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IMPACT OF DIGITAL PAYMENT SYSTEMS ON CONSUMER FINANCIAL BEHAVIOR IN INDIA: THE MODERATING ROLE OF FINANCIAL LITERACY

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ABSTRACT

This research aims to investigate the role of digital transaction systems on the financial behaviour of consumers in the Indian economy scenario. In this paper, the primary data was collected using 156 digital payment users. Based on the data collected, the impact of online payment systems is analyzed. Along with the primary data, the secondary data is also collected using RBI, NPCI, World Bank, and IMF reports. Data analysis is done using the questionnaire with a five-point Likert scale. In this paper, the results show the impact of digital payment systems on the financial behavior of consumers. It is clear that digital payment systems make people spend more. In fact, the correlation is quite strong ($r = 0.449$, $p < 0.001$). Digital transactions also have an impact on how much people save. The numbers show a correlation ($r = 0.338$ $p < 0.001$). This research helps add to our understanding of how people behave with money, which's part of behavioral finance.

Keywords: Digital transaction, UPI, Consumer Financial Behavior, Financial Literacy, Behavioral Finance, India

1. INTRODUCTION

The global financial environment has experienced a major revolution in the form of the rapid development of digital payment. India is also performing great when it comes to digital payments. The fact that we have online payment in India is because of things like new technology rules that allow it, and lots of people using smartphones.

One big thing that happened to help digital payments in India was when the government stopped using some of the money that was already out there. This happened in November 2016. Although it can be regarded as a forced revolution, the digital payment has emerged as a sustained revolution in the lives of the population in India. The government initiatives like Digital India, Aadhaar, and internet penetration have resulted in the fact that, according to RBI data, UPI has processed 185.8 billion transactions worth ₹180.24 lakh crore during 2024-25, growing at a rate of 41.7% year-on-year. The system of digital payment has emerged as a phenomenon, contributing to almost 99.7% of the total transaction volume.

However, few research has investigated how consumers' financial behaviour changes after they've adopted a digital payment. This is particularly relevant given that, in India, the rate of digitalisation is growing rapidly and there are vast differences in socioeconomic conditions within the country. Behavioural economics theories, such as Prelec & Loewenstein (1998)

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where they describe the "pain of paying" concept, meaning that less pain means more likelihood of spending, impulsive buying, and a lack of discipline with one's finances; as well as Shefrin & Thaler's (1988) "Behavioural Life Cycle Hypothesis", which suggest that people's discipline in saving via mental accounting for their savings (i.e., money saved is not considered "spendable") decreases when those funds are no longer tangible (i.e., via digital payment). In summary, digital payments have increased the efficiency of transactions, but they have also influenced how people relate to money.

The present study aims to investigate the impact of Cashless payment system on consumers' spending behavior, saving behavior, impulsive buying behavior, financial discipline, and financial well-being. In addition, the moderating role of financial literacy and demographic differences is also analyzed through primary and secondary data collected from 156 consumers and various secondary sources such as RBI, NPCI, World Bank, and IMF.

2. LITERATURE REVIEW

The impact of digital payments on the spending behavior of consumers has been studied, and all the studies have concluded that the adoption of digital payments results in an increased level of consumer spending. In this regard, Agarwal et al. (2024) conducted research on the impact of the demonetization policy implemented in India in 2016, where the authors found that the adoption of digital payments increased the level of consumer spending, even when the supply of cash was normalized. Similarly, Dev et al. (2024) concluded that around 75% of the consumers using UPI payments experienced an increased level of spending, and this was due to the low level of psychological salience of money during the digital payment transactions. Further, Faraz and Anjum (2025) also concluded the same, where the authors, based on the concept of Spendception, found through structural equation modeling that the low level of psychological resistance was one of the significant factors for the purchase behavior of consumers, where impulse buying was the mediator, while gender was the moderator, using the Indian market scenario. This was further confirmed when Huggi et al. (2024) found a significant level of impulse buying among consumers using digital wallet payments, where the study was conducted on both the urban and rural population, thus validating the pain of paying hypothesis suggested by Prelec and Loewenstein (1998), where it was concluded that the adoption of digital payments results in increased consumer spending.

Although the impact of digital payments on expenditure is well established, the impact of digital payments on saving behavior and financial discipline is more complex and depends on several factors. Ahn and Nam (2022), in their recent study using large-scale data, showed that the overall level of overspending increases significantly among the users of mobile payments, covering several areas of financial behavior, i.e., consumption, money management, and credit. In another recent study, Yadav and Banerji (2024) showed the importance of the level of digital financial literacy in improving the level of saving discipline. The negative impact of digital payments on the overall level of saving discipline, therefore, is not absolute and is significantly mitigated by the level of financial literacy. The results of the recent study by Setiawan et al. (2022) showed that the level of financial literacy significantly influences the level of unnecessary expenditure, i.e., the lower the level of financial literacy, the lower the level of unnecessary expenditure. The results of the recent study also showed that the level of financial literacy significantly influences the level of saving discipline.

Significant studies have been conducted on the determinants of digital payment adoption, mainly through technology acceptance models. However, there has been little focus on the behavioral outcomes of adoption. Padma Kiran & Vedala (2025), by applying an extended

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version of the UTAUT model, revealed that performance expectancy, effort expectancy, facilitating conditions, and trust are significant determinants of adoption intention. Their model explained a significant proportion of variance in usage intention by using age and occupational demographic variables to show how people's behaviour adapts to the influence of occupation. Nevertheless, a major gap has been identified by Kajol et al. (2022) in their comprehensive literature review of over 100 studies on digital payment adoption. They revealed that there has been little focus on the impact of digital payment adoption on financial behavior. Therefore, while existing studies are able to explain digital payment adoption behavior, there is a significant knowledge gap on how digital payment adoption affects financial behavior.

Demography have a strong influence on digital transaction behavior and their financial outcomes; however, it has also been found that socioeconomic factors have a greater impact than social identity factors. According to a research paper by Lohana and Roy (2023) on urban India, age, education level, occupation, and income level are significant factors for digital payment behavior; however, gender and marital status are found to be non-significant factors for digital payment behavior. In a research paper by Haque et al. (2025) on rural India, it was found that age, education level, and income level are significant factors for UPI; however, caste, religion, and marital status are non-significant factors for digital payment behavior. These findings show that inequalities exist in terms of access to digital financial.

The Role of Financial Awareness in Enhancing Economic Well-Being

Financial awareness plays a crucial role in moderating the impact of both positive and negative usage of digital payment on financial well-being. In fact, a study by Kumar et al. (2023) established that financial literacy, along with financial risk tolerance and financial socialization, is a critical factor in determining financial behavior, which in turn determines financial wellbeing. In contrast, demographic factors have limited direct effects. Another study by Rastogi et al. (2021) established the positive impact of digital payment usage in enhancing financial literacy, which in turn translates to enhanced financial inclusion and economic outcomes, especially for the low-income population. In conclusion, the literature established that digital payments have both beneficial and unfavorable effects in enhancing the efficiency and accessibility of electronic transaction systems while also promoting impulsive financial behavior.

3. RESEARCH OBJECTIVES

The objectives of the research are as follows:

- To see how using online payments is the way people spend, save and make impulse buys with their money.
- To look at whether digital payments have an impact on people's financial discipline and overall financial health based on things like how old they are, if they are a man or a woman, what kind of education they have, what job they do and how much money they make.
- To understand how knowing about money or financial literacy affects the relationship between using payments and their financial behavior when they use digital payments.

4. HYPOTHESES

- H1: Digital payment usage has a significant impact on consumer financial behavior, particularly spending behavior, saving behavior, and impulsive buying behavior of consumers in India.

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- H2: There exists a significant difference in the impact of digital payment usage on financial discipline and financial well-being of consumers across demographic groups of the Indian population.
- H3: Financial literacy plays a significant moderating role in the relationship between digital payment usage and consumer financial behavior.

5. RESEARCH METHODOLOGY

This research uses Descriptive and Analytical Research Design. It mainly revolves around digital transactions and their impact on financial behavior among consumers in India. The research uses both primary and secondary data sources for better comprehension of the subject matter.

For the collection of primary data, the study involved 156 active digital payment users with the help of structured questionnaire. For secondary data, RBI Annual Report 2024-25, NPCI Product Statistics 2025-26, World Bank Global Findex Database 2025, IMF Report on Retail Digital Payments 2025, NITI Aayog Fintech Report 2022, Statista India 2024 and other academic publications between 2020 to 2025 were considered.

Data Collection Method

In the process of data collection, primary data was collected through structured questionnaire whereas secondary data through literature review.

Structured questionnaire consisting of 24 questions divided into six sections on the basis of the research objective. Responses were collected on Five-Point Likert Scale (1 = Strongly Disagree to 5 = Strongly Agree). Data organization and analysis were performed with the help of Microsoft Excel and Python respectively.

The analytical techniques used in the research included Frequency Analysis, Descriptive Statistics (Mean and Standard Deviation), Pearson Correlation Analysis, One-Way ANOVA, Independent Samples t-test, and Moderation Analysis (Median Split Method)

6. ANALYSIS AND FINDINGS

This section includes the analysis of the empirical findings based on the primary research data collected from 156 active digital payment users in India. Relevant secondary research has also been included to supplement the analysis. The findings are organized in a manner that provides a holistic understanding of the impact of digital transaction systems on consumers' financial behavior.

Descriptive Statistics

The people who answered the questions are a mixed group of men and women. There are fewer men than women. Men make up 51.9 percent. Women make up 48.1 percent. Most of the people who answered are between 21 and 30 years old. This means that young adults in India are more likely to use payments. When it comes to education, most of the people who answered are either undergraduates or postgraduates. Digital payment usage is something that these people are using. The digital payment users are mostly adults in India. The largest category of employed consumers belongs to the salaried employee category. Most of the people who buy things have an income between ₹25,001 and ₹50,000. When it comes to using payments, we see that most people use UPI for digital transactions, which is about 74.4% of the people. Also, a lot of people use payments every day, which is about 66.7% of the people.

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Table 1: Descriptive Statistics of Key Variables

Variable	Mean	SD	Min	Max
Digital Payment Usage	4.43	0.6	2.5	5
Spending Behavior	4.13	0.6	3	5
Saving Habits	3.44	0.2	2.5	4
Financial Wellbeing	3.46	0.9	1.5	5
Financial Literacy	3.92	0.8	2.3	5

The average number of times people use payments is very high, which is 4.43, and this shows that people use digital payments a lot and very often. People also tend to spend a lot of money, which has an average of 4.13. This means that people are likely to spend more money. However, when it comes to saving money and being good with money, people do not do well with averages of 3.44 and 3.46, which means that people need to get better at saving money and being good with digital payments and money. Cashless transaction platforms are used by people, and they are a big part of how people deal with money.

Digital Payment Usage and Consumer Behavior (H1)

Table 2: Correlation Analysis

Relationship	r Value	p Value
DPU → Spending Behavior	0.449	<0.001
DPU → Saving Habits	0.338	<0.001
DPU → Financial Wellbeing	0.15	0.062

The findings indicate a significant positive relationship between digital payment usage and spending behavior, as their correlation value is high, i.e., 0.449, and p-value is low, i.e., <0.001, indicating that an increase in digital payment usage results in a high level of expenditure. The study further found a moderate positive relationship between digital payment usage and saving habits, as their correlation value is moderate, i.e., 0.338, and p-value is low, i.e., <0.001. With reference to the theory of the "pain of paying", it has been established that using Fintech-driven payment systems causes consumers to spend more (i.e., increased spending), but does not necessarily translate to improved savings or financial wellbeing.

Spending Behavior and Impulse Buying

In the survey, the majority (75%) of the respondents indicated that their spending patterns had increased due to the use of Electronic transaction platform, while none of the survey participants indicated that their spending patterns had decreased because of the use of digital payment systems. In addition, the survey's high mean values for the ease of transaction and for unplanned purchases suggest that digital payment systems facilitate impulse purchase transactions as they result in the ability for the consumer to purchase items without having to rethink the purchase.

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Saving Habits and Financial Discipline

The survey indicated that the patterns related to saving also provided a mixed bag of fairly alarming results. A number of survey participants indicated no change to their savings behaviours, or a decline in savings behaviours, but only a small percentage of surveyed consumers tracked their expenditures. The mean savings behaviours were only moderate in nature, suggesting that there are limited levels of financial discipline exhibited by consumers in an environment that utilizes digital payments.

Financial Wellbeing

The results related to financial well-being exhibited similarly variable responses from the surveyed consumers. Some consumers indicated their financial well-being was positive, while others indicated that it was unchanged or had deteriorated as a result of using Electronic transaction platform to purchase items. The mean scores were moderate, while the standard deviations were high, suggesting that the use of digital payments does not have a uniformly positive impact on the financial condition of consumers.

Demographic Differences (H2)

Table 3: ANOVA Results

Factor → Financial Wellbeing	F Value	p Value
Age	12.437	<0.001
Income	43.487	<0.001
Education	37.097	<0.001
Occupation	12.766	<0.001

From the ANOVA test results, financial well-being was influenced by demographic factors like income, occupation, and education but not age and gender. The influence of income is the highest among the demographic factors; financial wellbeing is also influenced by education and occupation levels.

Moderating Role of Financial Literacy (H3)

Table 4: Moderation Analysis

Group	N	r (DPU → Spending)	p Value
High Financial Literacy	85	0.343	0.001
Low Financial Literacy	71	0.791	<0.001
Difference (Δr)	—	**0.448**	—

The moderating role of financial literacy is confirmed as the relationship between digital payment usage and spending is highly significant for low financial literacy groups but not for high financial literacy groups.

Integrated Discussion

The results indicate that digital payments have a twofold effect on consumer financial behavior. On one hand, online payment systems increase convenience, accessibility, and

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efficiency; on the other hand, digital transaction systems increase the likelihood of overspending and impulsive buying.

7. CONCLUSION

The emergence of the use of digital payment options in India has led to many shifts in personal finance management practices for individuals in India. Using data obtained through surveys from 156 active digital payments users in India, along with data gathered from the RBI, NPCI, World Bank, and IMF, this study reveals the positive aspects of convenience and ease associated with the use of digital payments. However, such payments may result in impulsive spending and poor savings discipline on the side of consumers. The lack of pain of paying associated with cashless purchases in line with the Pain of Paying Theory (Prelec & Loewenstein, 1998) seems to have a significant impact on people's perceptions about money, leading to an unconsciousness about their finances, which eventually harms their personal finance management practices. This conclusion is supported by the research conducted by Shefrin & Thaler (1988) based on the theory of Behavioral Life Cycle. In addition, the research revealed that financial literacy moderates the association between using digital payments and poor financial habits, corroborating the conclusions made by Lusardi and Mitchell (2014). Thus, the research has implications not only for academic discussions but also for practice. Fintech companies should develop applications and platforms with tools allowing for budget planning and tracking expenses, helping users become more conscious of their spending. It is also essential to include finance lessons into school curricula due to the increased popularity of digital financial services among younger generations. Lastly, policymakers should pay attention to the inclusive development of digital infrastructure and the provision of additional services needed by lower income households.

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