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"The Evolution of Plastic Money in India: An Empirical Analysis of Credit Cards, Debit Cards and the Transformation of Consumer Payments"

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Abstract

This study tracks how payment behavior in India has changed with the evolution of plastic money - credit and debit cards - and the rapid rise of the Unified Payments Interface [UPI]. It examines the shift in consumer preferences from the pre-UPI period to the current digital-first environment. The analysis is based on secondary data sourced from RBI, NPCI, SEBI, World Bank and IMF for the period FY 2019-20 to FY 2024-25. Tools such as trend analysis, CAGR, and comparative volume-value assessment are used to evaluate the performance of each payment mode.

The results point to a clear divergence in the payment ecosystem. Credit cards have shown robust growth, with volume CAGR of around 28.3% and value CAGR of 35.3%, supported by reward programs, EMI facilities and the linkage of credit cards with UPI. In contrast, debit card usage has seen a sharp decline, with volume CAGR of about -20.4%. Routine low-value transactions have largely moved to UPI, restricting debit cards mostly to ATM withdrawals. UPI itself has witnessed exponential expansion, recording close to 70% CAGR in volume and 59% in value, and now accounts for approximately 91% of the combined digital payments value. However, its year-on-year growth is tapering, indicating a maturing phase consistent with an S-curve adoption trajectory. Further, indexed and correlation analysis reveals that debit card usage is almost perfectly negatively correlated with UPI growth [approx. -0.99], indicating direct substitution, while credit cards show a strong positive correlation with UPI [approx. +0.997], pointing towards complementary growth. The study concludes that plastic money in India is not being eliminated but is being redefined. Debit cards are narrowing down to core banking functions, credit cards are emerging as specialized instruments for credit and lifestyle spending, and UPI has become the primary rail for everyday transactions. This supports a model of coexistence with role specialization rather than complete displacement.

This paper also suggests policy measures such as repositioning debit cards, strengthening fraud controls for card-not-present transactions, and building better data on rural and semi-urban adoption, while noting the limitation of relying on secondary, aggregate-level data.

Keywords: Plastic Money, UPI, Credit Cards, Debit Cards, Digital Payments India, Consumer Payment Behavior

Introduction

Plastic money as the name suggests the money made out of plastic, an easy way to make payment in exchange of goods and services to reduce the usage of cash. The concept plastic money came into 1900's and the first plastic card was used in USA. The idea behind using plastic money was to make payment system cashless. Plastic money includes ATM cards, credit cards, debit cards etc. (Mukaria, 2020)

Online payments using UPI, mobile wallets, net banking, debit cards, and credit cards are increasingly popular due to convenience and the emergence of smartphones, internet services, and cashless economic policies of India. Yet, alongside growing popularity, there is an increase in online payment fraud cases, including phishing, OTP scams, fake link, and identity theft fraud. Fraud not only causes financial losses but also undermines consumer confidence in online payments. (Archana_publication, 2026)

The role of security measures and consumer awareness in creating trust in online payment systems is investigated. All kinds of digital payment systems are considered, and consumer experience, awareness, and trust are analyzed without touching cybersecurity issues. (Archana_publication, 2026)

Background of the study

The growth of banking and financial services in India has gradually reduced people's dependence on cash for many types of transactions. Debit cards and credit cards emerged as convenient alternatives to cash and became increasingly common among consumers. Banks also encouraged the use of cards by providing card-based payment facilities at shops, restaurants, ATMs and online platforms.

Debit cards became popular because they are directly linked to a customer's bank account and can be used for both cash withdrawals and payments. Credit cards offered another option by allowing customers to purchase goods and services on credit and pay later. These facilities changed the way people managed their everyday purchases and spending.

Over time, technological development brought further changes to the Indian payment system. Online shopping, mobile banking and digital payment platforms have provided consumers with faster and easier ways to make payments. The growth of UPI has also created a strong alternative to card-based payments. As a result, consumer preferences and payment habits are continuously changing.

In this changing environment, studying plastic money is important for understanding the development of consumer payments in India. The present study therefore focuses on credit cards and debit cards and examines their growth, usage and role in the transformation of consumer payment behavior.

Review of Literature

This research paper examines plastic money in India, defining it as an electronic payment system that includes various card types (debit cards, credit cards, charge cards, smart cards, and store cards) designed to replace traditional cash transactions. The paper outlines how plastic money has evolved as banking technology advanced, enabling secure and convenient payments while offering benefits such as easy handling, time savings, enhanced safety compared to cash, quick transactions, credit facilities, 24/7 ATM availability, and reward points programs. However, it also identifies significant challenges including fraud risks and card cloning, high interest rates (10-25%) that can trap consumers in debt, limited merchant acceptance across different card vendors, regional availability restrictions, magnetic strip wear issues, and complex card operations that confuse some users. The author concludes that while plastic money adoption in India has grown substantially since its introduction in the 1990s driven by malls, online shopping, and increased competition India still lags behind developed nations in card usage. The paper emphasizes that continued growth depends on banks' capacity to address operational challenges through improved technology, customer education, competitive pricing, and ultimately prioritizing customer interests to build a sustainable cashless payment ecosystem. (Meera et al., 2017)

The transformative impact of Unified Payments Interface (UPI) adoption on debit and credit card usage among urban consumers in Bangalore, India, based on data collected from 103 respondents through structured questionnaires administered between February and March 2026. The study reveals that UPI has emerged as the dominant digital payment method, with 80.58% adoption and 62.14% of users engaging in daily transactions through platforms like PhonePe (42.72%) and Google Pay (34.95%), primarily driven by perceived convenience (73.79%) and speed. The findings demonstrate a significant substitution effect on debit card usage, with 49.5% of respondents rarely or never using debit cards post-UPI adoption, limiting their role to ATM withdrawals and mandatory card-based transactions; however, credit card usage has remained resilient (51.46% ownership rate) as consumers continue leveraging these instruments for large-value purchases, online shopping, EMI-based transactions, fuel payments, and travel bookings. Chi-square statistical analysis confirmed that no significant relationship exists between UPI usage frequency and debit card usage, indicating coexistence rather than direct competition between payment instruments, while notably, 47.57% of UPI adopters reported increased monthly spending, reflecting reduced psychological friction in digital transactions. The research concludes that India's payment ecosystem functions as a layered system where UPI, debit cards, and credit cards serve complementary roles, with Bangalore exemplifying

successful digital payment integration in an urban, tech-savvy, highly educated demographic characterized by strong internet and smartphone penetration. (Kundan et al., 2025)

The present study looks at how UPI and debit card transactions have grown in India using data from RBI and NPCI for the years 2020-21 to 2023-24, and trend analysis was done to see the payment pattern. From the literature, it is clear why UPI became so popular. Mishra and Srivastava (2023) observed that debit cards were there much before UPI but never got that level of acceptance. Satishkumar (2018) said UPI is simpler and easier to use than other digital payments, and Gupta et al. (2020) found Google Pay as the most used UPI app due to its features and easy interface. Mahesh and Bhat (2021) also said people prefer UPI because it is fast, convenient and works easily on smartphones. The actual numbers show a completely opposite trend. Debit card transactions went down heavily; volume fell by 56.86% from 40,200 lakh to 22,859 lakh and value growth dropped by 89.40% in four years. At the same time UPI grew at a very high rate, volume increased by 587.22% to 13,11,294 lakh and value by 467.79% to Rs. 1,99,95,086 crores. Overall debit cards saw around 11% fall in value and 22% fall in volume, while UPI showed about 100% growth.

So, the study shows that because of instant transfer, mobile access, more security and no need to carry a physical card, UPI has now largely taken over debit cards for daily payments in India, which is a big change in consumer behavior and has also helped in financial inclusion. (Bhoote, 2025, p. 4)

This bibliometric mapping study analyses the evolution of electronic payment systems (EPS) in India from a cash-dependent economy to a digitally-driven one, examining 2619 research publications from Scopus (1982-2025) to evaluate scholarly production, citation patterns, author productivity, source influence, and collaboration networks across seven decades. The literature reveals that India's EPS journey progressed through distinct phases from pre-digital cash and paper-based transactions (pre-1990s), through early digital payments with ATMs and telebanking (1990s), emergence of cards and online payments via ICICI's pioneering internet banking and NEFT systems (2000s), to the transformative mobile payments and UPI era (2010s), culminating in contemporary innovations including fintech integration, blockchain exploration, biometric authentication, and AI-driven fraud detection (2020s). Bibliometric analysis demonstrates minimal scholarly output before 2000, with publication activity increasing sharply from 2001 and peaking between 2016-2021, reflecting government catalysts like demonetization (2016) and Digital India campaign (2015), while citation patterns reveal an episodic research landscape with an early 1980s peak, prolonged dormancy, and modest recent revival. The research landscape exhibits high concentration dominated by core sources (Lecture Notes in Computer Science with 179 documents, ACM Proceedings with 75), follows Lotka's Law with over 80% of authors contributing single papers, displays Pareto-like productivity where author "NA" led with 21 publications, and shows geographic concentration among Chinese and international researchers. The co-authorship network reveals clustered collaboration around prolific authors (Zhang Y, Li Y, Wang Y, Gong X) with bridging nodes facilitating interdisciplinary work, while influential sources demonstrate that Electronic Commerce Research and Applications and Lecture Notes in Computer Science achieve highest H-indices (26 and 24 respectively). Key findings emphasize that policy interventions, technological innovations (from NEFT and RTGS to UPI 2.0, QR codes, contactless payments, and Central Bank Digital Currencies), regulatory evolution through RBI and NPCI frameworks, and financial inclusion imperatives have collectively shaped India's transformation into the world's largest digital payment ecosystem with over 75 billion annual transactions, yet the research landscape remains characterized by episodic attention surges, concentrated authorship, and persistent gaps in understanding rural adoption, cybersecurity resilience, and emerging technology integration despite growing scholarly momentum. (Kumar & Singh, 2025, p. 18)

This empirical study investigated consumer behavior toward credit card usage in Hyderabad, India, through a quantitative research methodology involving 42 participants (12 academicians, 13 bank managers, 15 credit card users) with an 84% response rate, employing chi-square analysis to examine correlations between customer information and credit card usage behaviour. The study's demographic analysis revealed relatively high education levels with 54.76% holding bachelor's degrees, 28.57% with intermediate qualifications, and 7.14% with advanced degrees, which significantly influenced credit card adoption patterns and attitudes. The chi-square analysis yielded a computed value of

5.133333 with a P value of 0.04 (below the 0.05 significance threshold), confirming the hypothesis that a positive correlation exists between consumer behavior and attitude toward credit card usage, with 71% of participants accepting credit cards for both online and offline shopping, 17% for offline shopping only, and 12% for online shopping only. The comprehensive literature review synthesized research from diverse geographic contexts including Pakistan, China, Vietnam, Malaysia, Kenya, Saudi Arabia, Portugal, Turkey, and Italy identifying consistent determinants of credit card adoption including demographic variables (age, gender, income, education, marital status, employment sector), psychological factors (perceived usefulness, perceived ease of use, perceived risk, trust, security concerns, social influence), and behavioral intentions, while emphasizing that financial literacy, perceived benefits (rewards, cashback, convenience), and availability of transparent information significantly mediate consumer attitudes and purchasing behavior. The study concludes that financial institutions in Hyderabad must provide explicit and comprehensive information to accommodate escalating credit card demand, with implications that robust credit card systems, transparent communication about interest rates and fees, reliable customer support, and financial literacy programs are essential for enhancing consumer satisfaction, promoting responsible credit card usage, safeguarding consumer interests, and improving institutional financial performance addressing persistent gaps identified across the literature regarding context-specific credit card adoption, psychological mediators of usage intentions, and practical policy recommendations for aligning banking services with evolving consumer expectations in emerging markets. (Dr. G. Thouseef Ahamed, 2023)

This literature review establishes that credit and debit cards have become integral to everyday life, offering convenience and practicality while raising concerns around security, fraud, and debt. It notes that consumers tend to favors credit or debit cards for online transactions due to the fraud protection credit issuers provide, while debit cards remain popular for in-store purchases because of their simplicity. The review highlights a recurring theme in existing research that credit card uses correlates with higher spending and greater debt accumulation, though this is offset by benefits like reward programs and theft protection. In contrast, debit cards are associated with lower debt levels but weaker fraud safeguards, and some studies suggest the lack of a visible running balance may actually encourage overspending on debit cards. The review also traces the industry background of both card types, from their origins (debit cards emerging in 1978 via First National Bank of Seattle, and credit cards tracing back to 1920s company-specific cards and the 1950 Diners' Club card) to their functional differences, noting that despite structural similarities, debit cards draw directly from a checking account while credit cards operate on a revolving credit line. Overall, the literature frames both card types as carrying distinct advantages and risks, underscoring the need for responsible financial management regardless of which payment method consumers choose. (Chauhan & Goal, 2023)

This paper examines how UPI and credit cards are reshaping India's payment landscape and forcing banks to rethink their business models. It traces the shift from cash to digital payments spurred by the 2016 demonetization, government initiatives like Digital India and Jan Dhan Yojana, and NPCI's 2016 launch of UPI and compares this to earlier digital payment revolutions in the US and Japan. It then covers adoption barriers (digital illiteracy, poor rural connectivity, fraud fears, and service outages like the April 2025 nationwide UPI disruption), and the security measures adopted by both systems (2FA, UPI PINs, and EMV chip/OTP authentication for cards), noting how COVID-19 accelerated contactless adoption. The core analysis shows UPI's zero-MDR regime boosts financial inclusion and empowers small merchants but erodes bank fee income, while credit cards remain more profitable for banks through interchange fees and interest income, though at higher risk of debt cycles. It also discusses AEPS as a rural-focused complement to UPI, and looks ahead to innovations like UPI Lite, Credit on UPI, and the Digital Rupee (CBDC) as forces that could reshape bank revenue models. The paper concludes that UPI and credit cards will likely coexist in the near term but converge over the long term, with banks needing to shift from resisting disruption to capitalizing on new data-driven and value-added revenue opportunities, supported by policy measures on MDR, digital literacy, interoperability, and cybersecurity. (Khatri, 2025)

This paper by Bhawna Mukaria looks at how plastic money (credit cards, debit cards, ATM cards) has developed in India and where it's headed. It traces the history from early charge cards in the 1900s through the

Diners Club Card, American Express, BankAmericard/VISA, and Mastercard, up to modern chip-and-pin and mobile payment tech like Square. In the Indian context, the author points out that cards only entered the market in the 1990s and were slow to catch on at first, but government pushes like the Pradhan Mantri Jan Dhan Yojana and RBI initiatives have helped grow adoption significantly even though cash still dominates roughly 90% of personal spending. Growth data shows debit and credit card transactions climbing steadily year over year, with debit cards outpacing credit cards due to lower risk. The paper also flags ongoing challenges: fraud, low ATM penetration, limited technological awareness, and a cultural preference for cash that still holds back full adoption. It closes by framing India as being in a transition phase toward a "less-cash" society, with strong growth potential but real infrastructure and trust hurdles left to clear. (Mukaria, 2020)

This paper conducts a cross-sectional analysis of credit cards, debit cards, and UPI transaction patterns in India from January 2023 to August 2024, using monthly RBI and NPCI data interpreted through Diffusion of Innovation and Network Externalities theories. Analysing five-year CAGR figures, it finds credit card transactions grew 15.1% in volume and 24.86% in value, debit cards declined by 12.33% in volume with roughly flat value, and UPI surged 89.32% in volume and 86.9% in value, confirming UPI's dominance and debit cards' erosion for routine payments while credit cards gain ground in higher-value purchases via rewards, EMIs, and loyalty programs. Using Kruskal-Wallis and Mann-Whitney tests, the study finds statistically significant differences in month-on-month volume growth rates across online, POS, and ATM withdrawal categories between credit and debit cards (notably for online and POS transactions, but not cash withdrawals), while no significant differences emerge in transaction value growth across categories. A separate analysis of six leading UPI apps (PhonePe, Google Pay, Paytm, CRED, Amazon Pay, BHIM) reveals statistically significant differences in average ticket size, with CRED and BHIM showing the highest average spends and Paytm/Amazon Pay the lowest, alongside a broad decline in average ticket sizes across nearly all apps reflecting growing use of UPI for small, everyday transactions. The paper concludes that debit cards are being progressively displaced by UPI for low-value transactions, credit cards are consolidating their role in high-value spending, and continued innovation in the debit card space, along with deeper integration among UPI, credit, and debit systems, will be necessary to reshape India's evolving digital payments ecosystem. (Invalli, 2025)

This paper provides a comprehensive overview of plastic money (credit, debit, prepaid, and smart cards) in the Indian economy, tracing its evolution from limited use by foreign banks in the mid-1980s through banking liberalization, the 2000s ATM/debit card boom, EMV chip security upgrades, the 2016 demonetization surge, and NPCI's RuPay network launch, up to its present coexistence with UPI and digital wallets. Drawing on RBI data and industry reports, it shows that while total cards in force reached 1,116.4 million (with debit cards dominating at ~1,005 million and credit cards at ~111 million), credit card usage and value are rising sharply even as debit card transaction volumes stagnate due to UPI substitution for low-value payments. The study identifies economic, technological, consumer, institutional, social, and policy factors driving adoption, and credits government initiatives Digital India, demonetization, PMJDY, and RuPay with expanding financial inclusion and digital literacy, especially in rural areas. It highlights key benefits of plastic money (convenience, credit access, transparency, tax compliance, reward programs, and support for e-commerce) alongside persistent challenges: fraud and cybersecurity risks, limited rural penetration, merchant acceptance barriers (high MDR), financial exclusion due to literacy infrastructure gaps, and consumer over indebtedness from credit misuse. The paper concludes that plastic money remains a vital, evolving pillar of India's digital economy projected to grow further (e.g., credit cards nearly doubling by FY2028-29 per PwC) and offers policy suggestions such as improving rural banking infrastructure, strengthening cybersecurity and data privacy frameworks, easing merchant transaction costs, and boosting awareness of RuPay and other card benefits to ensure secure, inclusive, and sustained adoption. (Trivedi & Trivedi, 2025)

This research investigates how online payment fraud affects consumer confidence in India's digital payment ecosystem, examining UPI, mobile wallets, net banking, debit cards, and credit cards through a survey of 100 respondents using convenience sampling. Drawing on a literature review covering machine learning-based fraud detection (Vanini et al., 2023), global fraud losses exceeding $200 billion (Juniper Research, 2020), and various fraud detection models, the study finds that most

respondents (41.2%) are aged 18-25 and predominantly use debit/credit cards (47%) and net banking (25%) for transactions, with a majority (68.7%) believing online payment systems will become safer in the future. The findings reveal that OTP fraud is the most commonly experienced fraud type (40.2%), followed by fake apps (28.4%) and phishing (26.5%), while identity theft (38.2%) and data breaches (32.4%) are consumers' biggest fears when making online payments indicating greater concern about privacy and security risks than technical failures. The study concludes that while digital payment methods are widely adopted for their convenience and speed, fraud experiences (personal or indirect) significantly erode consumer trust and increase caution, sometimes pushing users back toward cash transactions; perceived security and consumer awareness of safe practices (like not sharing OTPs and verifying apps) are key drivers of confidence, and the authors recommend strengthening security measures such as OTP verification, encryption, transaction alerts, and responsive customer support alongside broader consumer education to rebuild and sustain trust in digital payment systems. (Archana_publication, 2026)

RESEARCH GAP

Limited primary, consumer-level evidence in the UPI era. Most recent card-vs-UPI comparisons (Bhoote, 2025; Invalli, 2025; Khatri, 2025) use only transaction volume/value statistics; very few combine this with actual consumer surveys post-2023.

Narrow geographic scope. Primary studies that do survey consumers are confined to specific cities (Hyderabad Raza 2016, Ahamed 2023; Bangalore Kundan 2025; Sivakasi Meera 2017), leaving a gap in comparative or broader Indian consumer data.

Under-explored demographic and psychological mediators. Ahamed (2023) and Chauhan (2023) point to factors like education, income, and perceived risk affecting card use, but this is rarely studied jointly with UPI substitution effects.

Neglected structural issues. The bibliometric review by Pradeep Kumar (2025) explicitly flags persistent gaps in research on rural adoption, cybersecurity resilience, and emerging technology integration despite the scale of India's digital payments ecosystem.

Coexistence vs. displacement debate is unresolved. Kundan (2025) finds no significant relationship between UPI usage and debit card decline (suggesting coexistence), while Bhoote (2025) and Invalli (2025) report sharp debit card decline attributable directly to UPI an empirical contradiction this study can help clarify.

OBJECTIVE OF RESEARCH

To research the evolution of credit and debit cards in India and trace their growth pattern from pre-UPI to post-UPI era.

To empirically examine consumer perception, preference, and behaviour toward credit and debit card usage after the adoption of UPI.

To analyze whether UPI usage is displacing debit/credit cards or coexisting with them, resolving the contradictory findings seen in existing literature.

To identify demographic and psychological factors (age, income, education, perceived risk, trust) influencing consumer card usage decisions.

To assess the key benefits and challenges (security, fraud risk, debt burden, merchant acceptance) faced by consumers in using plastic money today.

HYPOTHESIS

$H0_1$: There is no significant difference between the growth trends of credit card and debit card transactions in India (2021–2025).

$H1_1$: There is a significant difference between the growth trends of credit card and debit card transactions.

$H0_2$: UPI growth has no significant relationship with the decline in debit card transaction volumes.

$H1_2$: UPI growth has a significant relationship with the decline in debit card transaction volumes

RESEARCH METHOLOGY

Research Design**:** Descriptive/Analytical

Data Type: Secondary Data

Data Sources: RBI (Payment Systems Reports), NPCI, SEBI, World Bank, IMF, annual bank reports, government publications

Study Period: 2019–2025 (with reference to FY2025-26 where available)

Tools of Analysis: Trend analysis, percentage change/CAGR, comparative analysis of volume vs. value

Data Analysis and Interpretation

Chart 1. Growth of Credit Card Transactions

Credit card transactions in India show a strong and consistent upward trend across the five-year period. Transaction volume increased from 176.4 crore in FY2020-21 to 477.4 crore in FY2024-25, averaging 305.1 crore transactions per year with a standard deviation of 117.9 crore, reflecting steady rather than erratic growth. Transaction value rose even more sharply, from ₹6.30 lakh crore to ₹21.09 lakh crore, giving a volume CAGR of about 28.3% and a value CAGR of about 35.3%. Since value has grown faster than volume in almost every year, the average amount spent per transaction has been rising steadily, indicating that consumers are increasingly using credit cards for larger, discretionary and EMI-linked purchases rather than small everyday payments.

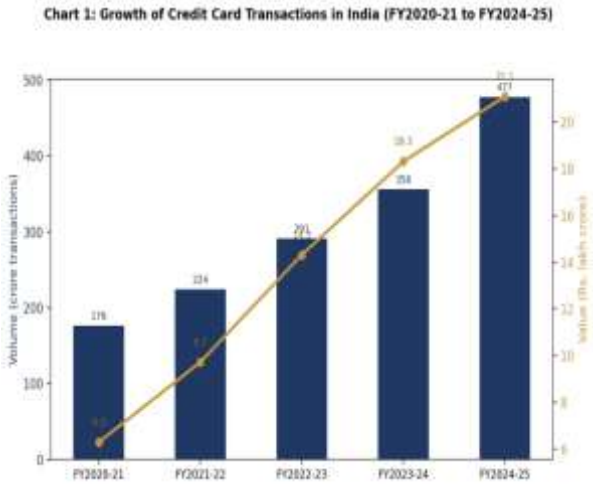


Chart 2. Decline of Debit Card Transactions

Debit cards present the opposite picture. Transaction volume fell from 401.5 crore in FY2020-21 to just 161.2 crore in FY2024-25, a decline of nearly 60% over five years, translating into a negative CAGR of about -20.4%. Transaction value also fell, from ₹6.61 lakh crore to ₹4.96 lakh crore, but at a much gentler pace (CAGR of about -6.9%). Because volume is shrinking roughly three times faster than value, the average value per debit card transaction has actually increased over time. This suggests that small, routine debit card payments the kind most easily replaced by a UPI scan are disappearing first, while larger or less substitutable uses, such as ATM withdrawals, are proving more resistant to decline.

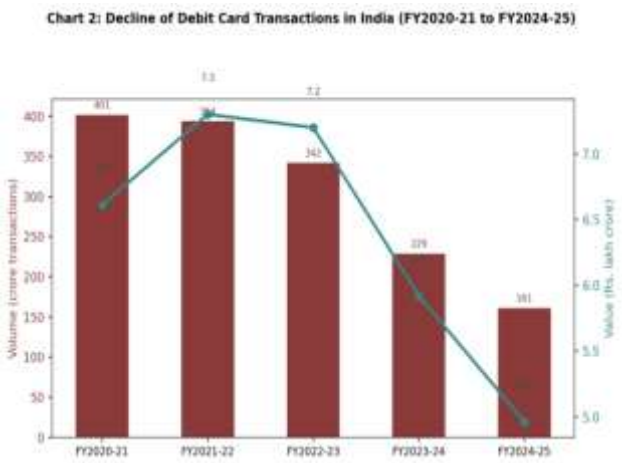


Chart 3. Exponential Growth of UPI Transactions

UPI transactions have grown at a pace far exceeding either card instrument. Volume rose from 2,233 crore in FY2020-21 to 18,587 crores in FY2024-25 more than an eight-fold increase while value rose from ₹41.04 lakh crore to ₹260.57 lakh crore, roughly a six-fold increase. This corresponds to a volume CAGR of nearly 70% and a value CAGR of close to 59%, by far the highest growth rates of any instrument studied. However, a closer look at year-on-year growth rates shows a clear pattern of deceleration: volume growth fell from 106% in the first year to 42% in the most recent year. This indicates that while UPI's absolute scale is still expanding rapidly, its rate of adoption is beginning to mature, consistent with a typical S-curve diffusion pattern for a transformative technology.

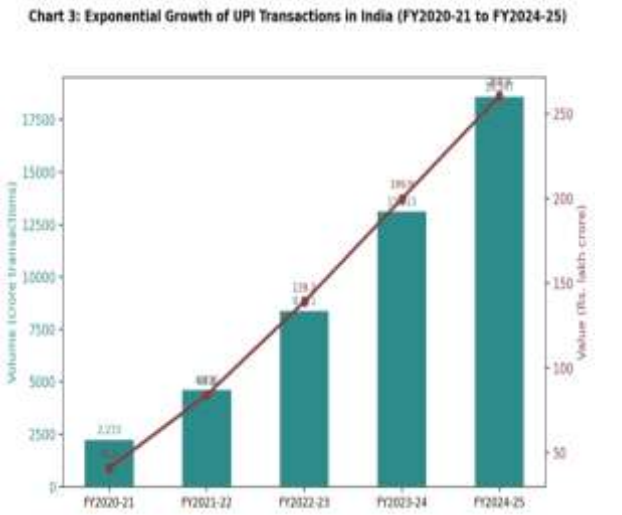


Chart 4. Indexed Comparison of Coexistence vs. Displacement

Placing all three instruments on a common index (FY2020-21 100) makes their diverging trajectories immediately visible. By FY2024-25, the UPI index had climbed to 832, the credit card index to 271, while the debit card index had fallen to just 40 meaning debit card usage today is less than half of what it was five years ago in indexed terms. Statistically, the debit card index moves almost perfectly opposite to the UPI index (correlation of approximately -0.99), offering strong quantitative support for the argument that UPI is displacing debit cards for everyday transactions. In contrast, the credit card index moves almost perfectly in step with the UPI index (correlation of approximately +0.997), suggesting that credit cards are not being displaced but are instead growing alongside UPI, each serving a different transactional purpose.

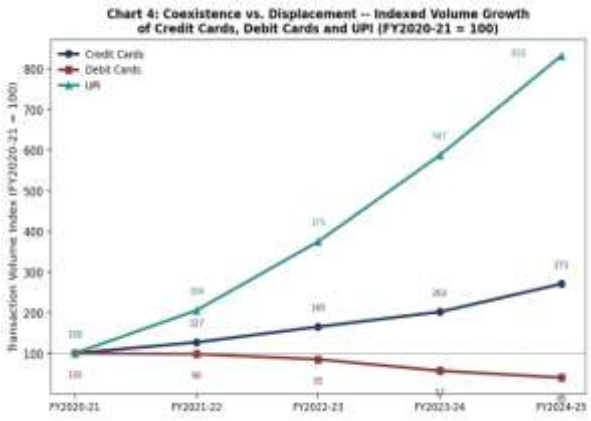
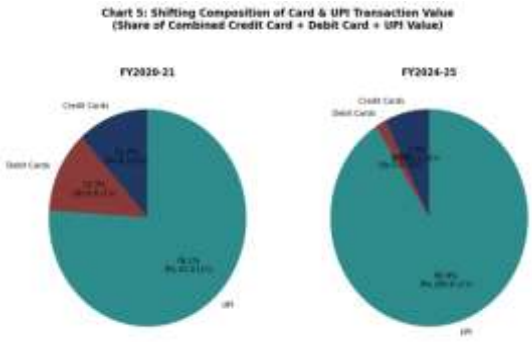


Chart 5. Changing Composition of Digital Payment Value

Looking at how the combined value of credit cards, debit cards and UPI is distributed each year reveals a steady structural shift in India's payment mix. UPI's share of this combined value rose from about 76% in FY2020-21 to nearly 91% in FY2024-25, while debit cards' share collapsed from about 12% to under 2% a relative decline of more than 85%. Credit cards' share also fell, from about 12% to roughly 7%, but far more gently, since their absolute value kept growing even as UPI's share expanded faster. The pace at which UPI's share increased each year also slowed progressively (from a gain of over 7 percentage points in the first year to under 2 points in the most recent year), reinforcing the maturing-adoption pattern seen in Chart 3.



Findings

Debit cards are declining sharply in usage despite remaining the most widely held instrument.
Credit cards are growing in both volume and value, driven by rewards, EMIs, and UPI-linking.
UPI dominates transaction volume but not value it complements rather than fully replaces cards for high-value spends.
Private banks are gaining share in both credit and debit card issuance.
Card-related fraud in absolute numbers is falling, but credit-card-specific fraud and online (CNP) fraud risk are rising.

Discussion

The data confirms a bifurcated payments ecosystem: UPI has captured routine, small-ticket spending, debit cards are being relegated to cash withdrawal and residual use, and credit cards are consolidating around higher-value, credit-linked spending. This aligns with the Diffusion of Innovation lens used by Invalli (2025) UPI represents a low-friction innovation displacing an older, higher-friction one (debit cards) for daily use, while credit cards survive by offering something UPI doesn't: credit access and rewards.

Conclusion

Plastic money in India is not disappearing but transforming. Debit cards' role is shrinking to basic banking functions, credit cards are expanding as a credit and lifestyle tool, and UPI has become the default rail for everyday payments. This confirms a "coexistence with role specialization" rather than a "UPI-kills-cards" narrative.

Suggestions / Implications

Banks should reposition debit cards (e.g., debit-EMI, better rewards) to stay relevant beyond ATM use.
Continued investment in fraud detection (AI-based tools, centralized card databases) is needed as CNP fraud risk grows.
Policymakers should track rural and semi-urban card/UPI adoption more closely; an area existing data under-covers.

Limitations

Based entirely on secondary data (RBI/NPCI/industry reports) no primary consumer survey was conducted.
Figures for FY2025-26 are partly provisional/interim as full-year RBI reports may not yet be finalized.
Regional and rural-urban breakdowns are not consistently available in public RBI/NPCI data.
Findings reflect aggregate national trends and may not capture city- or demographic-specific variation.

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