

Digital Temptations: A Systematic Review of Impulsive Buying Behaviour in the Era of E-Commerce and Instant Payments

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ABSTRACT: The rapid shift toward digital commerce and frictionless payment technologies has fundamentally redefined consumer behaviour, collapsing the temporal and cognitive distance between desire and purchase. This systematic review synthesises empirical findings from 72 peer-reviewed studies published between 2010 and 2025, exploring how digital payment mechanisms, user interface design, and emotional triggers mediate impulsive buying in online contexts. Using the PRISMA framework, evidence from databases including Scopus, Web of Science, and ScienceDirect was qualitatively analysed across four themes: (1) the pain of paying and transaction friction, (2) emotional triggers and interface cues, (3) instant payments and cognitive load, and (4) post-purchase regret and mindfulness gaps. The review reveals that invisible or delayed payments attenuate the psychological discomfort of spending, fostering compulsive tendencies. Emotional and design-based stimuli amplify this vulnerability by targeting cognitive shortcuts and affective biases. The study highlights the growing ethical responsibility of fintech designers and marketers to introduce reflective “ethical frictions” that restore user agency. Future research should adopt cross-cultural and longitudinal methodologies to examine how artificial intelligence, gamification, and digital nudges influence the evolving landscape of digital impulsivity.

KEYWORDS: Behavioural Economics, Cashless Economy, Consumer Awareness, Digital Payments, E-commerce, Emotional Regulation, Fintech, Impulsive Buying, Pain of Paying.

1. INTRODUCTION

Digitalisation has transformed how consumers experience and enact purchasing decisions. From one-click checkouts and biometric authentication to algorithmically tailored product suggestions, the modern consumer journey is now characterised by immediacy, personalization, and affective stimulation. The traditional notion of shopping as a deliberate, time-bound activity has shifted toward a continuous, contextless state of consumption in which digital platforms function not merely as marketplaces but as behavioural environments engineered to capture attention and elicit impulsive responses.

Impulsive buying—commonly defined as an unplanned, spontaneous purchase driven by affective arousal rather than rational evaluation—has been studied since the mid-twentieth century (Rook, 1987). Early research focused on in-store environmental factors such as ambient music, product placement, or crowd density. However, the rise of e-commerce and digital finance has reconfigured these dynamics. The “digital impulse” is shaped not by physical stimuli but by interface cues, social proof mechanisms, and

payment technologies that streamline the transition from desire to action.

The psychological underpinning of this transformation lies in the concept of the pain of paying—the cognitive dissonance experienced when parting with money (Prelec & Loewenstein, 1998). In digital environments, this pain is significantly reduced because payment becomes less tangible, delayed, or even gamified. Consumers can authorize transactions with a fingerprint or a tap, bypassing the deliberative reflection traditionally required in cash-based exchanges. Consequently, frictionless design enhances gratification at the cost of self-regulation.

Furthermore, emotional and social factors—such as fear of missing out (FOMO), social comparison, and dopamine-driven anticipation—intensify impulsivity (Verplanken et al., 2018). Online marketing strategies exploit these tendencies through urgency cues (“Only 2 left!”), countdown timers, and personalised recommendations that simulate scarcity and social validation. The convergence of behavioural economics, digital design, and emotional marketing thus forms the architecture of modern impulsive spending.

This review integrates insights from psychology, marketing, and fintech design to examine how technological affordances amplify impulsive buying behaviour. It advances a holistic understanding of digital impulsivity, highlighting both the vulnerabilities it exposes and the opportunities it offers for promoting mindful, responsible consumption.

2. METHODOLOGY

Following PRISMA guidelines, a comprehensive search was conducted across Scopus, Web of Science, ScienceDirect, SpringerLink, and Emerald Insight for publications (2010–2025). Search terms included combinations of ‘impulsive buying,’ ‘digital payment,’ ‘cashless transaction,’ and ‘financial mindfulness.’ Empirical and review papers were included if they examined behavioural outcomes in digital or hybrid contexts. Exclusions were made for non-peer-reviewed, non-English, and marketing-only strategy papers.

Table 1. PRISMA Screening Summary

Screening Stage	Number of Studies
Records identified through database search	432
After duplicates removed	368
After title/abstract screening	142
Full-text articles assessed for eligibility	89
Studies included in qualitative synthesis	72

2.1 Search Strategy and Inclusion Criteria

Search terms combined variations of the following: “impulsive buying,” “digital payment,” “e-commerce,” “cashless transaction,” “pain of paying,” “consumer behaviour,” “financial mindfulness,” and “digital spending.” Studies were included if they:

- * Were peer-reviewed empirical or review articles;
- * Examined impulsive buying within digital or hybrid retail contexts;
- * Discussed emotional, psychological, or fintech-mediated mechanisms;
- * Were written in English and published between 2010–2025.

Exclusion criteria eliminated non-peer-reviewed sources, purely technical fintech papers without behavioural focus, and articles unrelated to consumer impulsivity.

2.2 Data Extraction and Synthesis

Data were extracted under five analytical dimensions:

1. Study background and population,
2. Digital medium (e-commerce, social media, mobile payment),

3. Behavioural outcomes (impulse purchase frequency, emotional triggers, regret),
4. Mediating variables (pain of paying, cognitive load, FOMO), and
5. Theoretical framework (dual-process, self-control, or affective models).

Thematic synthesis identified four major conceptual themes representing the digital impulse process, which together form the basis of the review’s conceptual framework.

3. RESULTS AND THEMATIC ANALYSIS

Four dominant themes emerged: (1) Pain of Paying and Transaction Friction, (2) Emotional Triggers and Interface Cues, (3) Instant Payments and Cognitive Load, and (4) Post-Purchase Regret and Mindfulness Gaps. Collectively, these themes illustrate a digital consumption cycle shaped by affective and cognitive mechanisms.

Table 2. Conceptual Model Summary

Variable	Mechanism/Influence	Outcome
Digital Payment Systems	Reduce transaction friction; lessen pain of paying	Increased impulsivity
Emotional Triggers	FOMO, anxiety, excitement amplify affective response	Reduced cognitive control
Interface Design	Urgency cues, color, social proof	Accelerated purchase decisions
Instant Payments	Compress reflection time, elevate cognitive load	Compulsive spending
Mindfulness Interventions	Introduce ethical friction; awareness tools	Reduced regret and improved control

Theme 1: Pain of Paying and Transaction Friction

The digitisation of payments—via systems such as UPI, Apple Pay, PayPal, and contactless cards—has significantly reduced the friction associated with monetary exchange. Empirical studies demonstrate that consumers spend more when payment is decoupled from tangible currency (Soman, 2003). This phenomenon arises because digital payments obscure the immediate awareness of cost, thereby reducing the pain of paying. In traditional cash transactions, the physical act of handing over money serves as a psychological checkpoint; in contrast, virtual transactions blur this cognitive boundary.

Prelec and Loewenstein’s (1998) concept of mental accounting provides a useful lens here. When consumers pay digitally, their mental accounting systems fail to register the transaction’s weight, promoting a sense of financial

abstraction. The resulting temporal coupling between consumption and payment weakens, leading to increased spending propensity. Subsequent research (Thomas et al., 2020) supports the claim that instant payment systems disrupt self-control mechanisms, transforming consumption into a near-automatic behaviour.

Theme 2: Emotional Triggers and Interface Cues

Digital platforms are built around affective design principles that exploit attention and reward systems. Emotional triggers—such as excitement, anxiety, and FOMO—serve as catalysts for impulsive decisions. E-commerce interfaces strategically use colour psychology (e.g., red for urgency), limited-time discounts, and social proof cues (“3 people bought this in the last hour”) to create artificial scarcity and social validation loops (Chan et al., 2017).

The phenomenon can be understood through dual-process theory (Kahneman, 2011), which distinguishes between the fast, intuitive “System 1” and the slow, reflective “System 2.” Digital environments disproportionately engage System 1, reducing the cognitive deliberation that normally moderates spending. In essence, the architecture of the platform manipulates attention and emotion to steer behaviour, a process akin to what Sunstein and Thaler (2008) describe as choice architecture.

Theme 3: Instant Payments and Cognitive Load

The acceleration of transaction processes through instant payment infrastructures (e.g., real-time UPI transfers, buy-now-pay-later schemes) exacerbates impulsivity by collapsing the time between decision and action. This temporal compression heightens cognitive load, limiting opportunities for reflective thinking. Consumers often experience a “flow” state in digital shopping environments, in which decision fatigue and continuous scrolling lead to diminished resistance to purchase cues.

Studies by Thomas et al. (2020) and Dholakia (2020) indicate that real-time payments and deferred billing mechanisms (such as BNPL) generate a dual illusion—of affordability and control—that encourages overconsumption. Paradoxically, instant payments are perceived as both effortless and consequence-free. The absence of visible constraints, such as wallet depletion, reinforces the psychological distance between spending and financial accountability.

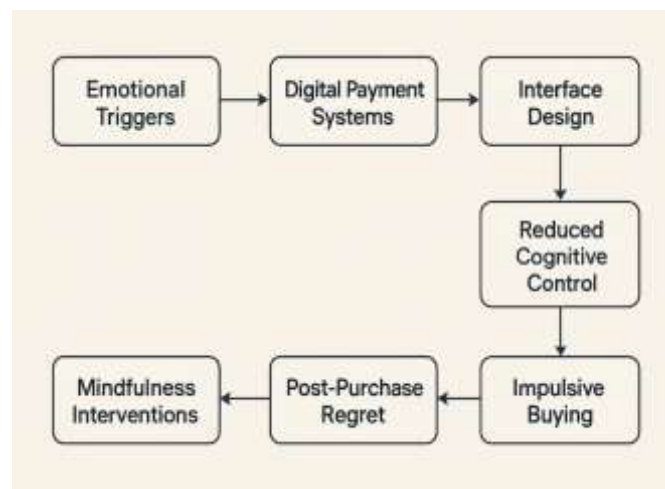
Theme 4: Post-Purchase Regret and Mindfulness Gaps

Although digital impulsivity offers immediate gratification, it often culminates in post-purchase regret and financial stress (Olsen et al., 2021). Regret emerges from a mismatch between emotional anticipation and actual satisfaction, exacerbated by the ease of purchasing and the lack of conscious intent. Many studies suggest that regret is most pronounced when purchases are made during emotional highs or through gamified payment mechanisms.

Mindfulness—defined as nonjudgmental awareness of one’s thoughts and actions—acts as a potential buffer against impulsive tendencies (Verplanken et al., 2018). Financial mindfulness interventions, such as pre-purchase reflection prompts, transaction notifications, or spending dashboards, can restore cognitive control. Digital tools that reintroduce “ethical friction” (e.g., confirmation screens, spending summaries) help consumers reconnect with the psychological cost of spending, reducing regret frequency.

4. CONCEPTUAL FRAMEWORK

Drawing upon behavioural economics and cognitive psychology, this review proposes the following conceptual model:



This model conceptualises impulsive digital spending as a feedback loop. Emotional and technological stimuli reduce the friction and deliberation that typically accompany spending decisions. The diminished “pain of paying” fosters impulsive behaviour, which leads to emotional outcomes like regret and guilt. Over time, such experiences can either entrench impulsive patterns or motivate corrective behaviours through mindfulness and financial awareness interventions. Fintech solutions that introduce ethical frictions—deliberate pauses or reflective prompts—can strategically disrupt this cycle.

5. DISCUSSION

5.1 Theoretical Implication

The synthesis highlights the applicability of dual-process models and mental accounting theories to digital contexts. Digital interfaces are designed to appeal to intuitive processes (System 1), minimizing reflective engagement (System 2). This cognitive asymmetry explains why even financially literate individuals succumb to impulsive purchases online. Moreover, the mental accounting distortion produced by invisible payments underscores the need to revisit traditional economic assumptions of rational consumer behaviour.

From a psychological standpoint, impulsive digital spending can be seen as a form of emotion regulation. Consumers may engage in online shopping to alleviate stress, boredom, or social anxiety, resulting in short-term emotional relief followed by long-term regret. Thus, impulsivity is not merely a failure of rationality but an adaptive response to emotional discomfort, amplified by digital environments that provide instant feedback and reward.

5.2 Practical and Design Implications

Fintech developers, marketers, and policymakers share a collective ethical responsibility to design systems that balance convenience with consumer well-being. The concept of ethical friction—the intentional insertion of minor cognitive barriers—can restore reflective capacity. Examples include:

- * Requiring confirmation for large or repeat purchases,
- * Displaying cumulative monthly spending at checkout,
- * Providing “cooling-off” periods before high-value digital transactions.

Educational interventions, such as financial mindfulness programs or digital literacy curricula, can also help consumers identify emotional triggers and recognise manipulative design elements. From a marketing perspective, promoting transparent personalization and responsible advertising aligns brand integrity with consumer trust.

5.3 Cultural and Societal Considerations

Cross-cultural studies indicate that digital impulsivity manifests differently across societies depending on financial norms, social collectivism, and digital payment penetration (Islam et al., 2021). For example, collectivist cultures may experience stronger social influence effects, while individualist cultures exhibit more autonomy-driven impulsivity. Moreover, socioeconomic disparities in digital access and literacy mean that vulnerable populations—such as youth and low-income groups—face heightened risks of financial overextension.

The rise of AI-driven recommendation engines further complicates this landscape. Algorithms that learn consumer behaviour patterns can perpetuate impulsive tendencies by continuously optimising for engagement and conversion. This calls for regulatory oversight on algorithmic transparency and data ethics to mitigate exploitative persuasion.

6. CONCLUSION AND FUTURE DIRECTIONS

The transition toward cashless, algorithmically mediated commerce has ushered in a new era of impulsive consumer behaviour, where psychological frictions that once constrained spending have all but vanished. This systematic review demonstrates that impulsive buying in digital contexts

is not a random act but the outcome of deliberate interaction between emotional, cognitive, and technological forces.

Key conclusions include:

1. Digital payment systems diminish the pain of paying, fostering abstraction and impulsivity.
2. Interface cues and emotional stimuli manipulate intuitive decision pathways.
3. Instant payments and cognitive load limit reflective thought, amplifying compulsive consumption.
4. Post-purchase regret is pervasive but can be mitigated through mindfulness and ethical design.

Future research should pursue three primary avenues:

- Cross-cultural analysis of impulsivity under varying regulatory and cultural regimes.
- Longitudinal studies tracking the evolution of digital spending habits over time.
- Experimental interventions evaluating the efficacy of mindfulness prompts, spending dashboards, and AI-driven spending alerts.

Ultimately, this review underscores the necessity of an interdisciplinary approach—uniting psychology, behavioural economics, and fintech design—to develop sustainable, human-centred digital commerce ecosystems. As technology continues to accelerate, the question is no longer whether consumers will act impulsively, but how systems can be designed to ensure that impulsivity remains a momentary temptation, not a structural vulnerability.

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