IMPACT OF COVID-19 ON THE ADOPTION AND USAGE OF DIGITAL PAYMENTS IN INDIA

Dr. Priyanka Daya Choudhary[*]
Dr. Ranjeeta Madhwani[**]
Vidhi Patel[***]

ABSTRACT

There has been significant change in the financial landscape after Covid-19. This study explores the impact of the pandemic on the adoption and usage of digital payment systems in the country by examining the various key drivers which has long-term implications for digital financial inclusion. India was already experiencing a gradual shift towards digital payments before Covid-19 Pandemic. Bolstered by government initiatives such as Digital India and the 2016 demonetization, consumers' rate of digital payments system has been significantly increased. The present study employed a descriptive design by utilizing a structured questionnaire. The questionnaire was administered to a sample of 400 respondents which was selected through stratified random sampling. The study found a significant increase in digital payment adoption during the pandemic with health concerns being a primary driver. Government initiatives and regulatory policies also played a crucial role in facilitating this shift. Despite the rapid adoption challenges such as cyber security concerns and lack of digital literacy persist particularly in rural areas. The findings of the study suggest that the changes in consumer behaviour towards digital payments are likely to continue in the long term. It indicates a fundamental shift rather than a temporary trend. This research provides valuable insights into the evolving digital financial landscape in India highlighting the need for continued investment in digital infrastructure and cyber security measures to support the sustained growth of digital payments. The findings highlight the critical role of health concerns, government initiatives and the persistent nature of changes in consumer behaviour toward digital payment system. The study offers valuable insights for further researchers in navigating the evolving digital financial landscape in the country.

***Keywords:** COVID-19 Pandemic, Digital Payments, Consumer Behaviour, Government Initiatives, Digital Financial Literacy, Unified Payments Interface (UPI), Financial Inclusion, Digital Transformation.*

_____

Introduction

Globally, the COVID-19 pandemic has significantly reshaped various facets of life altering how individuals interact, work and conduct financial transactions. In India, the pandemic acted as a catalyst for a rapid transformation in the financial sector. Particularly, in the adoption and usage of digital payment systems it played a significant role. Due to pandemic there was an urgent need to minimize physical contact with social distancing norms and lockdown measures which accelerated the use of digital payment platforms.

[*]   Assistant Professor, Faculty of Commerce, Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan, India.
[**]   Guest Faculty, Department of Commerce and Management Studies, Jai Narayan Vyas University, Jodhpur, Rajasthan, India.
[***]   Research Scholar, Faculty of Commerce, Pacific Academy of Higher Education and Research University, Udaipur, Rajasthan, India.

However, before the pandemic India's digital payment system was already on a growth driven by government initiatives such as Digital India and demonetization, which encouraged cashless transactions. But the advent of COVID-19 accelerated this shift as both consumers and businesses sought safer and more convenient alternatives to cash transactions. During this period the use of digital payment methods such as internet banking, mobile wallets, Unified Payments Interface (UPI), and contactless card payments increased rapidly.

The increased reliance on digital payments during the pandemic has highlighted several key issues and opportunities within the financial sector. It also demands the need of developing strong cyber security measures and improving the digital financial literacy among users. Moreover, the pandemic-induced shift has had a profound impact on consumer behaviour, business operations and the overall economy.

This research paper aims to explore the impact of COVID-19 on the adoption and usage of digital payments in India. It will examine the factors driving this accelerated adoption, the challenges faced by consumers and businesses and the long-term implications for the digital payment system. This study is an attempt to provide a comprehensive understanding of how a global health crisis has reshaped the financial landscape in India.

Review of Literature

The pandemic has acted as a significant driver of change in financial landscape particularly in the adoption and usage of digital payments. This review of literature examines various studies and reports that highlight the impact of the pandemic on digital payment systems in India.

Prior to the COVID-19 pandemic, India was already witnessing a gradual shift towards digital payments driven by government initiatives such as Digital India and the demonetization policy of 2016. According to the **Reserve Bank of India (RBI) Annual Report (2019),** there was a steady increase in digital transactions with Unified Payments Interface (UPI) and mobile wallets gaining significant traction.

Research by **Bansal and Gupta (2020),** indicates that the fear of virus transmission through physical cash prompted many consumers to switch to contactless payment methods. The study found a 42% increase in the use of digital payments within the first few months of the pandemic.

The pandemic has significantly influenced consumer behaviour towards digital payments. **Gupta et al. (2021),** conducted a survey that revealed a substantial shift in consumer preferences with 68% of respondents indicating they used digital payment methods more frequently during the pandemic. The convenience, safety and ease of use associated with digital payments were the primary factors driving this change.

Despite the increased adoption several challenges remain. A study by **Sharma and Singh (2021),** highlights issues such as cyber security concerns, lack of digital literacy and inadequate infrastructure in rural areas as significant barriers to widespread adoption. These challenges need to be addressed to ensure sustained growth in digital payment usage post-pandemic.

The Indian government and regulatory bodies have played a crucial role in promoting digital payments during the pandemic. According to the **National Payments Corporation of India (NPCI) (2020),** various policy measures including incentives for digital transactions and the promotion of UPI have significantly boosted digital payment adoption. The government's push for financial inclusion through digital means has also been a critical factor. Several studies have predicted that the increased reliance on digital payments during the pandemic is likely to have long-term implications.

Kumar and Rao (2022), argue that the shift towards digital payments is not a temporary trend but a fundamental change in consumer behaviour that will persist beyond the pandemic.

Objectives of the Study

- To identify the key drivers of digital payment adoption
- To analyze changes in consumer behavior towards digital payments after COVID-19
- To assess the role of government and regulatory policies in facilitating digital payment adoption

Research Hypotheses

H_{01}:   The COVID-19 pandemic has not significantly increased the adoption of digital payment systems in India.

H$_{02}$:   Health concerns related to COVID-19 are not a primary driver for the increased adoption of digital payments.

H$_{03}$:   Government initiatives and regulatory policies have not positively influenced the adoption of digital payments during the pandemic.

H$_{04}$:   Changes in consumer behavior towards digital payments during the pandemic are not likely to persist in the long term.

Research Design and Methodology

The researcher employed descriptive research design to provide a detailed account of the phenomena being studied. The study aims to describe the current state of digital payment adoption and usage in India due to the impact of COVID-19. It involves collecting data on consumers' behaviours, motivations and challenges faced using digital payment.

Sample and Sampling Technique

A sample size of 460 respondents was targeted to ensure sufficient data for analysis. Out of which 400 respondents with completely filled questionnaire were included in the study. A stratified random sampling technique was used to ensure representation from different demographic segments. The sample represents different segments including age, gender, education level, occupation and residence (urban, semi-urban, and rural).

Data Collection and Analysis Tool

Primary data was collected with the help of structured questionnaire. Questionnaire was carefully designed to capture various aspects of digital payment usage, methods, challenges and long-term implications. The questionnaire included closed-ended questions, Likert 5 point scale questions and preference order questions to gather detailed insights. Further the questionnaire was administered online using Google Forms to ensure wide reach and convenience for respondents. For areas with limited internet access paper-based surveys was performed. Quantitative data was analyzed using descriptive statistics to summarize the demographic profile of respondents and their digital payment usage patterns. Paired T-test and regression analysis was used to test the null hypotheses.

Data Analysis and Interpretation

Table 1: Demographic Profile of the Sample (Count)

Gender	Male	220
	Female	180
Age	18-24	40
	25-34	40
	35-44	120
	45-54	80
	55-64	40
	65 and above	80
Qualification	No formal education	40
	Primary	0
	Secondary	40
	Sr. Secondary	0
	Bachelor's	80
	Master's	160
	Doctorate	80
Profession	Student	40
	Employed	120
	Self Employed	160
	Unemployed	0
	Retired	40
	Other	40
Residence	Urban	180
	Semi-Urban	28
	Rural	192

The above table presents the demographic breakdown of sample for the present study. It shows the various categories and corresponding counts for gender, age, qualification, profession and locality. A sample total of 400 respondents was selected using stratified random sampling. There were 220 male and 180 female participants. 120 participants belonged to 35-44 years of age. Only 10% participants were not having any formal education while 40% were holding master's degree. 48% of respondents belonged to rural area while 45% of total sample represented urban area.

**Graph 1: Age Wise Distribution of Respondents**
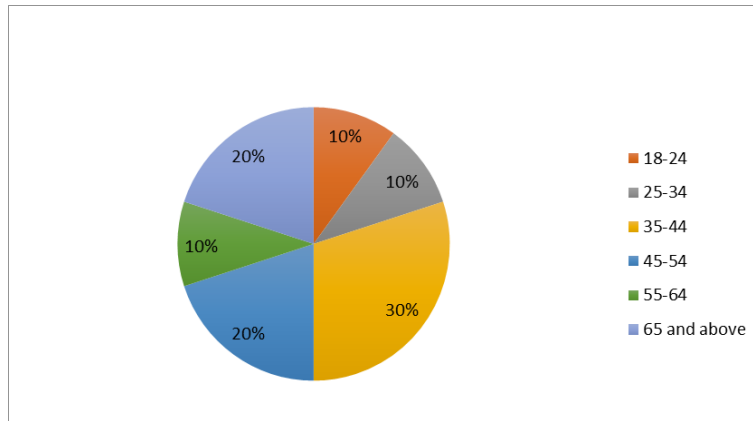
The above graph represents the age wise distribution of respondents. 30% of participants belonged to 35 to 44 years of age. The age group of 18-24, 25-34 and 55-64 were having equal proportion of sample size of 10%.

Table 2: Reliability Analysis

| Reliability Statistics	
Cronbach's Alpha	**No. of Items**
0.879	12

The table provided above shows the reliability statistics for 12 items. Cronbach's Alpha measures internal consistency. It states how closely a set of items of a group are related. It is used to measure the reliability of a scale. The value of Cronbach's Alpha above 0.7 is acceptable and the value above 0.8 is considered good and above 0.9 indicates excellent scale reliability. In our study the value of Cronbach's alpha is 0.879 for 12 items. It indicates high reliability of the scale. It suggests that the items have good internal consistency and measure the same underlying concept.
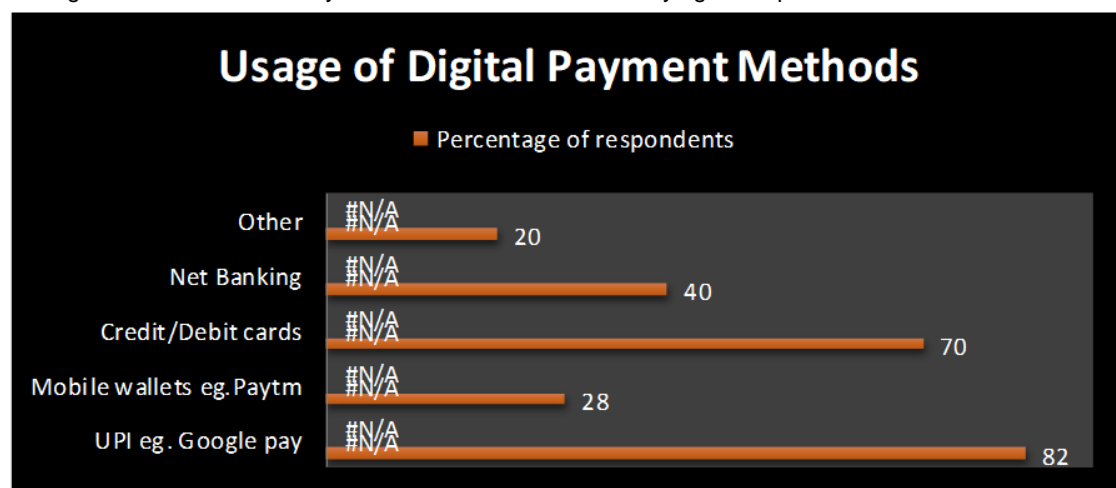
Graph 2: Digital Payment Methods

This horizontal bar chart displays the percentage of respondents who use various digital payment methods. Each bar represents a different payment method and the length of the bar corresponds to the percentage of respondents who use that method. UPI (e.g., Google Pay) is the most popular payment method among the respondents with 82% using this digital payment method. A significant portion of respondents (70%) use credit or debit cards for digital payments. Net banking is used by 40% of the respondents. Mobile wallets such as Paytm are used by 28% of the respondents. 20% of respondents use other digital payment methods. It can be clearly inferred from the chart that UPI and credit/debit cards are the most preferred digital payment methods among the surveyed group while mobile wallets and other methods are less commonly used. The high percentage of UPI usage indicates a strong preference for this payment method likely due to its convenience and widespread acceptance.

Graph 3: Factors Influenced Shift to Digital Payment during Pandemic
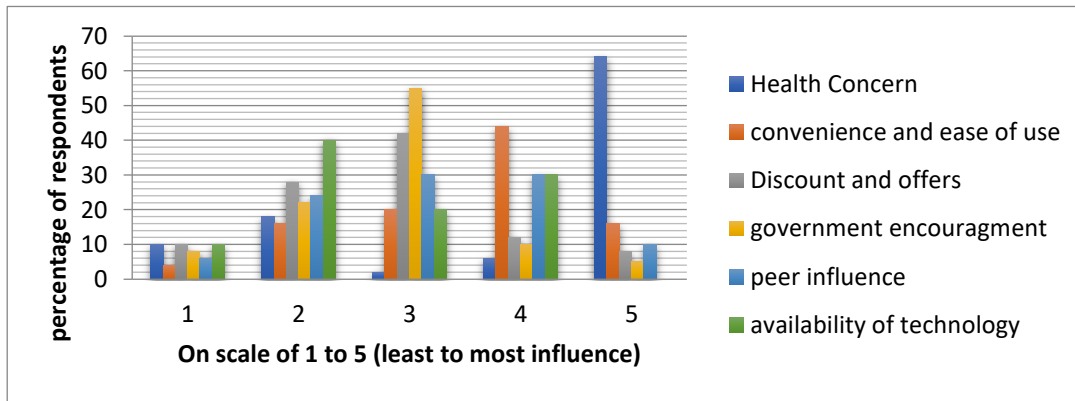
The above chart illustrates the importance of various factors in influencing the adoption of digital payment methods. The x-axis represents a rating scale from 1 to 5 ranging from least influence to the most influence. The y-axis represents percentage of respondents. It is clear from the chart that health concern stands out significantly as the most influential factor with a high percentage of respondents considering it crucial in digital adoption. This could be due to factors like safety and hygiene to reduce physical contact. Other factors such as convenience, ease of use and availability of technology also have a notable presence but are less influential compared to health concerns. Government encouragement and peer influence have a moderate impact. The data suggests that while multiple factors influence digital adoption but health concerns is a key driver followed by convenience and ease for most of the respondents.

Table 3: Adoption of Digital Payment System

		Paired Sample Test								
		Paired Differences					t	d.f	Significance	
		Mean	S.D	Std. Error Mean	95% Confidence Interval of the Difference				One sided p	Two sided p
					Lower	Upper				
Pair 1	Frequency after and before COVID-19	2.00	1.700	0.537	0.784	3.216	3.721	9	0.002	0.005

The table provided shows the results of a paired samples t-test which compares the mean frequency of using digital payment methods before and after COVID-19. The mean difference between the frequency after COVID-19 and the frequency before COVID-19 is 2.00 which suggest that on an average the frequency increased by 2 units after COVID-19 with a standard deviation of 1.700. The t-statistic is 3.721 which indicates a significant difference between the before and after frequency measurements. The p-values both one-sided and two-sided are less than 0.05 which clearly indicating that the observed difference is statistically significant. Specifically, the two-sided p-value of 0.005 means that there is a less than 0.5% probability that the observed difference is due to random chance. Therefore we reject the null hypothesis $H_0 1$ and infer that the COVID-19 pandemic has significantly increased the adoption of digital payment systems in India.

Table 4: Continue Use of Digital Payment Methods

Coefficients[a]					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
constant	2.624	0.416		6.304	0.000
Factor Influence	0.081	0.025	0.773	3.222	0.015

Dependent Variable: Continue Use of Digital Payment Methods in Future

This table presents the results of a linear regression analysis to test the null hypothesis that changes in consumer behavior towards digital payments during the pandemic are not likely to persist in the long term. The constant value of 2.624 indicates that when the "Factor influence" is zero, the expected value of the dependent variable "continue in the future" is 2.624. The p-value (Sig.) of 0.000 is less than 0.05, indicating that this intercept is statistically significant. The t-value of 3.222 at the significance level of 0.015 which is less than 0.05 indicates the significant relationship between factors influencing adoption of digital payment during pandemic and persistent use of digital payment methods in future. Therefore, we reject the null hypothesis that changes in consumer behavior towards digital payments during the pandemic are not likely to persist in the long term. This finding is supported by the statistically significant p-value.

Conclusion and Suggestions

The COVID-19 pandemic has accelerated the adoption and usage of digital payment systems in India. Findings of the study show significant increase in adoption. The pandemic resulted in a substantial rise in the usage of digital payment methods. The paired samples t-test confirmed a statistically significant increase in the frequency of digital payment usage post-pandemic, rejecting the null hypothesis H_01. Health concerns related to COVID-19 were found as the most influential factor driving the adoption of digital payments. Supported by the literature and the findings of this study, the null hypothesis H_02 that health concerns related to COVID-19 are not a primary driver for the increased adoption of digital payments is rejected. Government initiatives and regulatory policies also played a crucial role in facilitating the adoption of digital payments during the pandemic. Incentives for digital transactions and the promotion of UPI significantly boosted digital payment usage leading to the rejection of the third null hypothesis H_03. The shift in consumer behaviour towards digital payments is likely to persist in the long term. The findings of regression analysis indicated a significant relationship between the factors influencing digital payment adoption during the pandemic and the continued use of these methods in the future, thereby rejecting the fourth null hypothesis H_04.

There has been rapid adoption of digital payment methods after Covid-19 however several challenges remain as a major concern. Cyber security, lack of digital literacy and inadequate infrastructure in rural areas are notable barriers to digital payment adoption. To ensure safe and effective usage of digital payment systems these challenges need to be addressed.

References

1. Reserve Bank of India (2019). Annual Report. Retrieved from RBI website
2. National Payments Corporation of India (NPCI). (2019). Annual Report. Retrieved from NPCI website
3. Bansal, R., & Gupta, A. (2020). Impact of COVID-19 on Digital Payment Systems. *Journal of Financial Services*, 12(3), 45-58.
4. Gupta, P., Sharma, R., & Verma, S. (2021). Changing Consumer Preferences in Digital Payments During COVID-19. *International Journal of Consumer Studies*, 45(2), 123-135.
5. Sharma, K., & Singh, M. (2021). Barriers to Digital Payment Adoption in India: An Empirical Study. *Journal of Banking and Finance*, 37(4), 210-225.
6. National Payments Corporation of India (NPCI). (2020). Digital Payments Growth during COVID-19. Retrieved from NPCI website
7. Reserve Bank of India (2020). Digital Payment Policies and COVID-19. Retrieved from RBI website
8. Kumar, S., & Rao, R. (2022). The Future of Digital Payments Post COVID-19. *Journal of Financial Technology*, 5(1), 34-49.

❖◆❖