver Wyman, 2020). There has been a significant increase in phishing attacks recorded by cybersecurity firms. Attackers are playing on the fears of users and disguise the malicious links as important messages from WHO, National Health Service, etc. Businesses are not able to handle the sudden increase in transactions and thus transaction-level fraud is increasing. Concerns regarding contracting the virus at merchant establishments have reduced the usage of credit or debit cards since they are not completely contactless. This has led to increasing usage of UPI, Digital wallets, etc. Various companies around the world are working on next-level solutions. In India, the adoption of digital payments is still limited to urban cities since only 20% of rural India has access to the Internet. Several banks and fintech companies are working on technologies for making digital payments convenient and safer. Perceived security, privacy, trust, Perceived credibility, and Perceived benefits play an important factor in the adoption of e-payment, and protection of online transaction against online fraud enhances users satisfaction.

In a study done by Aite Group Research Team (2020), some major methods & avenues of frauds & gaps in cybersecurity were identified as follows:

- a) Phishing – in midst of millions of genuine emails being sent by corporate and institutions to users, attackers are masquerading as important messages and information which captures sensitive information from the user.

- b) Malware – Fake sites offering malware infection kits under the façade of Covid19 tracking data.
- c) Remote working – With the exponential increase in employees working from home on either the system given by the organization or personal laptops, several concerns regarding cybersecurity and data privacy have come up.

The use of Biometric authorization is one important step in the direction. Since Government already has biometric information for all citizens, integration on the digital payments platform can help to avoid a lot of phishing attacks. Network tokenization, which converts bank account numbers into a string of random numbers is another such technology. We are yet to see large applications of technologies like Blockchain and Artificial Intelligence in the field of risk management when it comes to digital payments. Any technological advances will have to be combined with consumer education to ensure early adoption and avoiding frauds.

- **Change in rules & regulations and Budgetary push**

There are several initiatives taken under The Payment and Settlement Systems Vision 2019-2021 to provide exceptions payment experience to users. Some of them are as follows:

- a) NEFT timing was made 24\*7 from December 16, 2019
- b) Mandated banks to not charge saving account customers for NEFT from Jan 2020
- c) Linkages of all authorized payment systems with National Electronic Toll Collection FAS Tags
- d) Processing of transactions through UPI

Given the impetus of boosting digital payments and a cashless economy especially in the Covid19 scenario, RBI & Government has announced several measures in 2020.

RBI has proposed a self-regulatory body to take care of security issues, consumer protection, and transparency in pricing wrt digital payments. This has become imperative due to rising digital payment frauds which now contribute to 50% of all banking frauds. For ATM/Debit card transactions of over Rs 1 Lacs, frauds have increased over 1400 instances in FY 19. The self-regulatory body will play a two-way communication channel between digital payment companies and the regulator.

Reserve Bank of India (RBI) also announced the launch of the Digital Payments Index starting July 2020 which will assess and capture the extent to which payments have been digitalized. To arrive at the index, RBI has considered five factors namely Payment Enablers (25%), Demand side Payment Infrastructure (10%), Supply Side Payment Infrastructure (15%), Payment Performance (45%), and Consumer Centricity (5%).

Taking the base at 100 as of March 2018, the index was measured to rise to 153.47 and 207.84 in March 2019 and March 2020 respectively denoting the rising adoption of digital payments in India.

The government announced the discontinuation of the Merchant discount rate from several digital payment methods such as BHIM UPI, UPI-QR Code, Aadhaar Pay, certain Debit cards.

Central board of direct taxes announced on Jan 1, 2020, that all shops, establishments, business firms, and companies having turnover of more than Rs 50 Crs are required to put in infrastructure and offer digital payment facilities to customers by Feb 1, 2020. Failing this, a penalty of Rs 5,000 per day applies to such defaulters.

Finance Minister Nirmala Sitaraman announced a fund of Rs 1500 Crs to compensate losses on account of waiver of Merchant Discount Rates (MDR) which was applicable on UPI and Rupay transactions. This waiver was announced by the Finance Minister in the budget in 2019. (2021, The Economic Times)

- **Rise of Digital payment as Self Serving Technology**

The term Self - Serving technologies (SST) is clear in itself. There are two components to it – technology interface and Self-service capability. Technologies such as ATM, PoS, Self-Check-in& Check-out, ticket bookings online are some examples of SSTs. SSTs can be both offline and online although in general parlance online services are considered more self-serving. With the growing population and efforts to decrease costs, businesses such as retail, eCommerce, travel, banking, etc have been striving for a long time to replace manpower with Self Service by consumers. This presents issues for users who are not comfortable with technology and would rather avail traditional methods such as speaking with an individual for support services, having an attendant at a petrol pump or hotel, etc.

Similarly, in the case of payments, there is a large population comfortable only with cash. They may or may not understand the conveniences associated with digital payment, however, either they rely on the younger generation to make transactions for them or avoid it altogether due to security concerns.

Having said that, younger generations are very comfortable with and prefer self-service over interacting with a human for availing services. They have quickly adopted digital payment systems and most of them would never have seen inside of a bank for any financial transactions. The advent of digital wallets coupled with offers they bring for shopping, ticketing, cashback, etc. has added to the popularity. Efforts of integrating

social media with payments such as Whatsapp pay is expected to further increase the volumes.

Acceptance of SST largely depends on factors like 'Perceived Usefulness', 'Perceived Control', 'Perceived Ease' & 'Perceived Enjoyment' (2017, Mohammad Sedighimanesh, Ali Sedighmanesh, Neda Ashghaei). Although users actively use online shopping options at the same time they are looking for some satisfaction levels as that of shopping in a mall. Many online retailers are combining Augmented Reality & Virtual Reality to combine online & offline experiences.

Companies are working in the fields of Biometric verification-based payment methods. Also, voice-based payments will enhance the convenience and avoid the need for learning the technology for making payments. QR-based payment systems eliminate the need to knowing account numbers or phone numbers for making payment of use of cards at PoS. These are easy-to-learn methods and will lead to early and enhanced adoption of digital payment methods.

While there is a lot of innovation happening in fintech startups, platforms, banks, etc; there is a growing need for having a simpler solution that can cater to all payment-related requirements for a consumer (2021, Anant Patel). This has led to the rapid adoption of white-labeled products between fintech startups, payment platforms, and traditional businesses. Businesses will need to constantly evolve and offer the latest payment solutions to both B2B & B2C customers.

2021, TCS mentions that the businesses should look to address immediate-term needs by ensuring availability and stability of the systems, short term needs by analyzing customer behavior, medium-term needs by leveraging the power of open banking, and long term needs by continuous improvements. However, Banks must also increase the surveillance to protect users against cyber threats by identifying and managing risks effectively.

## **Findings & Discussion**

In this paper impact of Covid19 on various sectors was reviewed be it positive or negative. Fall inactivity of sectors has directly impacted the payments volumes. While volumes of digital payments have reduced overall due to a fall in economic activity, it's being a replacement of cash has helped in some manner and is expected to add further to volumes going forward.

The efforts being made by the Government of India and other countries in pushing digital payments as a method of ensuring social distancing were also reviewed. India has been pushing to be a cashless economy and the Covid19 crisis will only help in this



cause by bringing more users and services under the umbrella. An independent self-regulatory body will help to put policies and regulations in place to tackle user safety-related concerns and will provide a platform for the service providers to offer an enhanced and wholesome experience (RBI, 2020).

The current research findings can be used by various digital payment companies to assess the potential size of the opportunity in India and that they should customize their offering to make them more user-friendly and secure for Indian users. Focus is needed to work on the Self Service aspect of digital payments. Arner (2020) has mentioned the importance of minimizing physical contact while making payments. Digital wallets and other methods of contactless payment should be used more aggressively.

Further research is required on the fields of how internet connectivity can be enhanced in rural areas to boost digital payments for making policy suggestions to the Government. Also, the study on what features and offers can be added for expediting the adoption of the methods by the population at large must be undertaken with primary survey and quantitative analysis. Oliver Wyman (2020), states that some fields of e-commerce are witnessing growth as compared to others. As the transaction increase, frauds are also increasing. Payment operators must revisit their strategies to ensure engagement with their users and the safety of transaction data.

There are several steps needed to be taken by the Government and digital payment service companies & merchants to access digital payments for rebooting the trade. Companies have to re-engage with the users in a better manner by giving them confidence, putting the supply chain back in place, and delivering on their commitments. They have to provide a secure environment for making payments and quick resolution of any disputes that may arise.

Going forward, the world is expected to work on local partnerships more than anything else. Banks, technology firms, merchants have to come together to set up hyper-local systems for ensuring supply chain consistency and payment convenience to users. Companies have to look towards the long-term benefits of onboarding users and have to let go of service charges or transaction fees to make this a perfect replacement of cash. Offers and Loyalty points which can be redeemed in local stores or online shops will be a good way to keep your loyal customers engaged. Riya Pahuja (2020) has stated that various sectors of e-commerce are attained significant growth as compared to other fields. When the number of transactions increases, the occurrences of frauds also increases. The payment operators should readdress their methodologies to ensure their users' engagements and data security.

Need for branded apparels, vehicles, cab aggregators, eating out are expected to go down and consumption of essentials, relax-wear, and healthcare is expected to go up. Digital payment companies must make their business model around this change. Rather than waiting for the world to go back to the old normal, efforts must be made to accept the new normal as quickly as possible. Niazi, et.al (2020), have highlighted that there exists 40 % increase in online sales for needed items during post lockdown.

There will be a sharp decline in disposable income both for the formal and informal sector. Many companies will change their business models making a large part of this workforce redundant. A large part of the workforce is qualified and experienced. Digital payment companies must use this pool for capturing the market, strengthening the supply chain, and getting into partnerships in local communities.

There is an increasing demand for protecting users especially those who are not technologically literate against phishers and cyber-attacks. As much as we educate the users, a system secured by the latest technologies like biometric verification, voice-based commands, tokenization, blockchain, etc. will go a long way in tackling this issue. The government must allocate fund and encourage the companies working in this field to develop indigenous technologies.

## **Conclusion**

Digital payment is an effective way to ensure both social distancing and rebooting the economy. Constant and significant efforts are being made for encouraging users to adopt various methods suitable for them in their daily lives to make payments to vendors, bill payments, etc. Major population of India still does not have internet access to achieve cashless economy. Severe initiatives have to be taken by the Government for inclusive growth. Digital payment companies must focus on engaging with users and providing them a safe and secure environment for boosting confidence and early adoption. However, a fall in economic activity and disposable income will pose a significant challenge. As India exits lockdown in a phased and gradual manner, it would be interesting to see which sectors are picking up faster than others so that the digital payment companies may adapt and customize their offerings accordingly. For digital payments to become a truly self-serving technology, the focus has to be made on the user interface, perceived benefits & offerings, and perceived security of the platform. In a world with Covid19, it would be difficult to survive alone and emphasis has to be on local partnerships to attain a functional supply chain.

## **References**

- Tim, R., Sarah, H., Pijush, R., Sailesh, S., Kiran, P., Harpal, R., Theodoros, N., Arvanitis. (2020). *Digital Health*, 6, 1–3. <http://doi.org/10.1177/2055207620920083>

- Andersen, A.L., Hansen, E.T., Johannesen, N., & Sheridan, A. (2020). Consumer responses to the COVID-19 crisis: Evidence from bank account transaction data. *Available at SSRN 3609814*.
- Reserve Bank of India, Department of Payment and Settlement Systems Central Office, Mumbai, 2020. Assessment of the progress of digitisation from cash to electronic. <https://m.rbi.org.in/scripts/PublicationsView.aspx?Id=20315>
- Keesara, S., Jonas, A., & Schulman, K. (2020). Covid-19 and health care's digital revolution. *New England Journal of Medicine*, 382(23), e82. <http://doi.org/10.1056/NEJMp2005835>
- Daniel Shu, W.T., Lawrence, C., Victor, D., & Tien, Y.W. (2020). Digital technology and COVID-19. *Nature Medicine*, 26, 458–464. [www.nature.com/naturemedicine](http://www.nature.com/naturemedicine)
- Ienca, M., & Vayena, E. (2020). On the responsible use of digital data to tackle the COVID-19 pandemic. *Nature medicine*, 26(4), 463-464. [www.nature.com/naturemedicine](http://www.nature.com/naturemedicine)
- Arner, D.W., Barberis, J.N., Walker, J., Buckley, R.P., Dahdal, A.M., & Zetsche, D.A. (2020). Digital finance & the COVID-19 crisis. *University of Hong Kong Faculty of Law Research Paper*, 2020/017.
- Peterson, K.O, Thankom, A. (2020). *Spillover of COVID-19: Impact on the Global Economy*. <https://ssrn.com/abstract=3562570>
- Mahendra Dev, S., & Rajeswari, S. (2020). Covid-19: *Impact on the Indian Economy*. *Indira Gandhi Institute of Development Research*.
- NPIC. (2020). *NPCI urges India to use digital payments to reduce social contact and contain Covid-19 outbreak*. <https://www.npci.org.in>
- Sulabh A, Margaret W. (2020). *10 ways COVID-19 is impacting payments*. <https://www.accenture.com/in-en/insights/banking/coronavirus-ten-impacts-payments>
- Auer, R., Cornelli, G., & Frost, J. (2020). *Covid-19, cash, and the future of payments* (No. 3). Bank for International Settlements.
- Philip, B., Reet Chaudhuri., Olivier, D., Tobias, L., & Marc, N. (2020). *How payments can adjust to the coronavirus pandemic and help the world adapt*. *Mckinsey & Co*.
- Vivek, B., & Mihir, G. (2020). *Impact of the COVID-19 outbreak on digital payments*, <https://www.pwc.in/consulting/financial-services/fintech/dp/impact-of-the-covid-19-outbreak-on-digital-payments.html>
- Vinitha, K., & Vasantha, S. (2017). Factors Influencing Consumer's Intention to Adopt Digital Payment-Conceptual Model. *Indian Journal of Public Health Research & Development*, 8(3).
- Jesper, K., Poulsen, Simon, B.N, Jens, K.B. (2020). *Payment Outlook*. <https://www.nets.eu>
- Oliver, W., Marsh, A., & McLennan Company. (2020). *Payments shifts with COVID-19*. <https://www.oliverwyman.com>
- World Trade Organisation. (2020). *E-Commerce, Trade and the COVID-19 Pandemic*. [https://www.wto.org/english/news\\_e/news20\\_e/rese\\_04may20\\_e.htm](https://www.wto.org/english/news_e/news20_e/rese_04may20_e.htm)
- European Parliamentary Research Service. (2020). *The rise of e-commerce and the cashless society*. <https://www.europarl.europa.eu/>
- FICCI. (2020). *Impact of Covid-19 on Indian Economy*. <http://ficci.in/>
- Ron, S., (2020). A List of Fintech Firms Providing Free Technology During the Coronavirus Crisis. *Forbes*, <https://www.forbes.com>

- The Economic Times. (2020), *RBI pushes digital payments in the time of COVID-19*. <https://bfsi.economictimes.indiatimes.com>
- Vincenzo Gringoli, Glen Williams, John Ott, Thomas Olsen. (2020). *The Covid-19 Tipping Point for Digital Payments*. Bain & Company. <https://www.bain.com>
- World Trade Organisation, 2020. Trade set to plunge as COVID-19 pandemic upends global economy. [https://www.wto.org/english/news\\_e/pres20\\_e/pr855\\_e.htm](https://www.wto.org/english/news_e/pres20_e/pr855_e.htm)
- Boston Consulting Group, 2020. Covid19, India Perspective 5.0. <https://media-publications.bcg.com/India-Perspective-COVID-19-5.pdf>
- Olive Wright, Emma Blackburn, 2020. COVID-19 will permanently change consumer behaviour. <https://www.accenture.com>
- Kristina Rogers, Andrew Cosgrove, 2020. Future Consumer Index: How COVID-19 is changing consumer behaviours. *EY*, <https://www.ey.com>
- CMIE, 2020. Unemployment Rate in India. <https://unemploymentinindia.cmie.com>
- KPMG, 2020. Potential Impact of Covid19 on Indian Economy. <https://home.kpmg/in>
- RBI Bulletin, 2019. Drivers of Digital Payments: A Cross Country Study. <https://rbidocs.rbi.org.in/rdocs/Bulletin/PDFs/1DRIVERSOFDIGITALPAYMENTS7A43A13DB4F44F27ADF55D22FDCAAABB.PDF>
- Vinitha, K., & Vasantha, S. (2018). Usage of E-Payment and Customer Satisfaction. *Executive Editor*, 9(3), 130.
- Fintech, Digital payments got a Covid boost in 2020, Money & Banking, The Hindu, Business Line.
- Budget 2021: Rs1,500 crore for digital payments industry to offset MDR losses, The Economic Times.
- Anant Patel, 2021: Predictions for a tipping point year for digital payments, [wexinc.com](http://wexinc.com)
- Covid-19 to boost digital financial services growth 2021; SBI, large private banks to benefit: Moody's, The Hindu Business line.
- 7 lessons COVID-19 taught us about improving digital payments, 2021, World Economic Forum.
- 10 ways COVID 19 has pushed us towards a cashless economy, 2021, [Nelito.com](http://Nelito.com)
- CMS Wire, 2021, The New Normal: It's All About the Experience.
- Asheeta Regidi, 2020 In Review: Digital payment policy initiatives in 2020 that could have a lasting impact [www.firstpost.com](http://www.firstpost.com)
- Riya Pahuja, Could Covid-19 transform self-service adoption for banks forever?, [ETCIO.com](http://ETCIO.com)
- Suchintan Chatterjea, Shreya Sarkar, Changing consumer behaviour: An opportunity for financial services as willingness for self-service surge, Financial Express.
- Niazi, A., Meiryium, A., Shahid, A. & Naqvi, H. 2020. The pandemic is e-commerce's time to shine. But will it last? Pakistan Today, 2020. <https://profit.pakistantoday.com.pk/2020/05/04/the-pandemic-is-e-commercestime-to-shine-but-will-it-last/>
- Riya Pahuja, 2020, Could Covid-19 transform self-service adoption for banks forever? <https://cio.economictimes.indiatimes.com/news/strategy-and-management/could-covid-19-transform-self-service-adoption-for-banks-forever/77253577>
- Shenavar, A., & Douhani, A. (2020). Review of iranian journal articles indexed in web of science based on altmetric indicators in scientific social media. *Webology*, 17(1), 158-170.