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# **Adapting to Change: Analysing the Impact of the COVID-19 Pandemic on Digital Payment Systems Worldwide**

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## **ABSTRACT**

This research explores the transformative impact of the COVID-19 pandemic on digital payment systems globally. Through a comprehensive review of literature and empirical studies, it analyzes the surge in digital transactions driven by safety concerns, government initiatives, and evolving consumer preferences. The resilience of digital payment platforms amid economic disruptions underscores their critical role in promoting financial inclusion and supporting economic recovery. Challenges such as cybersecurity risks and disparities in access and usage patterns are identified, emphasizing the need for collaborative efforts to address them. Insights gleaned from this study inform strategies to enhance the resilience and accessibility of digital payment ecosystems in a post-pandemic era.

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## **1. Introduction**

The COVID-19 pandemic has significantly impacted the digital payments industry, leading to a surge in demand for contactless transactions and increased innovation. This shift is driven by the need for safer alternatives to physical cash transactions, highlighting the importance of understanding how digital payment platforms have been adapted to meet changing consumer preferences.

Digital payments platforms play a vital role in promoting economic resilience during crises by facilitating remote transactions, supporting e-commerce activities, and enabling financial inclusion. Governments and regulatory bodies have implemented measures to mitigate the economic impact of COVID-19, including promoting digital payments to minimize the spread of the virus. Analysing their resilience and response to the pandemic can provide insights into enhancing financial systems' stability in the face of future crises.

Business continuity and innovation are also crucial aspects of the pandemic, as they have been instrumental in ensuring business continuity and fostering innovation in payment technologies. Safety and health concerns, financial inclusion, market dynamics, technological advancements, and socio-economic implications are all important factors to consider.

The pandemic has exacerbated socio-economic inequalities, with vulnerable populations disproportionately affected. Understanding the socio-economic implications of the pandemic on digital payments usage can help identify disparities in access, usage patterns, and financial resilience, informing targeted interventions to address systemic challenges.

The COVID-19 pandemic has fundamentally reshaped the digital payments landscape, accelerated the adoption of digital payment solutions and drove increased innovation in the industry. While the initial surge in demand may moderate as economies gradually recover from the crisis, the accelerated shift towards digital payments is likely to have a lasting impact on consumer preferences and business practices.

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## **2. Review of Literature**

Sivaprasad and Sheeja (2021) conducted a study aiming to assess the impact of COVID-19 on digital payment systems in India. Their empirical investigation revealed a significant increase in the adoption of digital payment systems during the pandemic period. This surge was attributed to safety concerns among individuals, coupled with government initiatives promoting cashless transactions.

Ahmed, Ahmad and Khalid (2020) focused their research on analysing the effects of COVID-19 on digital payment systems in Pakistan. Their study unearthed a notable surge in digital transactions within the country, primarily attributed to the enforcement of lockdown measures. This surge highlighted the resilience of digital payment systems amidst the pandemic's disruptive forces.

Rashid and Islam (2020) conducted a study to examine the impact of COVID-19 on digital payment systems in Bangladesh. Their findings indicated an increase in the usage of digital payment platforms in Bangladesh. This increase was primarily driven by social distancing measures implemented to curb the spread of the virus, alongside various government incentives aimed at promoting digital transactions.

Liu and Zhang (2020) investigated the impact of the COVID-19 pandemic on online payments using data from Alipay in China. Their study identified a significant increase in online payment transactions during the pandemic period. Furthermore, there was a noticeable shift towards contactless and mobile payment methods, reflecting changing consumer preferences and behaviours in response to the crisis.

Sarkodie and Owusu (2021) analysed the impact of the COVID-19 pandemic on poverty alleviation and economic growth globally, with a focus on digital payment systems. Their study underscored the crucial role played by digital payment systems in promoting financial inclusion and supporting economic recovery efforts during the pandemic-induced economic downturn.

Doh and Khamis (2020) explored the impact of COVID-19 on digital payment systems in Africa, with a specific focus on mobile money platforms. Their study revealed an acceleration in the adoption of digital payment methods across Africa during the pandemic. This acceleration was primarily driven by the growing need for contactless transactions and various financial inclusion initiatives aimed at bridging the digital divide.

Hsiao and Chen (2021) investigated the impact of COVID-19 on payment preferences, particularly the adoption of contactless payment methods. Their findings indicated a significant increase in the preference for contactless payment methods during the pandemic period. This shift in preference was largely driven by health and safety concerns among consumers.

Mishra and Mishra (2020) conducted a study to investigate changes in consumer behaviour towards digital payments during the COVID-19 pandemic. Their research revealed a surge in digital payment usage among consumers, fuelled by factors such as convenience, safety, and government incentives aimed at promoting cashless transactions.

Chen and Jang (2020) assessed the impact of COVID-19 on e-payment adoption and usage patterns in China. Their study identified a significant increase in e-payment transactions during the pandemic period, accompanied by a notable shift towards online shopping and contactless payment methods.

Agrawal and Parashar (2020) explored the opportunities and challenges faced by digital payment systems amid the COVID-19 pandemic. Their study highlighted the potential for digital payment systems to drive financial inclusion and support economic recovery efforts. However, it also emphasized the need to address challenges such as cybersecurity risks and regulatory issues to ensure the sustainable growth of digital payment ecosystems.

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### 3. Research Design:

The research design utilized in this study is primarily descriptive and analytical. It involves an in-depth examination and analysis of existing literature, reports, and data pertaining to the impact of the COVID-19 pandemic on digital payment systems globally, with a focus on specific countries such as India, Pakistan, Bangladesh, China, and regions like Africa.

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### 4. Data Collection:

Secondary data collection was the primary method employed in this research. Various academic journals, articles, reports, and publications were accessed through databases like Google Scholar, PubMed, ResearchGate, and academic publisher websites. Additionally, official reports from regulatory bodies and financial institutions such as the Reserve Bank of India, National Payments Corp. of India, and Open Government Data (OGD) Platform India were utilized to gather relevant data and statistics.

The collected data encompassed a wide range of sources, including empirical studies, surveys, industry reports, and expert analyses, providing comprehensive insights into the subject matter.

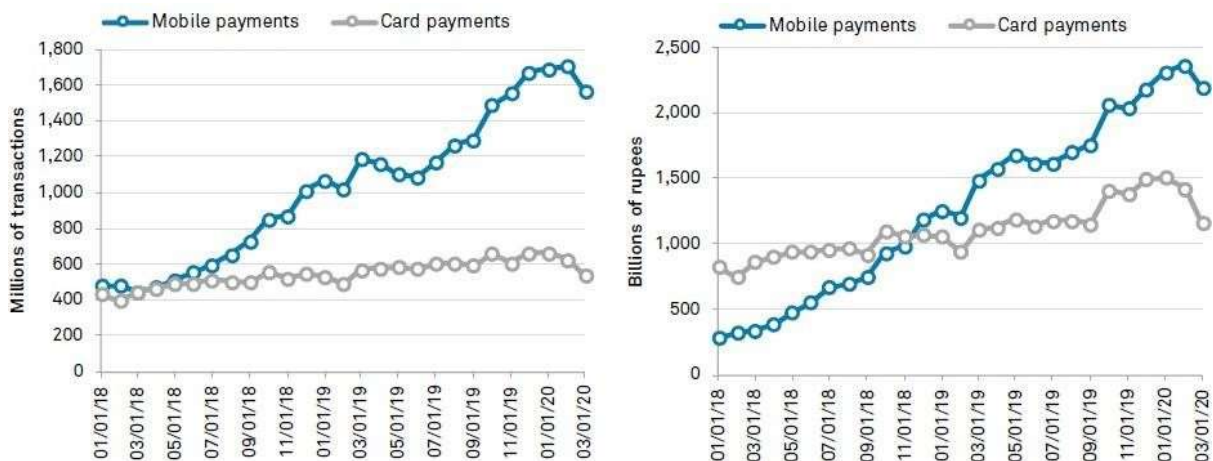
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### 5. Business Impact

Various important sectors in the economy of India have been adversely affected due to the COVID-19 pandemic. The affected sectors were like automotive, manufacturing, retail, airline, and hospitality industries. The effects are also seen on digital payments, one of the fastest-growing things that are linked to the above areas. The shutdown of shops, and trips and the decrease in the spending of the consumer (e.g. spending on the various outdoor food, movies and entertainment, etc.) had brought a negative impact on digital payments. In some categories, a decline in digital pricing is evident in travel, airlines, hotels, hospitality, restaurants, entertainment, and e-commerce (non-essential). During the appropriate time, the payment has become necessary. With many areas participating in the digital payment revolution, it is still too early to realize the long-term impact of COVID-19 on digital payments.

In 2012, Apple INC launched Apple's Passbook, which was used for boarding passes, tickets, and coupons. Further Apple Pay was launched in the US after 2 years, further, it spread quickly to the United Kingdom and China. In the year 2015, Android and Samsung Pay were launched. After that many digital mobile wallets like Paytm, Bharat Pay, Phone Pay, PayPal, Touch n Go, vcash, etc have made mobile wallets quite popular.

Figure 1: Mobile Payments Vs Card Payments



Sources: 2020 India Mobile Payments Market Report, spglobal.com/market intelligence, ReserveBank of India; National Payments Corp. of India)

(Chawla, 2020) found that until 2019, digital payments receivables were slow and varied by country. The reasons included culture, democratization, and technology - many of which were economists at different stages of development. However, the long-term uncertainty of the COVID-19 issue will result in the public being accommodated on digital payment platforms, almost as much as power. With inbound wireless access significantly improved by the 2019 end, with more than 5.1 billion unique users and 3.7 billion unique Internet users, it will help smooth the adoption of digital payment platforms. And with many competitors offering digital payment platforms, the competition should help sharpen the user experience of the app as poor performance will lead users to vote on their (digital) wallets. How COVID-19 Increases Digital Payment Adoption Worldwide

As per the analysis of (Patel, 2020), the rate of acceptance of digital payments rate is falling in 2019. It was a major change in every category and country. The pandemic of the COVID-19 has raised the use of digital payment. The pandemic has forced people to buy goods and services online via

Electronic-Commerce and Mobile-commerce. There is also a rise in the use of smartphones, which may increase the use and development of digital payments. There will be a rise in the competition that might give the consumer a chance of choice.

## 6. Covid-19: Want to Pay Offline? Go to Digital

(Gera, 2020) says that the government has introduced a 21-day shutdown to stop the spread of virus, only essential services were allowed to operate, but the operation of these services still requires some form of human interaction, which is best avoided at these times. Although not all people can be avoided, people can still not be contacted when other services such as payment and banking are available. Although the government has been pushing digital payments for a long time now, these options are important now to keep the spread of the population. A great way to achieve this is the use of online and UPI and wallet apps. By paying off online loans, many banks have incorporated their payment desk into their online banking systems. The system is simple, and users can find that they can even place payment payments on automatic payments. However, if you are uncomfortable with using such services, apps such as PayTM and PhonePe allow payment of fees on their platform. "India is still in the first phase of coral reefs and there are many steps to take to prevent the spread. However, when you consider the current situation, offline payment can be a way forward and payment methods such as UPI, IMPS, RTGS, portable wallets, and net banking can be very helpful in reducing human interaction," said Mandar Agashe, co-founder and senior chairman, Sarvatra Technologies, a provider of payment solutions.

## 7. Cashless After Covid-19?

Electronic Payments Seem To Be More Attractive As People Fear That Money Can Spread Coronavirus.

(Rooney, 2020) highlights the key points as:

Seeing money as a coronavirus vehicle can change how consumers choose to pay in person.

Critics say that the "psychological factor" of people who think money is "dirty" can spur more adoption of things like Apple Pay and Venmo.

"People default to normal unless something pushes you away," said Jodie Kelley, manager of the Electronic Transaction Association. "Wireless billing has been considered as something new for consumers who know what they're up to."

Table No.1 - Cumulative Payment Transactions in the last 12 months

	No. of Transaction (in Crore)	Growth in % (month on month)
Jan 2020	436.43	
Feb 2020	847.44	94.17 %
March 2020	1,262.84	49.02%
April 2020	1,566.22	24.02%
May 2020	1890.23	20.69%
June 2020	2,298.85	21.62%
July 2020	2,699.06	17.41%
August 2020	3,132.43	16.06%
Sept 2020	3,620.51	15.58%
Oct 2020	4,108.29	13.47%
Nov 2020	4,623.25	12.53%
Dec 2020	4,764.28	03.05%

Source: ( Open Government Data (OGD) Platform India, <https://data.gov.in/>)

It is being seen that there is been a rise in digital payment transactions from January 2020. From January 2020 to February 2020 it was almost doubled by a 94.17% rise i.e. 436.43 crore transaction to 847.44 crore transaction. Further, the percentage of the rise was diminishing. From February 2020 to March 2020 was 49.05%. It raises the percentage decrease to 03.05% from November 2020 to December 2020. In the month of December, the number of transactions went to 4764.28 crore.

## 8. The Impact of Covid-19 on Payments

The global payment system has shown great resilience in fighting disease. The general public continues to rely on payment systems and providers and there is little reporting of critical infrastructure. But the industry is moving away from the euro barrel. The biggest changes for payment providers are the result of this devastation, the increase in useless debt, the reduction of revenue and the greater need for customer service groups. Payment value has decreased due to depreciation and trade. In the short term, this will force payment providers to make changes to the operating model, which can give them greater flexibility and prioritize new short-term goals. The long-term effects of the epidemic on land payments are very high.

In early March, the World Health Organization warned that the coronavirus could spread. WHO recommends using communication payments where possible to help control the virus. COVID-19 continues to raise costs by forcing more retailers to close their doors and sell online orders for sale. For these reasons, the epidemic causes a large number of unpaid payments. This may not end up costing everywhere, but it is enough to push many markets toward a new palladium.

## 9. Conclusion:

The COVID-19 pandemic has catalysed a significant transformation in the global digital payments landscape, driving accelerated adoption and innovation in response to changing consumer behaviours and socio-economic dynamics. Through an in-depth analysis of literature and empirical evidence, this research has shed light on the profound impact of the pandemic on digital payment systems across various countries and regions.

Key findings highlight a surge in digital transactions fueled by safety concerns, government initiatives, and shifting preferences towards contactless and online payment methods. The resilience of digital payment platforms amidst economic disruptions underscores their pivotal role in promoting financial inclusion, supporting remote transactions, and facilitating economic recovery efforts.

However, challenges such as cybersecurity risks, regulatory issues, and disparities in access and usage patterns remain pertinent, requiring concerted efforts from stakeholders to address effectively. Despite the initial surge subsiding as economies recover, the lasting impact of the pandemic on consumer preferences and business practices in the digital payments sphere is undeniable.

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Moving forward, policymakers, financial institutions, and industry players must leverage insights gleaned from this research to enhance the resilience, accessibility, and security of digital payment ecosystems, ensuring their sustainability and contribution to economic resilience in the face of future crises.