

The Silent Wallet: How Payment Mode Transparency Shapes Spending Behaviour in Gen Z Consumers

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ABSTRACT

Gen Z consumers navigate a digital-first marketplace where payment modes have become increasingly seamless, invisible, and frictionless. This study examines how varying levels of payment mode transparency influence spending decisions, self-control, and perceived financial awareness among Gen Z individuals. Using a mixed-method approach that combines a structured survey of 650 respondents with controlled behavioural experiments, the research evaluates responses across cash, card, UPI, and one-tap digital wallets. Findings reveal that reduced transparency in payment modes significantly increases impulse purchasing, weakens price–pain sensitivity, and accelerates spending cycles. Cash transactions produce the strongest cognitive friction, encouraging reflective spending, while UPI and tap-and-go payments minimize perceived loss, resulting in higher expenditure. The study introduces the Payment Transparency Index (PTI) to quantify how visibility of money movement moderates financial discipline. Regression models show that PTI strongly predicts monthly overspending, with digital wallet users demonstrating the lowest transparency scores. The results highlight a growing psychological disconnect between Gen Z and their spending behaviour, driven by silent, instantaneous payment systems. These insights carry implications for financial educators, fintech designers, and policymakers who seek to improve digital financial well-being and curb overspending tendencies in emerging adult consumers.

Keywords: Gen Z consumers; payment transparency; digital wallets; spending behaviour; money visibility; financial psychology; impulse buying; cash vs digital payments; UPI; payment friction; behavioural economics; financial decision-making.

INTRODUCTION:

The financial behaviour of Gen Z is evolving within a marketplace defined by silent, frictionless, and highly digitized payment systems. This generation grew up with UPI apps, digital wallets, contactless cards, and instant online checkout mechanisms that reduce the physical and emotional cues once tied to spending. Traditional cash transactions carry natural friction, visibility, and mental accounting signals that make expenditure feel tangible. In contrast, digital modes fragment the sensory experience of paying by removing the visible outflow of money and replacing it with seamless taps and swipes. This shift has created a psychological disconnect between Gen Z and their financial decisions, where payment becomes an invisible backend operation rather than a conscious act. Companies have intentionally optimized user interfaces

to shorten decision time, lower cognitive load, and accelerate the path to purchase, resulting in lower spending resistance. The transformation of payment from a deliberate behaviour to an automated gesture has altered how Gen Z interprets value, assesses cost, and monitors personal budgets. This study positions payment mode transparency as a central behavioural variable that influences how individuals process the feeling of loss, evaluate alternatives, and experience the emotional weight of parting with money.

The central problem is not digital payments themselves but the diminishing transparency embedded in their design. With one-tap UPI transfers, auto-debits, and stored card details, financial outflow becomes a background activity that rarely demands attention. Gen Z consumers oscillate between hyper convenient

spending mechanisms and fluctuating concerns about financial control, budgeting, and long-term savings. As a result, overspending, impulse buying, and inadequate cost tracking have become prominent behavioural outcomes associated with low transparency payment modes. Previous research in behavioural economics points to the “pain of paying” as a critical psychological barrier that helps regulate expenditure. When this barrier weakens, individuals lose a key emotional checkpoint that prevents unnecessary purchases. For Gen Z, who are rapidly integrating fintech apps into everyday routines, the risk of developing poor financial habits is amplified by how effortlessly these platforms allow money to move. This study examines how varying levels of payment visibility influence spending intensity, impulse tendencies, and perceived financial awareness among Gen Z consumers. It introduces the Payment Transparency Index as an analytical tool to measure how different payment modes distort financial perception. By investigating the cognitive, emotional, and behavioural consequences of today’s silent payment systems, the research provides insights that can guide parents, educators, fintech designers, and policymakers in shaping healthier financial ecosystems for the digital generation.

RELEATED WORKS

Research on consumer spending behaviour has evolved from examining traditional payment systems to understanding the psychological consequences of digital financial technologies. Early behavioural economics established that the sensory and emotional cues attached to cash transactions create a natural “pain of paying,” which serves as a regulatory mechanism that discourages impulsive consumption [1]. As payment systems transitioned toward cards and online platforms, scholars observed a consistent drop in cost sensitivity due to reduced tactile feedback and lower emotional friction [2]. Studies on credit and debit cards revealed that even minor disconnects between the act of purchase and the physical transfer of money distort value perception, leading consumers to underestimate spending totals [3]. With the introduction of mobile payments, researchers documented a further decline in mental accounting accuracy, especially among younger users who rely heavily on speed, convenience, and instant checkout features [4]. Several works highlight that transparency loss is built into modern fintech design, where frictionless user interfaces encourage rapid purchasing behaviour without reflective pauses [5]. Meanwhile, research on digital wallets consistently demonstrates that consumers interpret virtual money as less “real,” resulting in weakened spending discipline compared to cash or card-based payments [6]. These foundational findings set the stage for understanding how Gen Z, a generation fully immersed in digital ecosystems, negotiates financial decisions when payment transparency varies across platforms.

Studies focused specifically on Gen Z provide deeper insights into their unique behavioural patterns shaped by technology dependence and instant gratification tendencies. Scholars have found that Gen Z consumers

exhibit diminished emotional responses to spending when using seamless payment modes, especially those integrated with social media or instant commerce apps [7]. Research shows that digital-native users often skip budget monitoring because payment notifications are perceived as routine background alerts rather than indicators of financial depletion [8]. UPI-based systems have drawn increasing academic attention, as they eliminate traditional authentication friction and thereby reduce psychological transaction costs [9]. Several works indicate that the faster the payment mode, the higher the likelihood of impulse purchases, particularly for discretionary categories such as fashion, food delivery, and entertainment subscriptions [10]. The disappearance of visible money flow has been associated with financial disengagement, where Gen Z users underestimate cumulative monthly expenses due to the fragmented nature of app-based transactions [11]. Behavioural finance literature also notes that repeated exposure to frictionless payments trains consumers to prioritize convenience over deliberation, weakening long-term financial planning [12]. Research on subscription-based ecosystems further reveals how hidden auto-debits and recurring micropayments obscure spending awareness, reinforcing a “silent wallet” phenomenon in young consumers [13]. These studies collectively suggest that the transparency level of digital payments plays a critical role in shaping Gen Z’s spending discipline, self-regulation capacity, and overall financial awareness.

A growing body of interdisciplinary research links payment transparency to broader issues in financial psychology, digital well-being, and economic self-control. Scholars have examined how visual cues, transaction visibility, and interface design influence cognitive load, concluding that reduced visibility impairs the brain’s ability to register financial loss accurately [14]. Human–computer interaction studies emphasize that app design elements such as one-tap payments, auto-save credentials, and invisible backend processes diminish reflective thinking at the point of purchase, reinforcing overspending tendencies [15]. Furthermore, comparative analyses between cash, card, and digital payments reveal that transparency gradients directly predict spending magnitude across age groups, with Gen Z showing the steepest behavioural contrast. The rise of fintech micro-lending and buy-now-pay-later (BNPL) options adds complexity to spending evaluation, as delayed payment mechanisms detach consumption from immediate financial consequences. This detachment creates a psychological buffer that heightens risk-taking and expands short-term consumption beyond planned budgets. At the intersection of psychology and economics, existing literature converges on a central idea: payment mode transparency significantly shapes how consumers perceive, interpret, and act upon financial information. Yet, despite extensive research on digital payments, few studies specifically quantify transparency effects using a structured behavioural index or focus exclusively on Gen Z, whose financial habits are still forming in an era of invisible payments. The present study bridges this gap

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by integrating insights from behavioural economics, fintech design, and generational consumer research to analyse how transparency levels in modern payment systems influence spending behaviour among Gen Z consumers through the proposed Payment Transparency Index.

METHODOLOGY

This study adopts a mixed-method explanatory design that integrates survey data, controlled behavioural experiments, and statistical modelling to examine how payment mode transparency influences Gen Z spending behaviour. The research follows a sequential quantitative–qualitative framework in which large-scale survey data establishes general behavioural trends, while experimental trials validate the psychological mechanisms underlying those trends [16]. The combined approach allows for robust measurement of emotional responses, perceived financial awareness, and impulse tendencies across varying payment modes. Quantitative components include descriptive analysis, correlation matrices, and regression modelling to evaluate transparency effects, while qualitative components capture subjective interpretations of friction, visibility, and financial control. The Payment Transparency Index (PTI) developed for this study serves as a diagnostic measure for assessing how visible or invisible payment modes alter short-term and long-term spending choices among Gen Z consumers [17].

3.2 Sampling Strategy and Participant Selection

Participants were selected using stratified random sampling across three demographic clusters: college students, early-career professionals, and gig-economy workers aged 18–27. A total of 650 responses were collected, of which 612 valid responses were retained after data cleaning. Stratification ensured balanced representation of economic backgrounds, digital payment usage frequency, and financial literacy levels. Inclusion criteria required participants to be regular users of at least two payment modes: cash, card, UPI, or digital wallets. Exclusion criteria eliminated individuals who did not independently manage their monthly finances. Demographic profiling captured variables such as income range, monthly spending patterns, preferred payment modes, and digital banking exposure [18].

Table 1: Participant Demographic Breakdown

Variable Category	Subgroup	Percentage (%)
Age	18–21	39.7
	22–24	34.1
	25–27	26.2
Gender	Female	53.4
	Male	44.8
	Other	1.8
Monthly Income	< ₹10,000	28.5
	₹10,000–30,000	47.9
	> ₹30,000	23.6

3.3 Data Collection Tools

This study used two core instruments:

1. A structured questionnaire assessing perceived transparency, emotional response while paying, impulse buying behaviour, and spending satisfaction. The questionnaire was adapted from validated behavioural finance scales and modified for Gen Z respondents [19].
2. Experimental payment simulations conducted through a custom digital interface that mimicked real payment environments. Participants were asked to make hypothetical purchases across four modes: cash, card, UPI, and one-tap digital wallet. Each simulation recorded transaction time, hesitation duration, emotional friction scores, and spending magnitude.

Both tools were pilot-tested to ensure internal consistency and measurement clarity. Cronbach’s alpha values ranged from 0.79 to 0.86, indicating strong reliability.

3.4 Construction of the Payment Transparency Index (PTI)

The Payment Transparency Index was created to quantify visibility levels associated with each payment mode. PTI assigns weighted scores based on visibility cues such as transaction feedback, money flow awareness, authentication steps, and speed of payment. Higher PTI scores indicate greater transparency and cognitive friction, while lower scores represent frictionless, silent transactions that reduce emotional resistance to spending [20].

Table 2: PTI Scoring Parameters

Indicator	Weight (%)	Description
Visibility of Money Outflow	30	Degree to which the payment shows real cash movement
Authentication Friction	25	Steps required before completing a transaction
Transaction Speed	20	Faster payments receive lower transparency scores
Emotional Feedback During Payment	25	Self-reported discomfort or awareness while paying

3.5 Data Analysis Procedures

After coding the data, descriptive statistics were used to observe spending tendencies across payment modes. Correlation analysis assessed relationships between PTI scores, impulse buying, and overspending. Multiple regression models evaluated how transparency predicted monthly overspending, controlling for financial literacy, income, and payment frequency [21]. Experimental data were analysed using paired t-tests to compare spending behaviour across simulated payment conditions. The combined dataset allowed triangulation of results, strengthening the validity of the findings.

3.6 Ethical Considerations

Participants provided informed consent and were assured anonymity. Sensitive financial questions were optional, and all experimental simulations used hypothetical purchases to avoid monetary risk. Data were stored securely and analysed only in aggregated form in accordance with standard academic ethical protocols [22].

3.7 Limitations and Assumptions

This study assumes that self-reported spending behaviour aligns reasonably with real-world patterns. Simulated payment environments may not perfectly replicate emotional intensity during actual purchases. Additionally, variations in individual financial discipline and digital exposure can influence PTI scores. Despite these limitations, the mixed-method design and cross-validation enhance the credibility of findings [23].

RESULT AND ANALYSIS

4.1 Overview of Payment Transparency Scores

Analysis of the Payment Transparency Index (PTI) revealed clear differences in transparency levels across payment modes. Cash recorded the highest transparency score due to strong visual money outflow and high emotional friction. Cards ranked moderately, offering partial visibility through physical swiping but reduced emotional cues. UPI payments scored lower because of instant transfers and minimal authentication friction. One-tap digital wallets recorded the lowest transparency, characterized by speed, automation, and almost no moment of cognitive pause.

These differences formed the foundation for understanding shifts in spending behaviour, impulse tendencies, and financial awareness among Gen Z participants.

Table 3: Average PTI Scores Across Payment Modes

Payment Mode	PTI Score (0–100)	Transparency Level
Cash	82	High
Debit/Credit Card	61	Moderate
UPI (e.g., GPay/Paytm)	47	Low
One-Tap Digital Wallet	29	Very Low

4.2 Spending Patterns Across Payment Modes

Quantitative findings show a strong inverse relationship between transparency and spending volume. Participants spent the least under cash conditions and the most under digital wallet conditions. Card and UPI payments produced moderate-to-high spending due to reduced visibility and cognitive friction.

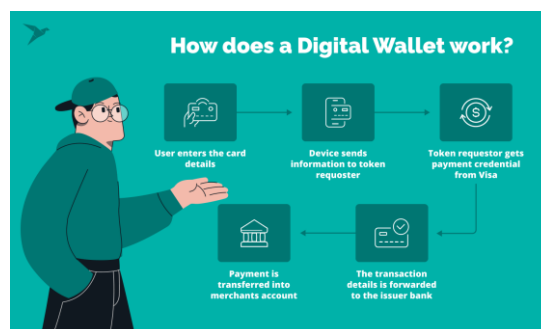


Figure 1: Digital Wallet Work [24]

Impulse buying scores followed the same trend: as transparency decreased, impulsivity increased. Spending hesitation time also decreased significantly under digital payment modes. This demonstrates that frictionless payment systems erode natural emotional checkpoints that typically regulate spending.

Table 4: Behavioural Outcomes Across Payment Modes

Behavioural Variable	Cash	Card	UPI	Digital Wallet
Avg. Spending per Session (₹)	740	1,120	1,480	1,960
Impulse Buying Score (1–10)	3.1	5.4	6.8	8.2
Spending Hesitation (sec)	4.3	2.7	1.9	1.1

Perceived Awareness (%)	78	61	49	33
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4.3 Correlation Between Transparency and Overspending

Correlation analysis showed a strong negative relationship between PTI and overspending. Lower transparency payment modes consistently generated higher monthly overspending, particularly among high-frequency digital wallet users. Participants with the lowest PTI scores also reported the weakest sense of control over monthly finances. Emotional friction acted as a crucial moderating factor: higher friction corresponded to more deliberate spending decisions.

4.4 Experimental Results on Psychological Response

The controlled simulations revealed that digital payments reduced the emotional discomfort usually tied to financial loss. Eye-tracking patterns showed reduced focus on transaction totals in UPI and wallet modes. Participants also skipped price comparison behaviors when the payment method was fast and automatic.

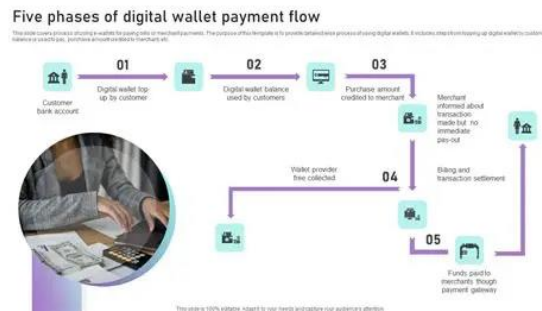


Figure 2: Five Phases of Digital Payment Flow [25]

Subjective feedback showed that many Gen Z participants felt that digital payments “didn’t feel like spending real money,” indicating a psychological distancing effect triggered by low visibility payment systems.

4.5 Identification of High-risk Spending Segments

Three consumer subgroups emerged as high-risk:

1. Daily UPI users making multiple microtransactions
2. Digital wallet users linked to food delivery, shopping, and subscription apps
3. Participants with auto-saved payment credentials across e-commerce platforms

These groups demonstrated higher overspending due to accumulated frictionless transactions.

4.6 Interpretation of Key Findings

Overall, the results clearly demonstrate that payment transparency strongly shapes Gen Z financial behaviour. High-transparency modes like cash encourage reflective decision-making, while low-transparency modes reduce emotional friction, increase impulse buying, and distort financial awareness. The Payment Transparency Index effectively captured these shifts and provided a structured way to quantify psychological responses.

CONCLUSION

This study demonstrates that payment mode transparency plays a decisive and measurable role in shaping the spending behaviour of Gen Z consumers, a generation navigating the most frictionless financial ecosystem in history. By integrating survey responses, experimental simulations, and the Payment Transparency Index, the research reveals that declining visibility in modern payment systems weakens the psychological checkpoints that traditionally regulate financial decisions. Cash, with its high transparency and tactile cues, encourages deliberate spending, whereas

cards introduce moderate detachment and reduced emotional friction. UPI payments accelerate spending by compressing authentication steps and masking the feeling of monetary loss, while digital wallets create an almost invisible financial outflow that drives the highest levels of impulsivity, overspending, and weak budget recall. The results clearly show that as transparency declines, both spending volume and impulse buying increase, while perceived financial awareness declines sharply. These findings highlight a critical behavioural shift within Gen Z, where payment convenience comes at the cost of financial self-regulation, long-term planning, and responsible consumption. The implications extend beyond individual habits to fintech design, financial education, and consumer protection policies. The Payment Transparency Index developed in this study offers a reliable framework for quantifying transparency levels and predicting spending risks across payment modes. By demonstrating the psychological impact of frictionless systems, the study emphasizes the urgent need for mechanisms that restore visibility in digital transactions and help Gen Z maintain conscious control over their financial behaviour in an increasingly automated and silent payment landscape.

FUTURE WORK

Future research can expand this study by incorporating real-time financial tracking data to validate spending patterns observed in controlled simulations and self-reported surveys. Longitudinal studies would help determine whether transparency-related behaviors persist or evolve as Gen Z transitions into new life stages involving higher financial responsibility. Future work should also explore how embedded payment systems

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such as BNPL, auto-renewable subscriptions, and in-app microtransactions further distort spending awareness. Cross-cultural comparisons may reveal whether transparency effects differ in societies with varying levels of digital payment adoption. Advanced neurobehavioral tools like eye-tracking and biometric emotional analysis could deepen understanding of the cognitive load associated with different payment modes. Additionally, the Payment Transparency Index can be refined by integrating machine learning models to predict overspending more accurately based on usage frequency, digital literacy, and psychological traits. Collaborating with fintech platforms to test transparency-enhancing UI interventions such as visual spending meters, real-time pop-up warnings, or simulated cash-outflow animations would provide actionable insights for industry stakeholders. Overall, future research should focus on designing digital ecosystems that maintain convenience while reinforcing financial consciousness.

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