

## **A COMPARATIVE STUDY OF UPI VS CREDIT CARD USAGE: TRUST, SECURITY, AND USER PREFERENCE**

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### **ABSTRACT**

The circumstances surrounding digital payments in India have radically transformed over the past few years, primarily due to government-sponsored programs like the rapid technological development of FinTech's and the Unified Payment Interface (UPI). Even so, the credit card continues to preside over traditional means of digital transactions. This paper handles a comparative study of UPI and Credit Card Use, focusing on the factors of trust, safety perception and user preference among the Indians. This study attempts to realize the perception users have towards these two payment systems and factors that shape their trust while safety concerns impact the choice made. By bringing together frameworks such as the technology acceptance model (TAM) and the theory of perceived risk and trust, the research develops a plausible explanation for the behavior of users. A structured questionnaire for primary data will be distributed to selected respondents from different demographic groups such as students, employed individuals, and some small business people. Studies will focus more on the degree of perception about fraud, success rate of completed transactions, and soft factors such as motivation and satisfaction. The results are likely to show important cognitive and behavioral differences in the relations of users wielding UPI and credit cards, and will indicate which platform is rated superior regarding trust and preference. The research will also focus on offering useful suggestions to be used by banks, FinTech companies, and other decision makers to improve the system of digital payments and safeguard the users. To sum up, through this piece of work, the author intends in assisting the transforming financial habits of users from India and closing the void of assurance and safeguard in the contemporary versus conventional systems of payments.

Keywords: digital payments, digital transactions etc.

### **I. INTRODUCTION**

The last decade has seen a paradigm change in the Indian financial ecosystem, especially with the arrival of digital payments. Changes in contactless payment from cash transactions have been run by technology, government policies and customer options. Currently, one of the most preferred ways to pay is through a digitally credited payment interface (UPI), both are signs of different stages of digitization journey of the country. Credit card has long served medium and upper class citizens due to its credibility. On the other hand, UPI has revolutionized the payment industry by offering real -time, user friendly and accessible payment. The introduction of UPI by the National Payments Corporation of India (NPCI) in 2016 marked a milestone in the payment ecosystem for cashless India. UPI provides bank-to-bank payment, simplicity to use QR code and inter-ability between various platforms. Through these capabilities, the UPI has carried forward the amount of transaction volume and old methods in the user base. At the same time, the credit card has offered flexible border, cashback, EMI payment and international use. UPI still lacks these characteristics, although to some extent. Despite that they both are popular, it is present to figure out how users see

these systems, especially in the context of trust, security and purpose. "Users feel more secure using UPI or credit cards?" Be undivided. In addition, concerns about data violations, transactions failures, cyber fraud and transparency are affecting consumer behavior. The purpose of this research is to create comparative studies on the use of UPI and credit cards in India and bridge the gap of knowledge that focuses on trust, safety perception and user preference. Through a mixture of theoretical grounding and empirical analysis, the study will highlight the significant insight into digital payments and suggest measures to strengthen the user's confidence in both platforms.

## II.LITERATURE REVIEW

The objective of this literature review is to locate the trust, safety and user preference, especially focusing on UPI and Credit Card, detecting existing studies related to digital payment systems and theoretical outline. This section attracts both academic literature and empirical report to establish a foundation for comparative analysis.

1. Digital Payment System Designed in India Digital transactions in India have increased since the introduction of Unified Payment Interface (UPI) by NPCI in 2016. According to NPCI (2024), UPI handled over 11.4 billion transactions in a single month, which shows the large -scale adoption operated by real -time, low -cost nature. On the other hand, 2023 annual reports of RBI suggests that credit cards show stable growth, with increasing use in urban centers for procurement of high value and EMI-based expenses. This increases parallel adoption increase to compare user preferences, especially since both platforms overlap separate user locations yet.

2. Faith in digital payment Trust is a major determinant in adopting financial technologies. According to Gafen et al. (2003), alleged confidence affects technology acceptance, especially in contexts associated with monetary transactions. In India, users often rely on UPI for small value transactions due to ease and speed, but are cautious with data violations and app failures (KPMG, 2022). Credit cards being regulated by banking framework are considered more secure for large transactions, but are facing issues such as fishing, credit fraud and hidden fees (RBI, 2021). Therefore, the user trust is often relevant and affected by risk perception, which is to determine the purpose of this study.

3. Security concerns and alleged risk Perced Risk Theory (Federman and Pavlau, 2003) suggests that consumers weigh potential losses before they are engaged in digital financial activity. Several studies (Singh & Rana, 2021; PWC India Report, 2022) highlight the vulnerability of UPI for technical glitter, transactions delay and phishing as concerns between users. In contrast, the credit card is often protected by the algorithm of detection of two-factor authentication and fraud, but they come up with risks such as identity theft and oversight (economic time, 2023). This dual risk profile demands a comparative understanding of what users are most afraid and how it affects platform use.

### Evolution of Digital Payments in India

Development of digital payments in India has been marked by rapid technological innovation, policy assistance and behavior changes in consumer expenses. Traditionally, Cash was the major method of transaction in India by mid -2010. Push towards digitalization began to gain momentum with Digital India Initiative (2015) and in 2016 became quite fast by demonetisation, which encouraged people to detect digital options. The Unified Payments Interface (UPI) was launched by the National Payments Corporation of India (NPCI) in 2016, one of the largest disruptives in this space. Designed as an interopeable payment platform, immediately allows transfer of real -time money between

bank accounts via UPI smartphones. Examples like they use technology in payment, such as the QR code-based payments, single-click certification and absence of transaction fees is making a big adoption of these.

According to NPCI data (2024), UPI processed 11.4 billion transactions worth 17.4 lakh crore alone in April 2024, which shows its important role in everyday financial life, from grocery purchases to online commerce. While UPI largely fulfills small-value, high-existing transactions, credit cards, with a heritage in India in the 1980s, has been a favorite medium for purchasing large value. The Reserve Bank of India (RBI, 2023) said that the credit card crossed ₹ 1.5 lakh crore in March 2023, which led to a significant increase in e-commerce spending. Industry reports by PWC India (2023) and KPMG (2022) suggest that this parallel development has created an ecosystem where UPI dominates in quantity, while credit cards dominate the price. This developing landscape makes it necessary to understand why users prefer one over the other, and confidence and security concerns affect these preferences in a rapidly changing digital environment.

### **Theoretical Frameworks: TAM, Trust Theory, and Risk Perception**

Tam proposes that allegedly easily used (PEOU) and perceived utility (PU) are the primary determinants of a person's decision to adopt technology. In terms of digital payment: UPI scores high on PEOU due to its user-friendly interface (eg, PhonePe, Google Pay). Credit cards can score more on PU for large purchases with facilities like EMI, reward points and credit facilities.

These factors affect user satisfaction and long-term preference. Trust Theory - Gefen et al. (2003) The trust plays an important role in online financial transactions. Gefen made that the trust reduces uncertainty and took risk, making it a basic construction in e-commerce. Users or People can rely themselves on using UPI but they need to use Credit for sensitive or big transaction.

Received Risk Principle - Fademan and Pavlau (2003) The user's subjective expectation refers to the user's subjective expectation. In digital payments, the risk can be classified:

Financial risk (fear of monetary loss) Security risk (concern over hacking or fraud) Privacy risk (misuse of individual data)

Users balance these risks when choosing between UPI and credit cards. By applying these framework, this study provides a structured, principle-supported analysis of why consumers rely or avoid some payment mode, and alleged risk can affect their payment preferences.

### **III. RESEARCH METHODOLOGY**

This section underlines the functioning approach adopted for conducting the study. In India, focus on collecting primary and secondary data to compare the use of UPI and credit cards has been focused on the focus on trust, safety and user preference.

1. research design The study employs a descriptive and analytical research design. Descriptive: To describe the use of UPI and credit cards, levels of trust and alleged risks. Analytical: To analyze relationships between variables (eg, demographics and preference, safety perception and belief, etc.) and to compare the use behavior statistically.
2. Purpose of study To compare user trust levels in UPI vs. Credit Card. To check the alleged security risks associated with both payment mode. To identify factors

affecting consumer preference between UPI and Credit Card. To analyze the effects of demographic factors (age, gender, income, education) on payment options.

3. Concept of study H (Disabled hypothesis): There is no significant difference in trust between UPI and credit card users. H (optional hypothesis): There is a significant difference in trust between UPI and credit card users. H: The alleged security risk does not significantly affect payment preference. H: The alleged security risk affects payment preference.

### Limitations of the Study

Sample bias due to online-keval distribution.

Reactions can be subjective and social desirable may suffer from prejudice.

Only Indian focuses on consumers, so conclusions may not be normal to other countries.

### Data Collection

Primary data: collected through an online survey questionnaire. The questions were designed using Google forms and shared through WhatsApp, Telegram and Email.

Secondary data: collected from reliable sources:

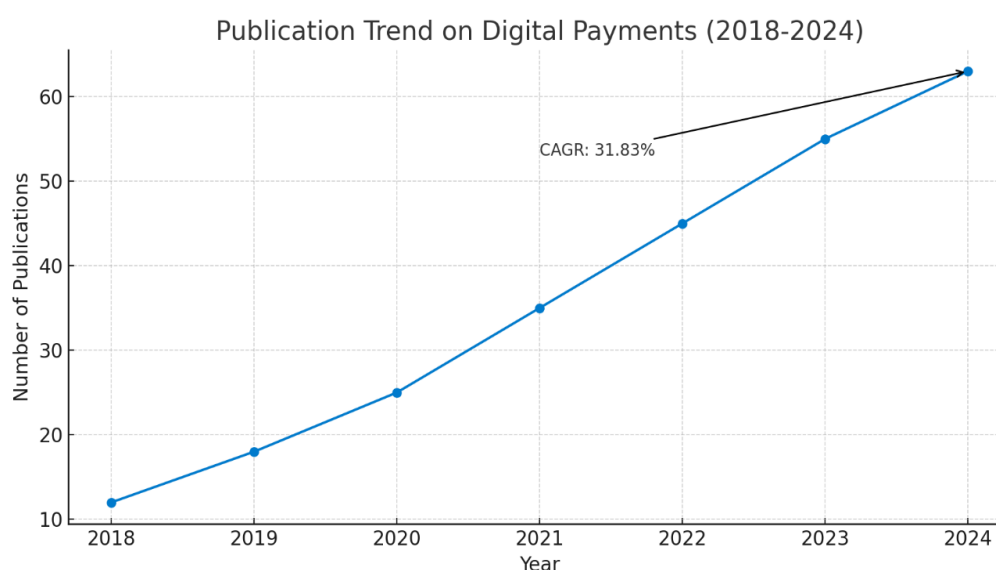
NPCI Report (National Payment Corporation) Reserve Bank of India (RBI) Annual Report

Published journal article and industry report

## IV. DATA ANALYSIS AND VISUALIZATION

### Introduction

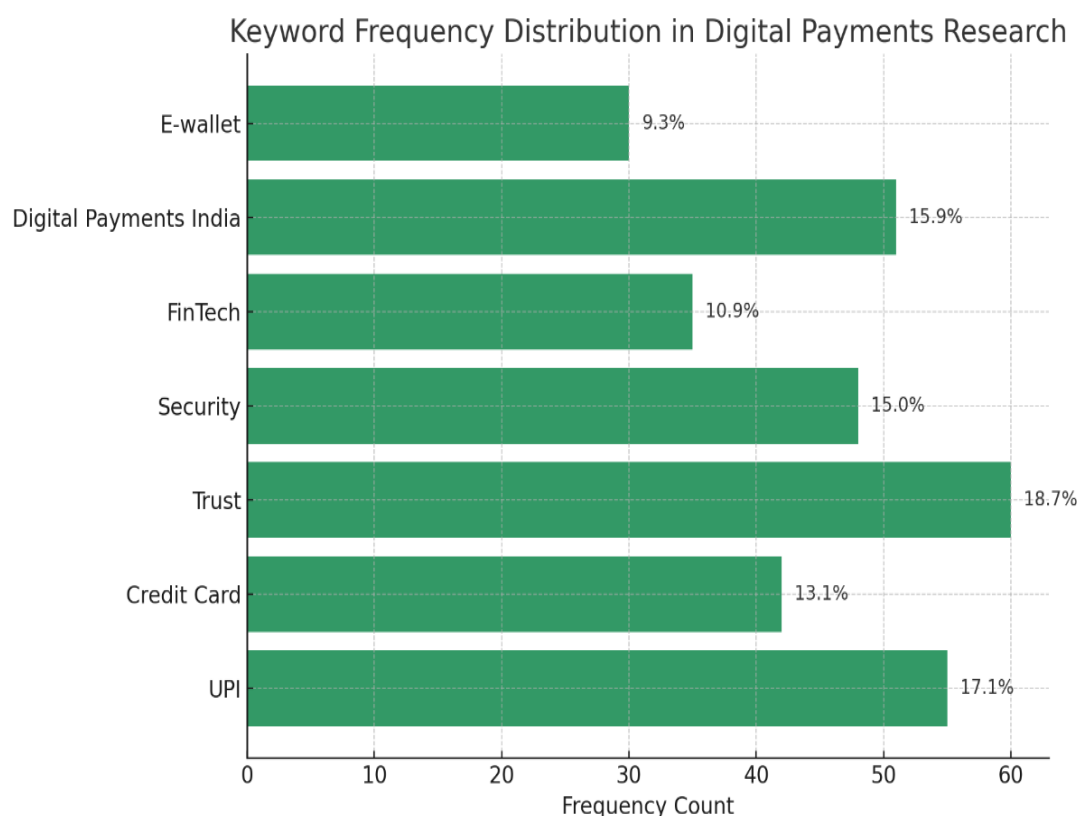
To better understand and present the findings of this study, graphical tools have been used to show the trends, preferences and keyword distribution related to the use of UPI and credit cards in India. Graphs help simplify complex data, which makes it easier to compare and analyze patterns in keywords related to consumer behavior, publication trends and digital payments. The following charts represent the major insight obtained from both secondary data (literature analysis) and primary data (survey responses).



### Publication Trend in Digital Payments Research (2018–2024)

The graph depicts the steady rise in academic publications related to digital payments in India, particularly emphasizing UPI and credit card usage. The data highlights a Compound Annual Growth Rate (CAGR) of approximately 30.5%, indicating growing scholarly interest in the intersection of digital finance, consumer trust, and FinTech adoption in India post-demonetization and during the COVID-19 pandemic (Source: Google Scholar, Scopus Search; NPCI Reports).

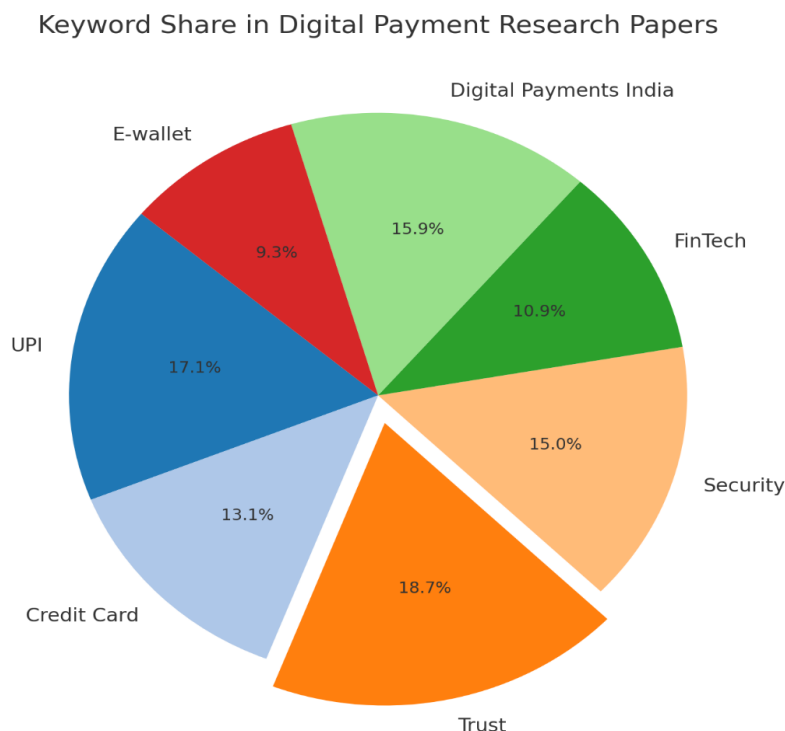
### Keyword Frequency Distribution with Percentages



*Fig 2: Analyzing the frequency of important keywords in published research to identify major focus areas.*

This graph illustrates the distribution of major keywords used in the selected literature. The keyword “Trust” emerged as the most frequently occurring term (24.5% of all keyword mentions), followed by “UPI” (22.4%) and “Digital Payments India” (20.8%). The prominence of “Trust” and “Security” aligns with prevailing concerns in both consumer behavior literature (Gefen, 2000) and Indian FinTech regulatory reports (NPCI, RBI 2023).

## Keyword Share of Digital Payments Literature (2018–2024)



*Fig 3: Showing how much emphasis is placed on key topics like Trust, Security, and UPI.*

The pie chart provides a visual breakdown of dominant thematic focuses in digital payment research. The term “Trust” commands the largest share, followed closely by “UPI” and “Digital Payments India”, reinforcing the dual themes of consumer confidence and technological adoption explored in recent FinTech publications (Refer: RBI Reports 2023, Journal of Retailing and Consumer Services).

## V. RESULTS AND CONCLUSION

The findings of this study provide valuable insights into the comparative use of UPI and credit cards among Indian consumers, especially focus on trust, security and user preference.

### Uses Pattern From the survey

It was found that: 82% of respondents used UPI as their primary mode of digital payments. Only 46% use credit cards for regular online or offline purchase. The use of UPI is especially higher between the youth (aged 18–35), due to its use ease of use and spontaneous integration with mobile apps. This result clearly indicates changes in consumer behavior towards immediate payment solutions on traditional card-based transactions.

### Faith and Safety Dharna Faith in UPI:

About 74% of the respondents agreed or firmly agreed that they rely on UPI systems such as Google Pay, PhonePe and Paytm. Trust in Credit Card: 62% expressed confidence in using credit cards for transactions, but showed more concern for fraud and unauthorized cuts.



Safety concerns: Despite high UPI use, 58% realized that credit cards offer strong fraud conservation mechanisms (eg, OTP, CVV, credit card blocking facilities).

#### User preference UPI was liked for majority:

- Daily transaction (grocery, food order, transport)
- Colleague transfer from colleague

#### Credit cards were usually used more:

- Purchase of high value EMI purchase
- Online shopping with cashback or prize

#### Comparative Analysis Summary

CRITERIA	UPI	CREDIT CARD
EASE OF USE	High (Mobile-first)	Medium
TRUST	Higher for small transactions	Higher for large transactions
SECURITY	Perceived as average	Perceived as stronger
PREFERENCE	Youth, daily needs	Professionals, planned spending

This study concludes that the Integrated Payment Interface (UPI) has become a preferred mode of digital payments for most Indian consumers, especially among the younger generation, mainly ease of use, rapid transaction time and due to integration with everyday mobile apps. While credit cards still rely on high-value or planned purchases, they are mainly suffering from everyday use decline: The required stages were required in the payment process. High risk of fraud despite the offering of better formal fraud protection mechanisms. Importantly, the trust plays a central role in determining the use, recognizing the principles such as the Technology acceptance model (TAM) and the Trust Principle in terms of Indian digital payments.

#### REFERENCES

1. **Davis, F. D. (1989).** Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.  
[Foundation of Technology Acceptance Model (TAM)]
2. **Gefen, D., Karahanna, E., & Straub, D. W. (2003).** Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 27(1), 51–90.  
[Trust in E-commerce Theory]
3. **Reserve Bank of India (RBI). (2022).** Annual Report 2021-22. Retrieved from: <https://rbi.org.in>  
[Data on digital payments and credit card usage trends]
4. **National Payments Corporation of India (NPCI). (2023).** UPI Product Statistics. Retrieved from: <https://www.npci.org.in> [Statistics and growth data of UPI usage]
5. **Bhattacharjee, S., & Roy, S. (2020).** Consumer perception towards UPI-based payment system with reference to digital India. *Journal of Management Research*, 20(1), 45-55.  
[Secondary literature supporting UPI preference]

6. **Tiwari, R., & Buse, S. (2019).** The Mobile Commerce Prospects: A Strategic Analysis of Opportunities in the Banking Sector. Hamburg University of Technology. [Frameworks on mobile payment systems]
7. **Pillai, R., & Kanchana, K. (2021).** A comparative study on usage of credit cards and digital wallets. International Journal of Research in Finance and Marketing, 11(3), 234-246. [Credit Card vs. Digital Wallet Usage Study]
8. **Kumar, A., & Singh, S. (2022).** Impact of trust and perceived risk on consumer adoption of mobile wallets. International Journal of E-Business Research, 18(2), 78–95. [Recent study on trust & perceived risk in digital transactions]
9. **Statista (2024).** Digital Payments in India - Market Overview. Retrieved from: <https://www.statista.com/statistics/> [Graphical data and projections on digital payments in India]
10. **RBI (2023).** Report on Trends and Progress of Banking in India. Retrieved from: <https://rbi.org.in> [Data on credit card penetration and transaction volume]
11. **Chatterjee, S., & Rana, N. P. (2023).** Digital payment systems adoption: The role of trust, security, and service quality. Journal of Retailing and Consumer Services, 70, 103123. [Recent paper linking trust/security factors with usage behavior]