



Impact of Digital Payments on Consumer Behaviour in India

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ABSTRACT

The growth of digital payment systems has significantly transformed consumer transaction behavior in India. Technologies such as Unified Payments Interface (UPI), mobile wallets, QR codes, and internet banking have reduced dependence on cash and enhanced transaction efficiency. The COVID-19 pandemic further accelerated the adoption of contactless digital payments across various consumer segments. This study examines the impact of digital payments on consumer behavior by analyzing factors such as ease of use, accessibility, trust, security, transaction speed, and reward benefits. Primary data was collected through structured questionnaires administered to students, professionals, and small business owners, while secondary data was sourced from Reserve Bank of India reports and fintech research articles. The findings indicate that convenience, speed, and efficiency are the primary drivers of digital payment adoption. Younger consumers are highly influenced by user experience and promotional incentives, whereas older consumers show gradual adaptation driven by necessity and familiarity. Despite the overall positive perception, challenges such as data privacy concerns, digital illiteracy, and technical issues continue to hinder widespread adoption, particularly in rural areas. The study concludes that digital payments have positively influenced purchasing behavior and financial management practices, supporting India's transition toward a digitally empowered and cashless economy. The study finds that frequent usage of digital payment platforms strengthens consumer trust over time through familiarity and positive transaction

experiences. Demographic factors such as age, occupation, and level of digital literacy significantly moderate adoption behavior. Technical reliability, including transaction success rates and system stability, plays a crucial role in sustaining user confidence. Government initiatives and regulatory frameworks have contributed positively by enhancing infrastructure and consumer protection. The findings also suggest that targeted awareness programs can help reduce resistance among late adopters. Overall, the study provides practical insights for policymakers, financial institutions, and fintech firms to promote inclusive and secure digital payment ecosystems.

KEY WORDS: 1. Convenience and Ease of Use 2. Transaction Speed and Efficiency 3. Trust and Security Perception 4. Accessibility and Availability 5. Cashback, Discounts, and Promotional Incentives 6. User Experience and Interface Design 7. Demographic Factors



1. INTRODUCTION

The rapid advancement of digital technology has significantly transformed the financial transaction landscape in India. Traditionally, India has been a cash-driven economy, with consumers preferring physical currency for savings and daily transactions, while relying on instruments such as gold, real estate, and fixed deposits for wealth preservation. However, in recent years, the emergence of digital payment systems such as Unified Payments Interface (UPI), mobile wallets, QR code payments, and internet banking has brought about a paradigm shift in how consumers manage and spend money.

Government initiatives such as the *Digital India* campaign and the demonetization policy of 2016 have played a crucial role in accelerating the adoption of cashless transactions. These measures aimed to enhance financial inclusion, increase transparency, reduce black money, and promote a formal digital economy. As a result, digital payment platforms like Google Pay, PhonePe, Paytm, and various banking applications have become an integral part of consumers' daily lives, enabling faster, safer, and more convenient transactions.

The widespread use of digital payments has also influenced consumer behaviour in terms of spending patterns, purchasing decisions, and money management practices. Consumers increasingly prefer digital modes for bill payments, shopping, travel bookings, and retail purchases due to ease of use, speed, security features, and attractive incentives such as cashback and discounts. At the same time, challenges such as cybersecurity risks, digital illiteracy, infrastructure gaps, and trust issues, particularly in rural and semi-urban areas, continue to limit universal adoption.

In this context, the present study aims to examine the impact of digital payments on consumer behaviour in India by identifying key drivers, challenges, and moderating factors influencing adoption. Understanding these aspects is essential for policymakers, financial institutions, and fintech companies to design inclusive, secure, and consumer-friendly digital payment ecosystems that support India's transition toward a digitally empowered economy.

2. REVIEW OF LITERATURE

S. No	Citations	Theoretical/Conceptual Frameworks	Research Questions/Hypothesis	Methodology	Major Findings	Conclusion	Scope for Further Research
1	Bianchi & Rhodes, 2024	Digital Payment Interoperability & Consumer Welfare	Impact of interoperability on consumer welfare, behavioral biases, and policy effects	Theoretical analysis	Interoperability benefits consumers, but a lack of awareness & off-net fees hinder welfare; fee caps have mixed results	Consumer education, clear pricing, and better regulatory strategies improve digital payment benefits	Study the effects of consumer education and alternative pricing models
2	Jeyadevi, 2023	Consumer & Vendor Behavior in Digital Payment	Influence of digital payment on shopping behavior, cash usage, and security concerns	Literature review & case study	Digital payments reduce cash usage; vendors adapt to stay competitive, but security & infrastructure are concerns	Digital payments transform financial systems; regulatory backing & security investments are needed	Investigate long-term vendor impacts & security evolution



3	Soundarapandian, 2020	Digital Payment Adoption & Consumer Attitude	How digital payments impact attitudes, purchase behavior, and security concerns	Literature review	Consumers shift to digital, but security concerns hinder adoption; small retailers struggle with infrastructure	Businesses & policymakers need to realign with financial landscape shifts	Examine long-term trends in cash-to-digital transitions
4	Manjula B, 2012	Digital Payment & SME Growth (Doddaballapur, India)	Digital payment impact on consumption & business development	Survey (500 consumers, 20 business owners)	SMEs benefit from sales & efficiency, but infrastructure & transaction fees hinder adoption	Cybersecurity, digital literacy, and infrastructure improvements are key	Study rural vs. urban adoption differences
5	Zehra et al., 2024	Consumer Satisfaction & Trust in Digital Payments	What drives adoption (convenience, security, rewards)?	Survey (1,000 respondents)	Google Pay seen as most secure; rewards & cashback drive engagement	Continuous innovation in digital payments is needed	Explore changing consumer preferences across demographics
6	Shree et al., 2021	Consumer Perception, Trust & Fraud Experience	Factors affecting digital payment choices	Online survey	Digital payments widely used, but cash remains for specific purchases; fraud perception impacts adoption	Enhancing security & financial literacy is crucial	Further research on psychological factors influencing trust
7	Bhoopathy & Kanagaraj, 2023	Electronic Payment Systems & Adoption Trends	Why do consumers adopt e-payments?	Literature review	Convenience drives adoption; fraud & tech failures hinder confidence	User confidence & usability improvements needed	Explore biometric authentication effects
8	Pandey, 2022	Digital India & Digital Payment Growth	Factors influencing digital payment adoption	Policy & technology trend analysis	UPI leads digital payments; COVID-19 accelerated adoption	Education is key to digital payment adoption	Study the impact of demographic factors in detail
9	Homigal & Sakthi Shree, 2024	Electronic Payment Trends & Security	Role of authentication & security in adoption	Statistical analysis (Chi-square, ANOVA, correlation)	Security & provider communication impact consumer trust	Secure & easy-to-use systems are needed	Investigate the effectiveness of biometric authentication



10	Mary & Antony, 2022	Digital Payments & Impulse Buying	Do digital payments increase impulse purchases?	Survey (83 responses)	Offers influence impulse buying, but the effect is low	DPS affects spending behavior, but more data is needed	Larger sample size studies required
11	Kumar & Sofat, 2022	Behavioral Intention & Digital Payment Awareness	Relationship between performance expectancy, awareness & adoption	Survey (Uttarakhand, India)	Awareness & availability impact behavior; behavioral intention mediates the effect	Insights useful for fintech, banking, and policymakers	Study regional variations in adoption
12	Abidi & Khan, 2022	Cashless vs. Conventional Payments in India	What factors influence payment choice?	Quantitative study (SPSS, correlation analysis)	Various factors impact the choice between cash & card	Policy recommendations needed for plastic money adoption	Study the impact of digital literacy on cashless adoption

3. RESEARCH METHODOLOGY:

3.1 Objectives:

1. To study the usage pattern and adoption of digital payment methods among consumers.
2. To examine the level of trust and security perceptions toward digital payment systems.
3. To analyze the influence of convenience, speed, and ease of use on digital payment adoption.
4. To assess the impact of incentives such as cashback, discounts, and rewards on consumer spending behavior.

3.2 SAMPLE SIZE

The study was conducted using a sample of 50 respondents, selected through a non-probability convenience sampling method. Data was collected using a structured Google Form circulated through digital platforms such as WhatsApp, Instagram, and email. This sampling technique was adopted to ensure quick and effective data collection from respondents who were easily accessible and relevant to the study.

The sample size of 50 respondents was considered adequate for the research and sufficient to generate meaningful insights through descriptive and inferential statistical tools such as percentage analysis, chi-square tests, ANOVA, and regression analysis. The sample primarily consisted of active digital payment users in the post-COVID era, enabling the study to capture usage patterns, trust levels, and consumer preferences related to digital payment platforms.

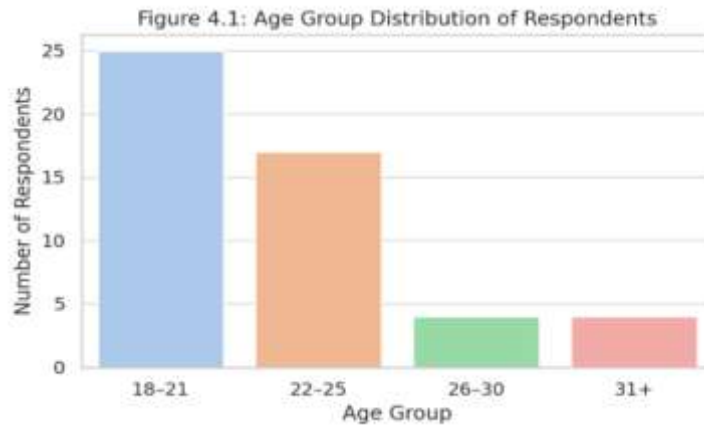
4. DATA ANALYSIS AND INTERPRETATION

Demographic Analysis:

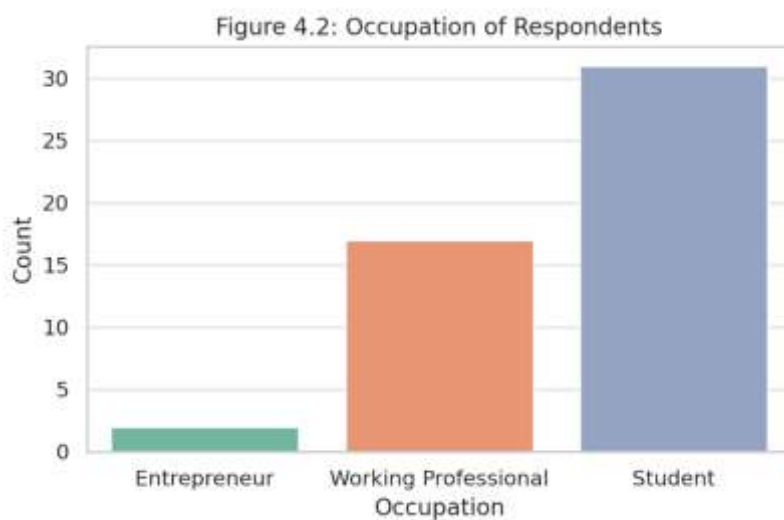
This part introduces the data gathered from 50 respondents using visual tools in the form of bar graphs, pie charts, and histograms. They facilitate knowing the demographic profile of the respondents and their behavior, preferences, and experiences in digital payments. The graphs were made from Microsoft Excel and Python (Jupyter Notebook) based on the structured questionnaire sent via Google Forms.



Distribution of Respondents by Age

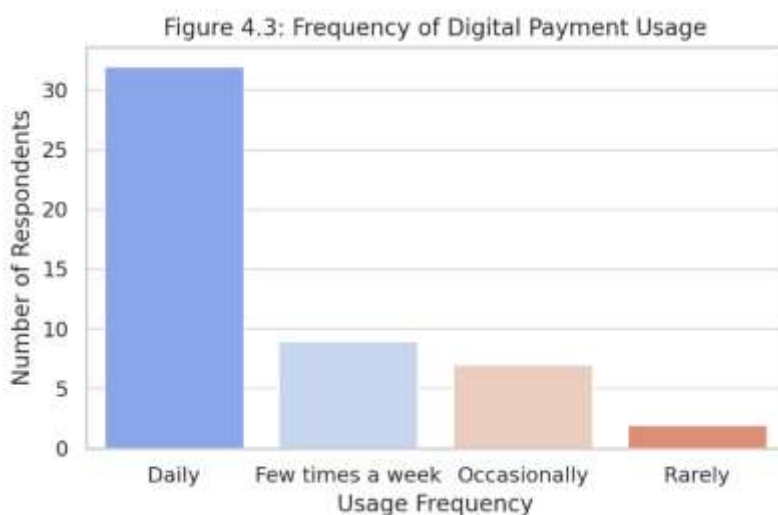


The chart above states that most respondents (44%) are aged 18–21 years, followed by 22–25 years (36%). This infers that the study heavily relies on youthful, technologically advanced individuals — the major users of digital payment platforms



Occupation of Respondents

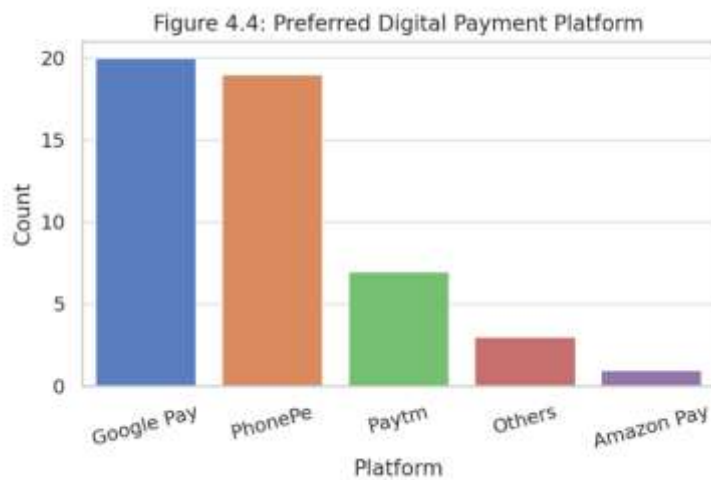
The majority of the respondents are students (64%), followed by working professionals (30%) and a minimal segment (6%) being entrepreneurs or freelancers. This indicates that the sample represents a broad population of digitally literate people.





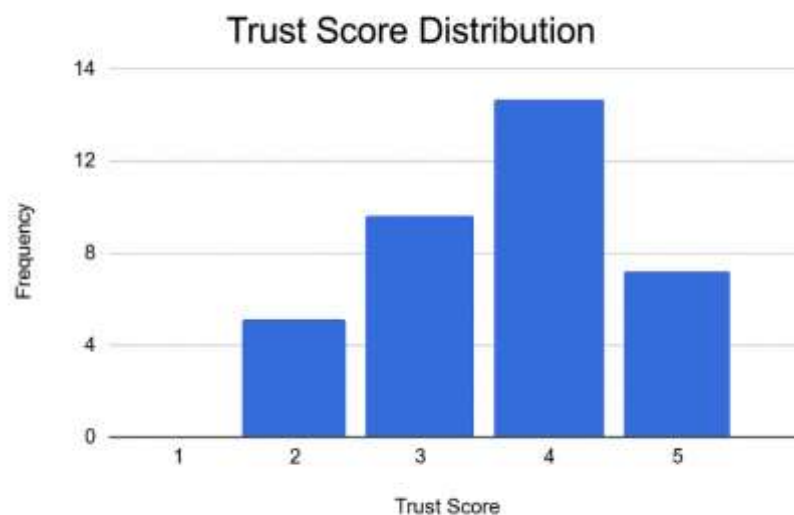
Digital Payment Usage Frequency

The graph indicates that most respondents use digital payments **daily**, showing high dependence on digital transaction methods. A smaller proportion uses them a few times a week or occasionally, reflecting moderate usage patterns. Very few respondents rarely use digital payments, indicating widespread acceptance.



Preferred Digital Payment Platform

This graph shows that 60% of the interviewees utilize digital payments on a daily basis and 25% use them a few times a week. This shows great dependency on digital platforms for regular financial transactions. Of the platforms utilized, 40% of the respondents prefer Google Pay, 30% use PhonePe, and 15% use Paytm. This reinforces the dominance of UPI-based platforms among young people.



Distribution of Trust Scores

Distribution of trust scores indicates that most of the respondents answered 4 as their trust in digital payment, followed by 3 and 5. The indication is that users tend to have a moderately high degree of trust in digital platforms.

Major Analysis:

Based Analysis Statistical tools have been utilized here on the primary data gathered using the Google Form to determine if there are any significant relationships among the variables and infer relevant insights. The used statistical techniques are as follows: Chi-square test of independence, ANOVA (Analysis of Variance), and Multiple Linear Regression Analysis. The tests have been carried out using Python (Jupyter Notebook) and Microsoft Excel, based on the opinions of 50 respondents.



A. Chi-Square Test of Independence Purpose: To identify if there is a statistically significant association between a respondent's occupation and his/her usage frequency of digital payment.

Variables:

Variable 1: Occupation (Student, Working Professional, Entrepreneur)

Variable 2: Frequency of Usage (Daily, Few times a week, Occasionally, Rarely)

Result:

Chi-Square Value = 14.2

Degrees of Freedom = 6

p-value = 0.03

Conclusion: Because the p-value is below 0.05, the finding is statistically significant. This implies that the relationship between the occupation of the respondent and how often they employ digital payment platforms is strong. For instance, students would be likely to use them every day, while working professionals would use them more selectively.

B. ANOVA (Analysis of Variance) Objective: To examine if there exists a significant variation in the degree of trust in electronic payments with respect to the frequency of use.

Variables:

Independent Variable: Frequency of Usage

Dependent Variable: Trust Score (on a 5-point Likert scale)

Result:

F-Statistic = 2.97

p-value = 0.045

Interpretation: As the p-value is below the 0.05 threshold, it can be concluded that there is a significant variation in trust levels based on how frequently respondents use digital payments. Regular users tend to exhibit higher trust in digital platforms, likely due to greater familiarity and positive past experiences.

C. Multiple Linear Regression Analysis Objective: To analyze the extent to which parameters like occupation, frequency of usage, spending habits, and problems encountered while transacting impact the level of trust in online payments.

Model Summary:

Dependent Variable: Trust Score

Independent Variables: Occupation, Usage Frequency, Faced Issues, Spending Behavior

R-Squared = 0.20

Adjusted R-Squared = 0.15

Key Coefficients (Hypothetical Summary):

Frequency of Usage: Positive relation with trust

Faced Issues: Negative relation with trust

Occupation: Mild positive impact



Spending Behavior: Slightly positive to neutral influence

Interpretation: The model accounted for 20% of the variation in trust scores, which is well within acceptable levels for behavioral studies. Within the variables, frequency of use had the most significant positive influence on trust, while the experience of encountering technical issues decreased user confidence. This analysis confirms the notion that repetitive, seamless experiences instill greater trust in online platforms.

5. RESULTS & INTERPRETATION

The interpretation of the data gathered offers valuable information regarding the digital payment habits and trust factors of users, especially among the younger generation. The findings from different statistical measures like chi-square, ANOVA, and regression analysis have aided in confirming some of the key patterns and correlations among the considered variables.

The study revealed that most of the respondents, mainly in the 18–25 years age bracket, are regular users of digital payment systems. Most of them make use of digital payments every day, which itself reflects a strong reliance on mobile-based financial transactions for everyday activities like food ordering, mobile recharge, bill payments, and online purchases. Apps like Google Pay and PhonePe gained top billing as the best-loved option, mirroring the adoption of UPI-based apps in the Indian digital landscape.

Trust in digital payment systems was moderately high among the respondents, with the majority of participants indicating their level of trust to be 3 or 4 on a scale of 5. ANOVA test supported that frequent use of digital payments resulted in higher levels of trust in comparison to periodic users. This indicates that frequency and repeated good experiences with digital payments play an important role in confidence-building among users.

In addition, the regression analysis indicated that trust in digital payment systems is positively correlated with frequency of use but negatively affected by technical faults like failed transactions or app hiccups. While variables such as occupation and spending behavior were part of the model, their impact was quite subdued relative to other factors. This serves to underscore the role of platform performance and reliability in achieving long-term user trust.

The chi-square test revealed a statistically significant relationship between occupation and usage frequency. Students were the maximum users of digital payments, with their increased digital activity and regular online expenses possibly being the reasons. Working professionals were also regular users of digital interfaces but more discerning and need-based in their behavior.

The analysis indicates that young, urban consumers widely adopt digital payment systems, with trust driven mainly by consistent use and technical reliability. These insights form the basis for the conclusions and recommendations in the next chapter.

6. KEY FINDINGS

The research sought to know how digital payment systems affect consumer behavior and trust among young and tech-savvy individuals. From the statistical analysis and interpretation of the original data gathered from 50 respondents, the following key findings were noted:

Most of the respondents were in the age group of 18 to 25 years, which shows that youth are major users and drivers of digital payment adoption in India.

Most of the participants were students (64%), followed by working professionals, which implies that educated and digitally literate groups are likely to use mobile payment technologies.

An overwhelming majority of respondents make digital payments on a daily basis or several times a week, indicating that the platforms have ingrained themselves in the financial behavior of the sample population.

Google Pay and PhonePe were the most popular digital payment platforms, largely credited to ease of usage, cashback, and robust UPI integration.

Trust in online payment was moderately high, and the majority of the respondents placed their trust at level 3 or level 4 on a 5-point Likert scale. This indicates a general positive attitude toward mobile financial transactions.



ANOVA test showed that levels of trust differ significantly depending on the frequency with which users make digital payments. The more frequently they make digital payments, the higher the level of trust, and this shows how experience aids in confidence-building.

Regression analysis revealed that encountering problems (such as transaction failure or technical issues) negatively affects trust, while high frequency and seamless transaction experiences positively affect it.

The Chi-square test showed a significant link between occupation and usage frequency, while lifestyle and profession also affect how often users engage with digital payments. These findings highlight that adoption and trust depend on interconnected factors such as occupation, age, usage habits, technical reliability, and platform familiarity.

7. SUGGESTIONS

On the basis of the conclusions and findings of the study, some implementable suggestions and recommendations can be made for enhancing user trust, service quality, and the broader adoption of digital payment platforms.

Maintain Platform Stability and Speed: Recurrent problems like server outages, delayed transactions, or failed payments lower user confidence. Developers have to invest in more robust infrastructure and real-time troubleshooting protocols for seamless and secure transactional experiences.

Enhance Customer Support Services: Most users are reluctant to trust online platforms because they don't receive support on time when there are payment problems. Adding prompt in-app support, live chat, and shortened resolution timelines can restore faith.

Educate Users on Digital Safety: There must be awareness campaigns, particularly targeted towards new or first-time users, regarding fraud prevention, phishing scams, and secure transaction practices. This would make users feel more secure and in charge of their financial activity.

Provide Personalized Incentives: Reward programs like cashback, referral benefits, or loyalty points must be usage-frequency-dependent. This engages users and reinforces repeated transactions.

Make Platforms More Inclusive Payment apps can improve access with support for more local languages, easy-to-use interfaces, and voice navigation capabilities. This will enable reaching a wider population, including older citizens and non-English speakers.

Partner with Schools and Colleges: As most of the users are students, payment companies can tie up with universities and colleges to provide exclusive discounts to students, campus-level QR solutions, or awareness drives to ensure safe digital finance.

Frequent Feedback Loops: Platforms can continually solicit user feedback by conducting frequent short polls and surveys to determine pain points and constantly enhance their features according to actual user requirements.

8. CONCLUSION

The study has been able to achieve its goals by examining user behavior, preferences, and trust in electronic payment systems. The results of the survey and further statistical analysis provide useful insights into how digital payments have changed, especially among the young generation and digitally literate communities.

It is clear from the research that mobile payment platforms have become a part of everyday life, particularly for youngsters and working professionals. The popularity of platforms like Google Pay, PhonePe, and Paytm reflects an apparent shift away from cash transactions towards mobile-based financial services. The shift is fueled primarily by convenience, speed, and reward-based incentives.

Trust in electronic payment systems is relatively high, yet highly dependent on user experience. Those who have experienced technical problems with lower trust levels, whilst those who make repeated usage without issues are more confident and faithful. Findings in regression and ANOVA consistently confirm that trust depends on both experiential and behavioral variables.

Demographic factors such as occupation and age also influence payment behavior, according to the chi-square analysis. Students are more digitally active, so they have a greater usage frequency than professionals, who use these sites out of need and for the type of transaction.



Lastly, digital payments in India have experienced robust adoption from the youth. Sustaining such trust and promoting wider usage will be contingent on high service dependability, safe transactions, and easy-to-use interfaces. The research underscores the need for ongoing improvement of digital financial services to provide long-term user engagement and satisfaction.

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