

IMPACT OF DIGITAL PAYMENT USAGE ON CONSUMER SPENDING BEHAVIOUR

A Secondary-Data Study of Payment Convenience, Spending Decisions and Financial Self-Control in India

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Abstract

Digital payment systems—including the Unified Payments Interface (UPI), debit and credit cards, mobile wallets and internet banking—have reduced the friction involved in paying for goods and services. Alongside benefits such as speed, accessibility and transaction records, these methods may alter how consumers perceive and control expenditure. This paper examines the relationship between digital payment usage and consumer spending behaviour in India, with attention to purchase frequency, spending amount, impulse buying, budgeting and financial self-control.

The study follows a descriptive and analytical secondary-research design. It synthesises peer-reviewed literature, a 2024 meta-analysis of cashless-payment effects, a transaction-based Indian study published in *The Review of Financial Studies*, and official payment-system statistics from the National Payments Corporation of India (NPCI). No original survey was conducted, and no respondent-level dataset or statistical result has been fabricated.

The literature indicates a small but statistically significant average cashless effect across a broad international evidence base, while Indian transaction-based evidence suggests that a forced shift from cash to digital payments can increase spending under specific conditions. However, payment-system growth alone cannot establish that households are overspending: aggregate transaction counts include transfers and other non-consumption activity, and spending decisions are also shaped by income, prices, credit access, needs and budgeting habits.

The paper concludes that digital payments are best understood as a behavioural and transactional tool rather than an independent cause of financial irresponsibility. Their effects depend on context and can be managed through spending alerts, category budgets, transaction reviews and stronger consumer awareness.

Keywords: Digital payments; UPI; consumer spending behaviour; cashless effect; impulse buying; financial self-control.

Research note

This is a secondary-data paper. Findings are drawn from cited published evidence; proposed hypotheses are not tested using new primary data.

1. Introduction

1.1 Background

Payment methods are not merely technical channels for transferring money. They can shape the timing, visibility and psychological experience of spending. Cash provides a tangible cue: the amount in a wallet visibly decreases after a purchase. Digital methods replace that physical exchange with a screen confirmation, tap or scan. This can make payment faster and easier, but it can also make individual transactions less salient unless consumers actively review their records.

India's digital-payment ecosystem has expanded through UPI, QR-code acceptance, cards, wallets and banking applications. NPCI monthly UPI statistics show the scale of this infrastructure: the platform recorded 24,508.96 million transactions in August 2026, with a reported value of ₹29,82,355.95 crore. These figures demonstrate extensive payment activity, but they must not be interpreted directly as household consumption or proof of increased spending by each user.

1.2 Research problem

Digital payments can improve convenience and transaction records, yet consumers and financial educators are concerned that low-friction payments may encourage additional purchases or reduce awareness of cumulative expenditure. The central problem is to distinguish a genuine behavioural effect of payment mode from the many other factors that determine consumption.

1.3 Importance of the study

- For consumers: understand how payment convenience can interact with impulse control and budgeting.
- For financial managers and educators: develop practical approaches to expenditure tracking and responsible digital finance.
- For retailers: understand behavioural consequences of frictionless checkout without assuming higher transaction activity always means higher welfare.
- For policymakers: balance payment-system inclusion and convenience with consumer protection and financial capability.

2. Research Problem, Scope and Objectives

2.1 Statement of the problem

The availability of instant, low-friction payments can change the perceived effort of making a purchase. Yet the direction and magnitude of the effect are not uniform. A consumer may spend more because payment feels less tangible, spend less because digital records improve monitoring, or show no meaningful change because income and preferences dominate the payment method. The study therefore evaluates what published evidence supports and where uncertainty remains.

2.2 Scope

The paper focuses on India's consumer-facing digital payment environment, especially UPI, mobile wallets, debit cards, credit cards and internet banking. The analysis emphasises purchase amount, purchase frequency, impulse buying, perceived payment pain, budgeting and financial self-control. Selected international evidence is included to explain behavioural mechanisms.

2.3 Objectives

- To explain the principal forms and growth context of digital payments in India.
- To synthesise published evidence on the association between cashless payments and consumer spending.
- To examine behavioural mechanisms such as reduced payment salience, convenience and impulse purchasing.
- To identify benefits, risks and factors that may strengthen or weaken the relationship.
- To recommend practical measures for responsible digital spending and future research.

2.4 Research questions

- Does published evidence associate cashless payment use with higher spending outcomes?
- What behavioural mechanisms may explain such an association?
- Why should payment-system transaction growth not be equated automatically with household overspending?
- Which consumer practices can preserve digital convenience while improving spending control?

3. Review of Literature

3.1 Concept of the cashless effect

The cashless effect refers to the tendency for consumers to spend more, on average, when paying through non-cash methods than when paying with physical cash. Potential explanations include lower transaction friction, reduced salience of money leaving the consumer's possession, and weaker immediate feedback about purchase cost. The effect is probabilistic, not universal: it does not imply that every digital-payment user spends more.

3.2 Meta-analysis of cashless-payment research

Schomburgk, Belli and Hoffmann (2024) synthesised 392 effect sizes from 71 papers. Their meta-analysis found a small, positive and statistically significant average cashless effect (Hedges' $g = 0.135$). The effect varied substantially across studies and contexts. It was stronger in conspicuous-consumption situations, weaker in pro-social consumption settings, and had generally weakened over time. This synthesis quantifies an average pattern while showing that context matters.

3.3 Indian causal evidence

Agarwal, Ghosh, Li and Ruan (2024) examined Indian transaction-level data around the 2016 demonetisation shock. The event induced a differential shift toward digital payments among consumers with different prior cash dependence. The authors report evidence that digital payment adoption increased spending in the setting studied, with reduced attachment to money playing an important role. The result is stronger than a simple correlation, but it pertains to a specific historical shock and sample, not every consumer or current UPI transaction.

3.4 Implication

The literature supports a cautious conclusion: cashless payments can increase spending in some settings, but the average effect is small and heterogeneous. Adoption statistics or isolated surveys should not be treated as proof of a universal spending increase.

4. Literature Review Matrix and Research Gap

Source	Method / evidence	Key contribution	Relevance and limitation
Schomburgk, Belli, & Hoffmann (2024)	Meta-analysis; 392 effect sizes from 71 papers	Small positive average cashless effect; context moderates results.	Broad synthesis; not India-only and not every user overspends.
Agarwal et al. (2024)	Transaction-level Indian data; demonetisation as quasi-experimental shock	Finds digital-payment adoption raised spending in the studied setting.	Causal identification stronger, but tied to one event, dataset and period.
NPCI monthly UPI statistics	Administrative payment-system data	Shows transaction volumes and values at scale.	Describes system use, not household motives, budgets or consumption categories.
RBI payment-system publications	Official aggregate indicators and policy context	Provides institutional context for payment infrastructure and digitalisation.	Aggregate statistics cannot isolate individual behavioural effects.

4.1 Research gap

Three gaps guide this study. First, popular discussion often treats rising digital transaction volume as proof of higher consumer spending, although payment-system statistics do not establish that inference. Second, findings from different methods and countries are sometimes presented as if they were directly comparable. Third, practical advice often focuses on adoption rather than how users can preserve visibility over cumulative spending.

4.2 Contribution

This paper connects behavioural literature to India's digital-payment context, distinguishes causal evidence from descriptive statistics, and translates the evidence into consumer-level financial-management recommendations. It does not claim to produce a new causal estimate.

5. Conceptual Framework

Construct	Working meaning	Possible indicators for future research
Digital payment usage	Frequency and share of payments made digitally.	Transactions per week; share of purchases paid digitally; method mix.
Spending behaviour	Amount, frequency and composition of expenditure.	Monthly discretionary spending; average purchase value; purchase frequency.
Impulse buying	Purchases made with limited prior planning.	Unplanned purchase frequency; post-purchase regret; response to promotions.
Payment salience	How clearly the consumer notices the cost at payment time.	Perceived tangibility; attention to amount; recollection of recent spending.
Financial self-control	Ability to keep spending within a chosen plan.	Budget adherence; spending alerts; frequency of account review.

5.1 Proposed relationship

Digital payment usage → payment convenience / lower friction → possible change in payment salience → purchase frequency and spending outcomes

This is a conceptual pathway, not a claim that every link has been established for every digital-payment product. The direction may be moderated by budgeting habits, income, credit access, financial literacy, age, purchase category, merchant promotions and familiarity with digital payment tools.

5.2 Competing pathways

- Spending-increase pathway: reduced friction and lower payment salience may make extra purchases easier.
- Spending-control pathway: transaction histories, alerts and dashboards may help consumers notice and correct overspending.
- Neutral pathway: payment mode may have little effect when purchases are planned and budgets are strongly followed.

6. Research Methodology

6.1 Research design

The study adopts a descriptive, analytical and integrative secondary-research design. It reviews published academic evidence and official payment-system statistics to evaluate the relationship between digital-payment use and consumer spending behaviour.

6.2 Data sources

- Peer-reviewed academic research, particularly the 2024 meta-analysis in the Journal of Retailing.
- The Review of Financial Studies article analysing digital payments and consumption around India's 2016 demonetisation.
- NPCI official UPI product-statistics pages for transaction volumes and values.
- RBI publications for payment-system context where relevant.

6.3 Selection and analysis

Sources were selected for direct relevance, traceable publication details, methodological transparency and usefulness for distinguishing behavioural evidence from system-level statistics. Analysis uses thematic synthesis, evidence comparison, descriptive interpretation of official statistics and a literature matrix. No new regression, correlation, ANOVA or significance tests are run because no original respondent-level dataset was collected.

6.4 Hypotheses

H₁: Digital-payment usage has no statistically significant association with consumer spending behaviour after controlling for relevant factors. H₂: Digital-payment usage has a statistically significant association

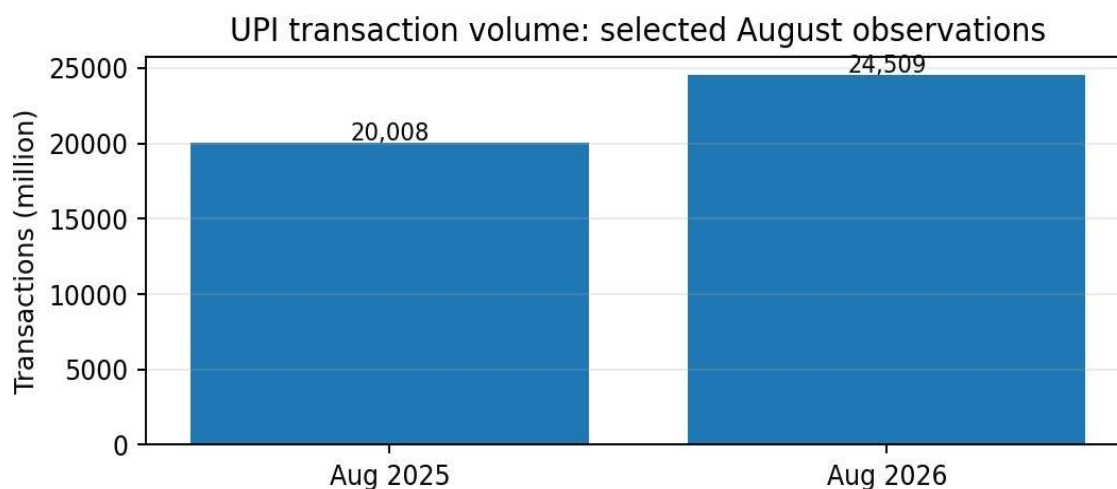
with consumer spending behaviour after controlling for relevant factors. These hypotheses are proposed for future testing and are not tested in this secondary-data paper.

6.5 Ethics and reporting safeguards

No primary survey responses, sample sizes, p-values or regression coefficients are invented. Published estimates are attributed to their original studies, and aggregate UPI transaction values are not labelled as household consumption.

7. Digital Payments in India: Context and Data

UPI supports instant bank-to-bank transfers and merchant payments through participating applications and banks. Other digital methods include cards, wallets, internet banking and electronic transfer systems. The consumer experience differs across methods: debit-card transactions draw on existing funds, credit-card purchases may create repayment obligations, and UPI can be used for transfers or merchant payments.



Source: NPCI monthly UPI statistics. Volume measures payment-system use, not household consumption.

7.1 Reading the indicator correctly

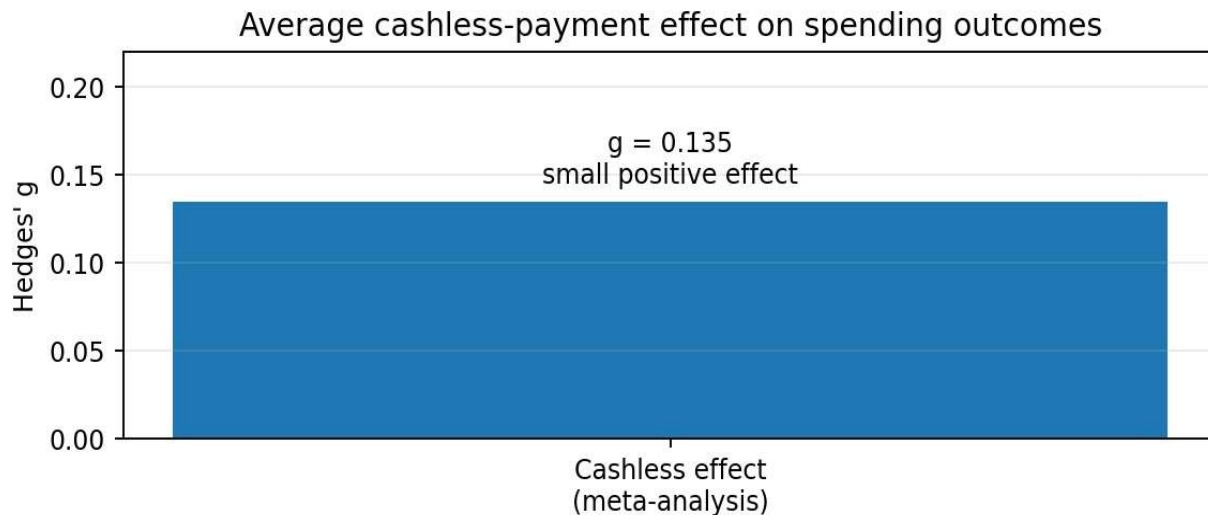
NPCI reported 20,008.31 million UPI transactions in August 2025 and 24,508.96 million in August 2026. These are selected monthly observations rather than a complete annual comparison. They indicate increased platform activity across the two observations; they do not reveal whether each consumer spent more, whether purchases were planned, or whether transactions represented merchant consumption rather than transfers.

7.2 Why volume and value differ

Transaction volume counts payment events, whereas transaction value sums their reported monetary value. A rise in volume can reflect more small transactions, greater adoption, person-to-person transfers or changes in payment routing. Average transaction value is a system-level ratio and should not be confused with average household purchase size.

Source: NPCI, UPI Product Statistics. Figures are from the official source page available at the time of preparation.

8. Evidence on Digital Payments and Spending



Schomburgk et al. (2024): 392 effect sizes from 71 papers; not India-only.

The 2024 meta-analysis by Schomburgk, Belli and Hoffmann pooled evidence across 71 papers and 392 effect sizes. Its reported average effect was positive but small (Hedges' $g = 0.135$). Variation across studies means the average is a general tendency, not a precise prediction for an individual consumer.

Agarwal and colleagues' 2024 study used the Indian demonetisation episode to identify changes in digital-payment adoption and spending. The authors report that a 10-percentage-point increase in prior cash dependence was associated with a 2.38% increase in monthly spending in their identification framework, and argue that the response was not explained by purchase substitution, income shocks, credit supply or price changes. This estimate is specific to the study's design and sample.

8.1 What the evidence supports

- Cashless payment methods can be associated with higher spending outcomes on average.
- The magnitude is not uniform and depends on consumption context and broader economic conditions.
- Indian evidence provides a causal case for increased spending in a specific forced-adoption setting.
- Neither result justifies the claim that every UPI user spends more or every rise in UPI volume is overspending.

9. Behavioural Mechanisms

9.1 Reduced payment salience

Cash makes expenditure physically visible. Digital payment removes the need to hand over notes and coins, potentially weakening the immediate feeling of parting with money. If payment is less noticeable, a consumer may focus more on the benefit of a purchase than on its cost.

9.2 Convenience and lower friction

QR codes, saved cards and one-tap checkout reduce the time and effort required to complete a transaction. Convenience is beneficial for essential purchases and accessibility, but it can also reduce the pause in which consumers reconsider an unplanned purchase.

9.3 Promotions and digital shopping

Cashback, coupons, limited-time offers and in-app recommendations can interact with easy payment completion. A discount does not necessarily create a saving if it encourages a consumer to buy something not needed or budgeted.

9.4 Records and feedback

Digital systems also create a transaction trail. Notifications, account statements and spending dashboards can improve awareness when users review them. Digital payments may therefore lower friction at the moment of purchase and improve retrospective monitoring.

9.5 Credit versus debit / UPI

Payment instruments should not be treated as interchangeable. Credit cards and buy-now-pay-later products can separate the purchase from eventual cash outflow and may introduce debt or interest costs. UPI linked to a bank account generally transfers funds directly, although easy access can still make small purchases frequent. Future studies should analyse payment type and funding source separately.

10. Benefits and Potential Risks

Dimension	Potential benefit	Potential risk / condition
Convenience	Fast checkout and easy remote payments.	Less time to reconsider discretionary purchases.
Record keeping	Digital history supports review and reconciliation.	Records help only when consumers check and understand them.
Budgeting	Alerts and category tools can show spending patterns.	Multiple apps may fragment the view of total expenditure.
Financial inclusion	Can make payments accessible to more users and merchants.	Connectivity, device access, digital literacy and fraud exposure remain concerns.
Promotions	Cashback or rewards may lower the cost of planned purchases.	Promotions can encourage unnecessary or larger purchases.
Credit-linked payments	May support payment flexibility and short-term cash-flow management.	Delayed repayment, fees and interest can increase total cost.

10.1 Balanced interpretation

The objective is not to discourage digital payments. They can improve speed, convenience and records, and can be especially valuable in emergencies and remote commerce. The financial-management question is whether the user maintains a clear view of cumulative cost and avoids using convenience as a substitute for a spending plan.

11. Data Analysis and Interpretation

11.1 Summary of selected published evidence

Evidence item	Published observation	Interpretation	Boundary
Meta-analysis (2024)	Hedges' $g = 0.135$; 392 effect sizes from 71 papers.	Small positive average cashless effect.	International synthesis; effects differ by context.
Indian transaction study (2024)	Digital adoption linked to increased spending in demonetisation setting.	Supports behavioural effect under specific conditions.	Not a universal estimate for current UPI users.
NPCI UPI stats	20,008.31 million transactions (Aug 2025); 24,508.96 million (Aug 2026).	Payment-system activity increased across selected observations.	Volume is not equivalent to household spending.

NPCI UPI value (Aug 2026)	■29,82,355.95 crore reported transaction value.	Shows scale of UPI activity.	Includes transaction types beyond consumer purchases.
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11.2 Interpretation

The evidence is consistent with a small average tendency toward higher spending with cashless payments, alongside meaningful variation across settings. India's UPI activity shows the scale of digital payment use, but descriptive system data do not establish an individual-level spending effect. The strongest behavioural inference in this review comes from studies designed to address alternative explanations.

11.3 No invented statistical tests

Because the present study has no original sample of consumers, it does not report a new mean, standard deviation, correlation coefficient, p-value or regression estimate. Doing so would create unsupported precision. Future empirical work should collect respondent-level data or use anonymised transaction data with a defensible identification strategy.

12. Major Findings

- Digital payments have made many everyday transactions faster and more convenient, reducing payment friction.
- The 2024 meta-analysis found a small, positive average cashless effect across a broad international research base, while documenting considerable variation.
- Indian transaction-based research around demonetisation provides evidence that a forced shift toward digital payment can increase spending in the studied context.
- Reduced payment salience and convenience are plausible mechanisms, but the relationship is not deterministic and may weaken with familiarity or strong budgeting routines.
- Digital records and notifications can support spending control when users actively review transactions.
- Credit-linked payment methods create different risks from immediate bank-account payments because repayment timing and borrowing costs differ.
- UPI transaction volume and value describe payment-system activity; they cannot alone prove increased household consumption, impulse buying or financial distress.
- Income, prices, needs, credit access, promotions, financial literacy and personal self-control remain important factors in consumer spending.

12.1 Overall finding

The most defensible conclusion is conditional: digital-payment usage can influence consumer spending behaviour, and published research finds a small average cashless effect, but the size and practical consequences depend on context and on the consumer's ability to monitor expenditure.

13. Suggestions for Consumers

Action	How to apply it	Why it may help
Set a weekly discretionary limit	Separate needs, bills, savings and optional spending before the week starts.	Turns a vague intention into a measurable boundary.
Enable transaction alerts	Keep payment notifications active and review unknown transactions promptly.	Improves immediate awareness and security.
Use a 24-hour pause	Delay non-essential purchases above a self-chosen amount.	Restores a decision pause removed by one-tap checkout.
Review categories weekly	Group transactions into food, transport, shopping, subscriptions and entertainment.	Shows cumulative costs hidden by many small payments.

Separate spending from savings	Use a dedicated savings account or goal-based balance where feasible.	Makes available discretionary funds clearer.
Check subscriptions and autopay	Review recurring debits and cancel services no longer needed.	Reduces unnoticed repeat expenditure.
Treat rewards carefully	Compare final price and need; do not buy solely to earn cashback.	Prevents rewards from becoming a reason to overspend.
Manage credit deliberately	Track statement dates, pay in full where possible and check fees.	Reduces avoidable interest and repayment stress.

Make the purchase decision before opening the payment app; use the app to execute the decision, not to decide whether to buy.

14. Managerial and Policy Implications

14.1 For banks and payment-app providers

- Offer optional weekly and monthly summaries with clear category totals.
- Make spending alerts configurable and easy to understand.
- Provide transparent records of recurring payments, reversals and failed transactions.
- Use responsible design that does not obscure total cost behind reward messaging.
- Make dispute reporting, fraud support and account-security controls easy to find.

14.2 For retailers

Retailers can offer convenient digital acceptance while keeping prices and discounts transparent. Promotions should clearly show minimum-spend conditions, expiry dates and the final payable amount. Businesses should not assume that a payment method alone creates customer loyalty or long-term value.

14.3 For educational institutions

Financial-literacy programmes can demonstrate how to reconcile bank statements, identify recurring costs, compare planned and actual spending, and distinguish debit from credit. Exercises can use fictional budgets rather than collecting sensitive personal transaction histories.

14.4 For policymakers

Digital-payment policy should continue to consider accessibility, reliability, fraud prevention, data privacy and consumer recourse. Payment adoption and financial capability are related but distinct goals: users need both convenient infrastructure and the skills to manage money responsibly.

15. Limitations and Scope for Future Research

15.1 Limitations

- This paper is based on secondary sources and does not contain a new survey or original transaction-level dataset.
- The meta-analysis combines studies across countries, periods, payment types and consumption settings; its average effect is not India-specific.
- The Indian causal study examines the exceptional 2016 demonetisation environment, which differs from normal contemporary payment choice.
- NPCI statistics are aggregate payment-system measures and do not identify individual motives, income, budgets or whether each transaction is consumption.
- The paper does not estimate separate causal effects for UPI, credit cards, wallets and internet banking.
- Methodological detail varies across the broader literature; the paper prioritises sources with traceable methods.

15.2 Future research design

A future study could survey consumers across age, income and occupation groups, while avoiding collection of unnecessary financial identifiers. Key measures should include digital-payment frequency, monthly discretionary spending, unplanned purchase frequency, budget adherence, payment type, credit use and financial literacy.

15.3 Suggested analysis plan

- Use a pretested questionnaire and clearly defined sample frame.
- Report sample size, demographic profile, missing-data handling and descriptive statistics transparently.
- Use regression or group comparisons only when assumptions and measurement quality are appropriate.
- Control for income, household size, age, employment, credit access and purchase category.
- Where possible, compare self-reported spending with consented, anonymised records to reduce recall bias.
- Report effect sizes and uncertainty, not only statistical significance.

16. Conclusion

Digital payment usage has changed the mechanics of consumer transactions by making payment fast, accessible and less dependent on physical cash. Research suggests that these changes can influence spending behaviour. The strongest broad synthesis reviewed here identifies a small positive average cashless effect, and Indian transaction-level evidence around demonetisation supports the possibility of increased spending when consumers are pushed from cash toward digital methods.

However, digital payment usage should not be described as an automatic cause of overspending. The effect varies with purchase context, consumer habits and broader financial conditions. Digital records and alerts can improve awareness, while easy checkout, promotions and reduced payment salience can make discretionary purchases easier to complete. The practical outcome depends partly on whether the consumer actively monitors expenditure.

For consumers, the central recommendation is to combine digital convenience with explicit budgets, transaction reviews and a pause before non-essential purchases. For financial institutions and policymakers, the priority is to pair accessible payment infrastructure with transparent design, security, consumer recourse and financial education. Further India-specific research should distinguish payment instruments and use credible individual-level data before making broad causal claims.

Appendix A: Suggested questionnaire areas for a future study

Area	Example item (not collected in this paper)
Usage	How often do you use UPI, cards, wallets or internet banking for purchases?
Spending pattern	Do you track monthly discretionary spending against a budget?
Impulse buying	How often do you make a non-essential purchase without planning it?
Payment awareness	How often do you review transaction notifications or account statements?
Financial control	How often do you exceed the spending limit you set for yourself?

Note: These are proposed measurement areas only. No questionnaire responses were collected for this paper.

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Source-quality and reporting note

Official NPCI figures are used to describe UPI activity; peer-reviewed studies are used for behavioural inference. The paper does not infer individual overspending from aggregate payment statistics. All figures and estimates are attributed to published sources, and no primary data or statistical tests have been invented. — End of Research Paper —