

ORIGINAL ARTICLE OPEN ACCESS

Reconceptualising Social Media Impulse Buying Through a Recursive Temporal SOR Perspective

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Received: 11 September 2025 | **Revised:** 22 August 2026 | **Accepted:** 31 August 2026

Keywords: algorithmic reinforcement | impulse buying | Möbius-inspired temporal SOR framework | risk perception | social media | SOR framework | systematic literature review | temporality

ABSTRACT

Impulse buying in social media is commonly examined through the Stimulus–Organism–Response (SOR) framework, yet empirical applications often treat purchase as the endpoint of a linear sequence and give limited attention to how post-purchase states and platform-mediated re-exposure shape subsequent episodes. This study extends SOR theory by conceptualising social media impulse buying as a recursive temporal process in which stimuli, organismic states and responses remain analytically distinct but temporally non-separable. Using the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol, we reviewed 124 empirical studies identified through Scopus and Web of Science and published between 2015 and January 2026. Content analysis and thematic synthesis classified constructs across conventional and hybrid SOR sectors and three temporal phases: pre-impulse activation, the purchase moment and the post-purchase phase. The synthesis shows that many mechanisms cross conventional SOR boundaries, that impulse buying unfolds across interconnected phases, and that behavioural responses may become new stimuli through social visibility, continued engagement and algorithmic reinforcement. Risk perception changes from anticipatory loss and fear of missing out before purchase, to temporary suppression during purchase, and to retrospective regret, guilt or dissonance afterwards. The study develops a Möbius-inspired temporal SOR framework that extends, rather than replaces, SOR by explaining how responses may contribute recursively to subsequent exposure and impulse episodes. The findings encourage marketers, platforms and policymakers to assess impulse buying beyond immediate conversion and consider transparent, responsible measures to limit harmful cycles of urgency, social pressure and repeated personalised exposure.

1 | Introduction

Impulse buying is commonly defined as a sudden and compelling urge to purchase immediately, often accompanied by affective conflict and reduced deliberation (Rook 1987; Rook and Gardner 1993). In digital environments, particularly social media, such behaviour is shaped by platform design, social visibility, influencer communication, algorithmic recommendation and real-time interaction (Chan et al. 2017; Iyer et al. 2020; Indriastuti et al. 2024). Social media platforms

embed commercial opportunities within entertainment, identity work, peer comparison and continuous engagement, rather than presenting them only in response to deliberate product searches (Dantas and Abreu 2020; Zhang and Ahmad 2024). Impulse buying in these settings therefore forms part of a wider socio-technical process whose effects may extend beyond an individual purchase.

The Stimulus–Organism–Response (SOR) framework is one of the principal theoretical lenses used to explain online and social

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media impulse buying (Mehrabian and Russell 1974; Peng and Kim 2014; Kimiagari and Asadi Malafe 2021). It provides a parsimonious structure for examining how platform affordances, promotional cues, influencer communication, and electronic word-of-mouth activate internal states such as pleasure, arousal, trust, perceived value, and anxiety, which subsequently shape purchase-related responses (Chen et al. 2019; Herzallah et al. 2021; Shamim and Islam 2022; Shao et al. 2024). The issue addressed in this study is not that SOR theory is inherently linear. Rather, frequent empirical applications have operationalised it as a relatively sequential process in which purchase represents the final response (Jacoby 2002; Redine et al. 2023).

Three related limitations remain in the literature. First, recent reviews have advanced understanding by identifying antecedents, mediators, moderators, and outcomes across online, digital, and live-streaming contexts, but have devoted less attention to how these mechanisms evolve and interact over time (Anoop and Rahman 2025; Kaur and Sharma 2024; Li et al. 2025; Redine et al. 2023). Second, post-purchase states are commonly treated as consequences of impulse buying rather than as potential inputs into later episodes. In social media settings, emotions and behaviours following a purchase may affect continued browsing, social visibility, and subsequent re-exposure, while behavioural traces can inform personalised recommendations (Amin 2025; Beikverdi et al. 2024; Çelik and Eru 2019; Nguyen et al. 2025). Third, perceived risk is generally conceptualised as a discrete cognitive barrier that inhibits or delays purchase (Mitchell 1999; Stone and Grønhaug 1993). This approach gives limited consideration to how risk may be embedded in affective and social states and change in form across the impulse-buying process (Hodkinson 2019).

Together, these limitations constrain explanations of why some impulse purchases remain isolated whereas others recur, intensify or develop into more maladaptive consumption patterns (Mueller et al. 2011; Wang and Tsai 2017). They also suggest the need to consider impulse buying as a recursive temporal process in which behavioural and post-purchase responses may contribute to subsequent stimulation. In this process, stimulus, organism and response remain analytically distinguishable, but their functions may become temporally non-separable across successive phases and episodes. To address this problem, the study develops a recursive temporal interpretation of social media impulse buying grounded in a systematic review of 124 empirical studies conducted following the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol. The review combines structured content analysis and thematic synthesis to examine how stimuli, organismic states, behavioural responses and hybrid SOR mechanisms are distributed across pre-impulse activation, the purchase moment and the post-purchase phase (Page et al. 2021; Paul and Criado 2020; Paul et al. 2021). It also examines how affective, social and risk-related mechanisms may connect consumer response with subsequent exposure.

The analysis is guided by three research questions (RQs):

RQ1. *How have Stimulus, Organism and Response components been operationalised in empirical research on social media impulse buying, and what patterns of analytical entanglement,*

in which responses simultaneously function as stimuli, emerge across the literature?

RQ2. *How do affective, cognitive, social and risk-related mechanisms evolve across the pre-impulse, purchase and post-purchase phases of social media impulse buying, and how does risk perception shift in character across these phases?*

RQ3. *How can a recursive temporal extension of the SOR framework account for the role of algorithmic reinforcement in converting consumer responses into new stimuli, and what are the implications for understanding the escalation from impulsive to compulsive consumption?*

The study uses a Möbius-inspired representation as an analytical device for organising the recursive temporal relationships identified through the review. Its contribution does not depend on the visual novelty of the metaphor. The representation provides a means of examining continuity between behavioural response and subsequent stimulation in a process without a necessarily fixed beginning or endpoint. This use is consistent with earlier applications of topological thinking to complex consumer processes that cannot be represented adequately through conventional linear diagrams (Coffin and Chatzidakis 2021). The methodological basis and analytical properties of the representation are explained later in the paper.

The study makes three contributions. First, it extends SOR theory by explaining how consumer responses may become inputs into subsequent impulse episodes. This recursive temporal interpretation builds on, rather than replaces, SOR and treats its components as analytically distinct but temporally non-separable across phases.

Second, it advances an affectively embedded and dynamic account of risk perception. Rather than operating only as a stable cognitive barrier, risk may change in meaning and valence across pre-impulse activation, the purchase moment, and the post-purchase phase (Mitchell 1999; Stone and Grønhaug 1993).

Third, it theorises algorithmic reinforcement as a structural mechanism that may connect socially embedded consumer responses with personalised re-exposure. Platform architectures can detect and amplify behavioural and social traces associated with parasocial relationships, social comparison, validation needs and identity regulation, thereby reintroducing them into the consumer's information environment (Chen et al. 2021; Dantas and Abreu 2020; Liu et al. 2019; Zhang and Ahmad 2024). This proposition provides a basis for examining how situational responses may contribute to repeated impulse-buying trajectories.

The remainder of the paper is organised as follows. The next section positions the study within SOR theory and adjacent perspectives, including dual-process theories, habit formation, self-regulation and behavioural addiction. The Methodology then explains the SPAR-4-SLR review protocol, coding procedure and analytical synthesis. The Results present the evidence across SOR components and temporal phases. The subsequent framework section develops the Möbius-inspired temporal SOR representation. Finally, the paper discusses its theoretical,

practical and ethical implications, before presenting the conclusion, limitations and future research agenda.

2 | Theoretical Background

2.1 | SOR And Impulse Buying in Social Media

The SOR framework explains behaviour by distinguishing environmental stimuli, the internal states they activate and the responses that follow (Mehrabian and Russell 1974). Its value in consumer research lies in its capacity to organise heterogeneous environmental, psychological and behavioural mechanisms within a parsimonious explanatory structure. It has consequently been applied widely to retail, digital and social media consumption (Peng and Kim 2014; Kimiagari and Asadi Malafe 2021).

In social media impulse-buying research, stimuli commonly include visual appeal, scarcity messages, platform affordances, influencer content, social proof, electronic word-of-mouth, and personalised recommendations (Chen et al. 2019; Iyer et al. 2020; Shamim and Islam 2022). The organism component encompasses cognitive and affective states such as pleasure, arousal, trust, perceived value, perceived risk, social comparison, and the urge to buy (Herzallah et al. 2021; Liu et al. 2019; Zhang and Ahmad 2024). Responses include impulse purchase, continued engagement, sharing, repeat purchasing, avoidance, return behaviour, and other post-purchase actions (Beikverdi et al. 2024; Nguyen et al. 2025).

This distinction remains theoretically useful. The limitation addressed here concerns how SOR has frequently been operationalised, rather than the explanatory capacity of SOR itself. Empirical studies often specify stimuli as antecedents, organismic states as mediators and impulse purchase as the final dependent variable. Such models are appropriate for testing relationships within an individual decision episode, but they provide a limited representation of feedback and temporal continuity across episodes. Jacoby (2002) explicitly reconsidered SOR as an evolving behavioural framework rather than a rigid chain. Nevertheless, cross-sectional causality and single-episode outcomes remain prominent in empirical impulse-buying research, leaving post-purchase affect and re-exposure comparatively under-theorised (Redine et al. 2023; see Appendix A).

A recursive temporal interpretation therefore does not remove the distinction among stimulus, organism, and response. Instead, it examines whether the function of a construct may change over time. A purchase remains a behavioural response to previous conditions, but its affective, social and digital consequences may influence later organismic states and exposure. SOR can accommodate this process if responses are not assumed to terminate the analysis.

2.2 | Why Social Media Requires a Temporal Extension of SOR

Social media environments differ from more conventional e-commerce settings because commercial cues are embedded

within continuous streams of entertainment, interaction, recommendation and social visibility. Consumers encounter products through short videos, live-streaming, influencers, peer-generated content, algorithmic feeds and platform notifications, often without initiating a deliberate search (Amin 2025; Indriastuti et al. 2024; Li et al. 2025). Immediacy, scarcity, vividness and social endorsement may compress opportunities for deliberation and intensify affective activation (Qu et al. 2023; Shao 2024). At the same time, purchases may serve as identity signals, expressions of belonging, attempts at emotional repair or responses to social comparison and validation needs (Dantas and Abreu 2020; Jin and Ryu 2020; Van Tran et al. 2023).

These characteristics have two principal implications for SOR. First, its components may become temporally non-separable even though they remain analytically distinct. A single platform interaction can perform more than one function within the process. For example, a creator's recommendation can act as an external stimulus while simultaneously generating trust, parasocial attachment, and social comparison (Chen et al. 2021; Karahan 2025). The classification of such mechanisms therefore depends not only on the construct itself, but also on its function and temporal position.

Fear of missing out (FOMO) is commonly understood as an apprehension that others may be experiencing rewarding opportunities from which the individual is absent (Przybylski et al. 2013). In impulse-buying settings, it can be experienced as an organismic state, but it may also represent an anticipatory risk-related mechanism produced by scarcity, social visibility and perceived exclusion (Hodkinson 2019; Przybylski et al. 2013). It therefore illustrates how affective, social and risk-related functions can become intertwined without making the underlying concepts analytically indistinguishable.

Second, responses may contribute to later stimuli. Clicking, liking, commenting, purchasing, returning and sharing can produce engagement signals, social visibility and behavioural traces. Algorithmic systems may use such information to personalise feeds and commercial recommendations, increasing the probability of renewed exposure to related products, creators and offers (Amin 2025; Nguyen et al. 2025). Post-purchase monitoring, renewed browsing, validation seeking, avoidance and emotional responses may also return consumers to the platform environments in which the original impulse developed (Beikverdi et al. 2024; Çelik and Eru 2019).

The evidence reviewed in this study does not establish that every behavioural response produces the same algorithmic outcome. Rather, it identifies mechanisms through which response-to-re-exposure feedback becomes theoretically plausible in platform-mediated settings. Algorithmic reinforcement is therefore treated as a structural proposition derived from the integration of evidence concerning personalisation, behavioural traces, continued engagement and recurring commercial exposure.

Risk perception further illustrates why a temporal extension is needed. Conventional consumer decision models generally conceptualise perceived risk as a cognitive evaluation of uncertainty and potential negative consequences that may inhibit purchase or increase deliberation (Mitchell 1999; Stone and

Grønhaug 1993). In social media impulse buying, however, risk may be embedded within the affective and social states that precede, accompany, and follow the purchase.

During pre-impulse activation, risk may take the form of anticipated loss, scarcity pressure, perceived opportunity cost, or concern about missing a socially valued experience. In these circumstances, not buying may be perceived as the more immediate risk. During the purchase moment, arousal, social endorsement, parasocial trust, platform convenience, and urgency may temporarily suppress or displace uncertainty. In the post-purchase phase, risk may re-emerge retrospectively through regret, guilt, financial concern, reputational anxiety, or cognitive dissonance.

Risk therefore does not operate only as a stable antecedent or moderator. Its form and valence may change across the process, and its effects may be bidirectional. Reflective risk can discourage future purchasing by strengthening avoidance or self-control, but negative post-purchase affect may also contribute to rumination, compensatory consumption or renewed browsing. This temporal variation is central to explaining why similar risk-related states may interrupt impulse buying under some conditions and contribute to reactivation under others.

2.3 | Positioning SOR Against Adjacent Behavioural Frameworks

A temporal extension of SOR must be positioned in relation to theories that explain specific mechanisms involved in impulse buying. Dual-process theories distinguish between rapid, automatic and affectively driven processing and slower, more deliberative cognition (Evans 2008; Kahneman 2011). They help explain why vividness, scarcity, social proof, and influencer attractiveness can activate immediate reactions before extensive deliberation occurs. Their principal contribution concerns the mode of processing. However, they do not by themselves organise the broader relationship among platform stimuli, internal states, behavioural responses, post-purchase consequences and subsequent exposure.

Habit formation models are relevant because repeated platform use can routinise checking, browsing, clicking, and purchasing (Wood and Rüniger 2016). They provide a basis for explaining how repeated behaviour becomes increasingly automatic, particularly in environments characterised by frequent and variable rewards. Nevertheless, repetition in social media impulse buying is not exclusively behavioural. It may also be reinforced through social comparison, validation, parasocial attachment, and personalised re-exposure. Habit theory therefore explains the routinisation of responses, while a recursive temporal SOR interpretation places those responses within a wider affective, social and platform-mediated process.

Self-regulation and self-control perspectives explain impulse buying through difficulties in inhibiting desire under conditions such as affective arousal, cognitive load, stress or reduced regulatory capacity (Baumeister et al. 1994; Inzlicht et al. 2014). These perspectives are important for understanding vulnerability, particularly when consumers experience information

overload, technostress or emotionally charged content (Zhang and Ahmad 2024). However, explanations focused exclusively on self-control may over-individualise the phenomenon. Platform architectures actively organise attention, urgency, visibility, interaction and transactional convenience. A temporal SOR approach complements self-regulation perspectives by situating individual vulnerability within the conditions that repeatedly activate and structure consumer responses.

Behavioural addiction and compulsive buying frameworks are especially relevant to the boundary between episodic impulse buying and more persistent maladaptive consumption (Brook et al. 2015; Mueller et al. 2011; Turel and Serenko 2010). These perspectives highlight loss of control, negative reinforcement, emotional dependence, and repetition despite harmful consequences. The present study does not equate impulse buying with compulsive buying. Instead, it considers how recurrent impulse episodes may move towards maladaptive trajectories under particular combinations of affective feedback, perceived loss of control, and repeated exposure.

Taken together, these theories show that social media impulse buying can involve automatic processing, habitual repetition, regulatory strain and potential escalation. Each explains an important component, but none alone provides an integrative structure for mapping environmental stimuli, organismic states, behavioural responses and cross-episode feedback. SOR retains value because it can organise these mechanisms within a common analytical framework. A recursive temporal interpretation extends that capacity by examining how the role of each component may change across phases and episodes.

2.4 | Towards a Recursive Temporal SOR Interpretation

The preceding discussion supports a view of social media impulse buying as a process spanning pre-impulse activation, the purchase moment and the post-purchase phase. Within this process, SOR components remain conceptually distinguishable, but their functions may be temporally non-separable. A response to one configuration of stimuli and organismic states may generate the affective, social or digital conditions that contribute to a later stimulus environment.

The Möbius-inspired representation provides an analytical device for organising this continuity. Its conceptual relevance lies in three properties: the absence of a necessarily fixed origin, the path-dependence of current states and responses, and the non-orientability represented by the continuity between response and subsequent stimulation. Prior consumer research has used topological thinking to represent processes that cannot be captured adequately through conventional linear models (Coffin and Chatzidakis 2021).

At this stage of the argument, these properties establish only the conceptual rationale for a recursive temporal interpretation. The representation should not be understood as a literal topological model or as evidence independently supporting the framework. The Methodology explains how the representation emerged after the systematic coding and synthesis, while the

framework-development section specifies how its properties correspond to the empirical patterns identified.

This interpretation builds on SOR rather than rejecting it. The theoretical claim is not that social media impulse buying lacks distinguishable stimuli, organismic states or behavioural responses. It is that their relationships cannot always be understood through a single one-way sequence ending at purchase. By integrating temporal variation, affective and social embeddedness, dynamic risk perception and algorithmic reinforcement, the framework prepares a more processual account of how impulse buying may emerge, recur and, under some conditions, become maladaptive.

3 | Methodology

3.1 | Review Design

This study adopts a systematic literature review design to develop a temporal and recursive conceptualisation of impulse buying in social media. Systematic reviews are appropriate when a field has accumulated a substantial body of empirical evidence but remains theoretically fragmented (Page et al. 2021; Paul and Criado 2020). This is the case for social media impulse buying research, where studies have examined multiple stimuli, affective and cognitive mechanisms, social influences, and behavioural outcomes but have rarely integrated these elements into a temporal feedback model.

The review follows the SPAR-4-SLR protocol, which structures the review process into three stages: assembling, arranging and assessing (Paul et al. 2021). This protocol was selected because it offers a transparent procedure for identifying, organising, and synthesising literature while allowing theory development from fragmented evidence. The review addresses RQ1 through conventional and hybrid SOR coding, RQ2 through temporal coding across pre-impulse activation (T_0), the purchase moment (T_1) and the post-purchase phase (T_2 onward), and RQ3 through cross-phase synthesis and framework development.

3.2 | Assembling: Search Strategy and Identification of Studies

The assembling stage involved identifying peer-reviewed empirical articles on impulse buying in social media contexts. The search was conducted in Scopus and Web of Science, two databases widely used in systematic reviews of consumer and marketing research. The review focused on articles published in English between 2015 and January 2026, reflecting the period in which social media commerce, influencer marketing, live-streaming, and algorithmic recommendation became increasingly central to digital consumption.

The search string was applied to titles, abstracts, and keywords where database functionality allowed:

("social media" OR Instagram OR Twitter OR Facebook OR Snapchat OR TikTok OR "social commerce") AND (impuls* OR overconsum* OR compulsive*).

This initial search produced 1573 records: 1043 from Scopus and 530 from Web of Science. After screening titles to remove clearly unrelated sectors and topics, 354 records remained. Duplicates were then removed, resulting in 273 potentially relevant articles for further screening. Figure 1 summarises the study selection process following the SPAR-4-SLR protocol.

3.3 | Arranging: Eligibility Criteria and Corpus Refinement

The arranging stage involved applying inclusion and exclusion criteria to refine the corpus. Articles were included when they met four criteria: they were peer-reviewed journal articles; they were written in English; they were empirical studies using quantitative, qualitative, experimental or mixed methods; and they examined impulse buying, compulsive buying, or overconsumption in a social media, social commerce, or platform-mediated context.

Articles were excluded when they were literature reviews, conceptual papers without empirical evidence, studies focused on children or clinical populations, or studies examining unrelated forms of buying such as panic buying. Studies were also excluded when the consumption context centred on restricted or ethically sensitive sectors such as tobacco, alcohol, drugs, gambling, pharmaceuticals or medical supplies. This decision was taken to preserve comparability across consumer contexts and to focus the review on mainstream consumer goods and services.

Title and abstract screening reduced the corpus to 139 articles for full-text assessment. During full-text screening, articles were evaluated for substantive relevance to social media impulse buying and for the presence of extractable constructs

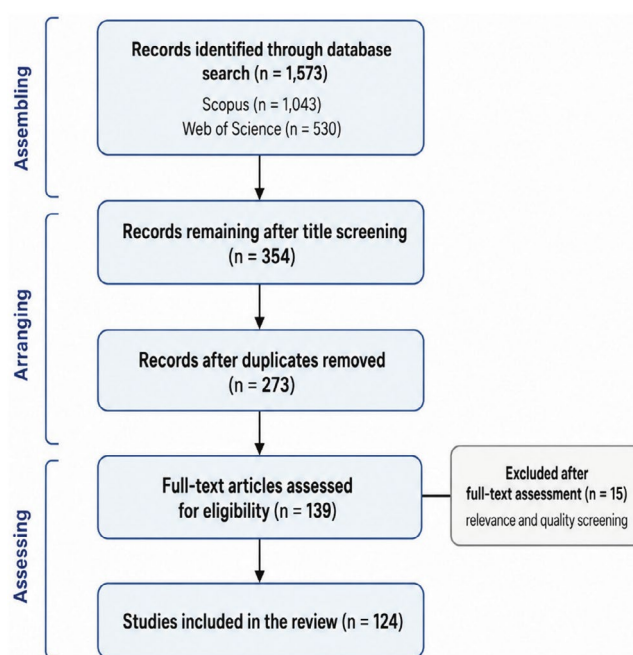


FIGURE 1 | SPAR-4-SLR flow diagram of study selection. Source: Authors' systematic review based on the Scientific Procedures and Rationales for Systematic Literature Reviews (SPAR-4-SLR) protocol.

related to stimuli, organismic states, behavioural responses or post-purchase consequences. A final quality and relevance assessment led to the inclusion of 124 empirical studies in the review.

3.4 | Assessing: Data Extraction and Coding Procedure

The assessing stage involved extracting, coding, and synthesising evidence from the final corpus. A structured extraction form was developed to record bibliographic information, research context, platform or social media setting, sample characteristics, method, theoretical framework, constructs, relationships tested or discussed and key findings. Particular attention was given to variables that could be classified within or across SOR components.

The coding process was conducted in three rounds. First, constructs were deductively classified according to the conventional SOR categories: Stimulus (S), Organism (O) and Response (R). Stimuli included platform features, marketing cues, social signals, influencer attributes, scarcity appeals, and algorithmic recommendations. Organismic states included cognitive and affective reactions such as trust, pleasure, arousal, perceived value, perceived risk, FOMO, social comparison, anxiety, and urge to buy. Responses included impulse purchase, compulsive buying tendencies, return behaviour, avoidance, sharing, post-purchase monitoring and other behavioural outcomes.

Second, the coding scheme was expanded to capture hybrid mechanisms that did not fit neatly into a linear SOR sequence. These included Stimulus–Organism (SO), Stimulus–Response (SR), Organism–Response (OR), and integrated Stimulus–Organism–Response (SOR) mechanisms. For example, scarcity appeals and FOMO were coded as SO when the stimulus activated anticipatory affective risk; direct purchase triggered by automated cues was coded as SR; the urge to buy was coded as OR when internal affective activation directly preceded behaviour; and parasocial bonding or affective trust was coded as SOR when stimuli, internal states and behavioural intentions were empirically intertwined.

Third, each construct was examined for its temporal location within the impulse buying process. Constructs were assigned to one or more of the three temporal phases: T_0 , T_1 , and T_2 onward. T_0 included anticipatory activation, exposure, attention capture, scarcity pressure, FOMO, and early social or emotional cues. T_1 included urge formation, affective intensification, cognitive appraisal, risk suppression, and purchase execution. T_2 onward included regret, guilt, dissatisfaction, dissonance, reputational concern, return behaviour, post-purchase monitoring, avoidance, repetition or re-exposure.

To enhance coding consistency, the researchers first coded a pilot subset of studies and compared classifications before coding the full corpus. Three researchers then independently coded the studies using the shared coding scheme. Disagreements were resolved through iterative consensus meetings, and the coding scheme was refined to clarify construct definitions, temporal

assignments, and cases where variables operated across more than one SOR sector or phase.

3.5 | Analytical Synthesis

The review combined content analysis and thematic synthesis. Content analysis was used to classify constructs, identify recurring variables, and map their distribution across SOR sectors and temporal phases. Thematic synthesis was then used to interpret broader patterns across the literature and to identify mechanisms that could explain recursive impulse buying in social media.

The synthesis proceeded through four analytical steps. First, the extracted constructs were mapped onto the seven SOR-related sectors: S, O, R, SO, SR, OR and integrated SOR. Second, these constructs were located across the three temporal phases: T_0 , T_1 and T_2 onward. Third, cross-phase mechanisms were identified, with particular attention to emotional escalation, social validation, risk transformation, post-purchase affect, and algorithmic re-exposure. Fourth, these patterns were integrated into a temporal SOR framework that explains how responses can feed back into subsequent stimuli.

This process ensured traceability between the reviewed evidence and the proposed conceptual framework. The model was not developed independently of the review; it emerged from the observed fragmentation of constructs across SOR categories, the recurrence of temporally sensitive mechanisms, and the limited treatment of post-purchase feedback in prior studies. See Table 1 for an overview of the analytical procedure.

3.6 | Rationale for the Möbius-Inspired Representation

The Möbius-inspired representation was introduced after the coding and synthesis process to organise the empirical patterns identified in the review. Its purpose is analytical rather than ornamental. The synthesis showed that impulse buying in social media involves three properties that are difficult to capture through a conventional linear SOR diagram: the absence of a fixed origin across episodes, path-dependence between prior states and subsequent responses, and non-orientability, understood here as the temporal non-separability of stimuli, organismic states, and behavioural responses, such that what appears to be a response may simultaneously function as a new stimulus.

Accordingly, the Möbius-inspired framework should be understood as a theory-building device grounded in the systematic synthesis, not as an independent metaphor imposed on the evidence. It translates dispersed empirical findings into a temporal and recursive model in which post-purchase emotions and behaviours extend the impulse episode, behavioural responses may generate new stimuli through social visibility and algorithmic recommendation, and constructs such as FOMO, parasocial trust, risk perception, and validation needs may operate across SOR boundaries and temporal phases.

TABLE 1 | Analytical procedure linking the systematic review to the conceptual framework.

Analytical stage	Purpose	Coding or synthesis decision	Output for model development
1. Study identification	Build the initial evidence base	Search Scopus and Web of Science using social media and impulse-buying-related terms	Initial pool of 1573 records
2. Corpus refinement	Ensure relevance and comparability	Apply inclusion/exclusion criteria; remove duplicates; screen titles, abstracts, and full texts	Final corpus of 124 empirical studies
3. Construct extraction	Identify the empirical building blocks of the review	Extract platform, social, cognitive, affective, risk-related, and behavioural variables from each study	Database of constructs and relationships
4. Conventional SOR coding	Establish baseline classification	Classify constructs as Stimulus, Organism, or Response	Initial S–O–R map of the literature
5. Hybrid SOR coding	Capture mechanisms that exceed linear classification	Reclassify overlapping constructs as SO, SR, OR, or integrated SOR where appropriate	Seven-sector SOR structure: S, SO, SR, O, OR, R and integrated SOR
6. Temporal coding	Locate mechanisms across the impulse process	Assign constructs to T_0 , T_1 and/or T_2 onward according to their role in exposure, purchase, or post-purchase phases	Temporal matrix of impulse buying mechanisms
7. Cross-phase synthesis	Identify recursive dynamics	Examine emotional escalation, risk transformation, social validation, post-purchase affect and re-exposure	Identification of feedback loops across phases
8. Framework development	Integrate fragmented evidence into a theoretical model	Translate continuity, feedback, and overlap into a temporal SOR representation	Möbius-inspired temporal SOR framework

Note: Integrated SOR Refers to Mechanisms in Which Stimulus, Organismic and Response Functions Are Empirically Intertwined.

Abbreviations: O = organism; OR = organism–response; R = response; S = stimulus; SO = stimulus–organism; SOR = stimulus–organism–response; SR = stimulus–response; T_0 = pre-impulse activation; T_1 = purchase moment; T_2 onward = post-purchase phase.

4 | Results

4.1 | Overview of the Synthesis

The synthesis of 124 empirical studies identified platform-related, social, affective, cognitive and behavioural mechanisms associated with social media impulse buying. Most studies used antecedent–mediator–outcome models, frequently applying the SOR framework to connect social media stimuli with internal consumer states and purchase-related responses. This literature provides evidence concerning visual appeal, scarcity cues, influencer credibility, social proof, affective arousal, trust, perceived value and urge to buy (Chen et al. 2019; Herzallah et al. 2021; Iyer et al. 2020; Shamim and Islam 2022; Shao et al. 2024).

Four recurring patterns were identified. First, constructs were not always classified consistently within a single SOR component, resulting in conventional and hybrid classifications. Second, the reviewed mechanisms were distributed across pre-impulse activation, the purchase moment and the post-purchase phase, although the literature was concentrated predominantly on the purchase moment. Third, risk-related mechanisms appeared in different forms across the three phases. Fourth, the

reviewed studies documented associations among affective states, social processes, behavioural responses, continued engagement and renewed exposure. These patterns address [RQ1](#), [RQ2](#) and [RQ3](#) and provide the evidence base for the framework developed in the following section.

4.2 | Fragmented and Overlapping SOR Classifications

The first pattern, addressing [RQ1](#), concerned how constructs were classified within SOR. Conventional applications distinguished external stimuli, internal organismic states, and behavioural responses. The reviewed studies retained these broad distinctions, but many mechanisms were assigned different or overlapping functions depending on the research model, context, and point in the consumption process.

Stimuli included platform affordances, visual design, personalised advertising, artificial intelligence-driven recommendations, influencer attributes, live-streaming features, scarcity appeals, electronic word-of-mouth, user-generated content (UGC) and peer cues (Amin 2025; Indriastuti et al. 2024;

Qu et al. 2023; Shao 2024; Zafar et al. 2020). These variables were examined in association with attentional capture, arousal, social comparison, trust, and perceived immediacy. Live-streaming interaction, for example, was examined both as a platform characteristic and in relation to social presence, affective activation, and perceived risk (Indriastuti et al. 2024; Quonitah and Hayu 2025). Influencer credibility was similarly analysed as an external cue and in association with affective trust or parasocial attachment (Chen et al. 2021; Karahan 2025; Shamim and Islam 2022).

The organism component included cognitive mechanisms such as perceived usefulness, perceived value, source credibility, product fit, social capital, and perceived risk, as well as affective mechanisms such as pleasure, arousal, anxiety, envy, fear of missing out, technostress and urge to buy (Liu et al. 2019; Pranata et al. 2024; Zhang and Ahmad 2024). Some of these constructs were positioned across more than one SOR category. Fear of missing out was examined as an internal affective state associated with social visibility and scarcity cues (Hodkinson 2019; Przybylski et al. 2013). Social comparison was linked both to influencer or peer content and to validation-seeking or purchase-related responses (Jin and Ryu 2020; Van Tran et al. 2023).

Responses included impulse purchase, compulsive tendencies, return behaviour, avoidance, post-purchase monitoring, sharing and continued engagement (Beikverdi et al. 2024; Nguyen et al. 2025). The reviewed studies also reported behavioural and post-purchase responses alongside subsequent emotional states, engagement, or renewed exposure.

These classifications produced a seven-sector coding structure comprising S, O, R, SO, SR, OR and integrated SOR. The hybrid sectors captured mechanisms that were not represented consistently as belonging to a single conventional category, including scarcity-related fear of missing out, direct cue-driven purchasing, urge-to-buy mobilisation, parasocial bonding, affective trust, social validation, and technostress.

4.3 | Temporal Distribution of Impulse Buying Mechanisms

The second pattern, addressing RQ2, concerned the distribution of mechanisms across the impulse-buying process. The reviewed literature was concentrated primarily on the purchase moment, particularly on urge formation and the association between affective or cognitive states and impulse purchase. The synthesis also identified mechanisms located before and after purchase, allowing their organisation across pre-impulse activation, the purchase moment and the post-purchase phase.

At T_0 , the reviewed mechanisms included exposure to personalised recommendations, influencer posts, live-streaming cues, peer activity, visual appeal, scarcity signals and platform affordances. The reviewed studies associated this phase with attention capture, curiosity, anticipated regret, fear of missing out, excitement, social comparison and perceived opportunity loss (Chen et al. 2019; Hodkinson 2019; Li et al. 2021; Pranata et al. 2024). Fear of missing out was therefore one of several

affective, social and risk-related mechanisms identified before an explicit purchase decision.

T_1 was the phase most frequently examined. It included urge formation, affective intensification, cognitive appraisal, reduced risk salience, social validation and behavioural execution. Positive affective states such as pleasure, enjoyment and arousal, as well as negative states such as anxiety, rumination, technostress and envy, were associated with impulse buying in the reviewed studies (Liu et al. 2019; Wang and Tsai 2017; Zhang and Ahmad 2024). Parasocial relationships, influencer attractiveness, peer approval and real-time interaction were also examined in association with reduced hesitation and greater purchase immediacy (Chen et al. 2021; Hu et al. 2023; Shao 2024). Trust, similarity, credibility, social proof and affective arousal were frequently reported alongside lower perceived risk or reduced deliberation at this phase.

T_2 onward received less direct attention. Reported mechanisms included regret, guilt, dissatisfaction, cognitive dissonance, reputational concern, returns, avoidance, compulsive repetition, and post-purchase monitoring (Beikverdi et al. 2024; Çelik and Eru 2019; Nguyen et al. 2025). The reviewed studies also documented continued comparison, justification, product display, concealment, return behaviour and monitoring after purchase. Post-purchase regret and negative affect were reported in association with both avoidance-related responses and behaviours such as renewed browsing, mood repair, or compensatory consumption.

The temporal synthesis therefore identified a concentration of evidence at T_1 , alongside a smaller body of evidence concerning anticipatory mechanisms at T_0 and emotional, cognitive and behavioural reactions at T_2 onward. Table 2 summarises the principal temporal SOR patterns. Detailed construct-level classifications and supporting references are provided in Appendices B–D.

4.4 | Temporal Variation in Risk-Related Mechanisms

The third pattern concerned the temporal distribution of risk-related mechanisms. In traditional consumer decision-making, perceived risk is commonly examined as an evaluative mechanism associated with greater deliberation or lower purchase likelihood (Mitchell 1999; Stone and Grønhaug 1993). Across the reviewed social media studies, risk-related states were identified before, during, and after purchase.

At T_0 , the literature reported fear of missing out, anticipated regret, scarcity pressure, and concern about missing an economic or socially valued opportunity. These mechanisms were associated with urgency and perceived opportunity loss (Hodkinson 2019; Li et al. 2021; Qu et al. 2023). In these studies, the anticipated consequences of not purchasing were included alongside more conventional concerns about the potential consequences of purchasing.

At T_1 , social proof, influencer credibility, peer endorsement, parasocial trust, and real-time interaction were associated with lower perceived uncertainty or greater perceived legitimacy (Hu

et al. 2019; Shamim and Islam 2022; Shao 2024). Frictionless checkout, limited-time offers, and visually immersive content were also examined in connection with shorter deliberation and reduced attention to risk.

At T_2 onward, studies reported regret, guilt, cognitive dissonance, financial concern, and reputational anxiety (Beikverdi et al. 2024; Çelik and Eru 2019). These post-purchase states appeared alongside avoidance, return behaviour, and greater self-control in some accounts, and alongside rumination, social comparison, mood repair, or renewed browsing in others.

Across the reviewed studies, risk-related mechanisms therefore appeared in different forms before, during and after purchase and were associated with both inhibition and renewed engagement. The theoretical implications of this temporal variation are considered in the Discussion.

4.5 | Affective, Social and Re-Exposure Patterns

The fourth pattern, addressing RQ3, concerned associations among affective states, social processes, behavioural responses and subsequent platform activity. The reviewed studies linked impulse buying with positive affective states such as pleasure and excitement, as well as negative states including anxiety, envy, loneliness, technostress, rumination and negative affect (Liu et al. 2019; Mundel et al. 2024; Wang and Tsai 2017; Zhang and Ahmad 2024).

Social mechanisms were examined in relation to product evaluation, purchase-related responses and post-purchase reactions. Influencer content, peer posts, likes, comments, social proof and parasocial relationships were associated with social comparison, identity-related evaluations, perceived belonging and validation-seeking (Dantas and Abreu 2020; Jin and Ryu 2020; Karahan 2025; Van Tran et al. 2023). The reviewed studies also reported post-purchase discomfort in connection with perceived financial constraints, identity incongruence and social expectations.

The synthesis further identified instances in which product-related engagement, continued browsing and post-purchase monitoring were followed by renewed contact with related platform content. Recommendation systems, social visibility and repeated engagement were reported alongside re-exposure to similar products, influencers or offers (Beikverdi et al. 2024; Nguyen et al. 2025). These studies document patterns in which behavioural responses, continued engagement and post-purchase activity coincide with or precede renewed exposure. They do not, however, establish that a uniform algorithmic feedback sequence occurs across all platforms or impulse episodes.

Taken together, the synthesis identifies overlapping SOR classifications, phase-specific mechanisms, temporal variation in risk-related states and patterns connecting behavioural or post-purchase activity with renewed exposure. These results provide the empirical basis for the Möbius-inspired temporal SOR framework developed in the next section and presented in Figure 2.

4.6 | Development of the Möbius-Inspired Temporal SOR Framework

Figure 2 presents the Möbius-inspired temporal SOR framework developed from the systematic synthesis. The framework integrates the main empirical patterns identified in the review and represents social media impulse buying as a recursive process across the three interrelated phases, T_0 , T_1 and T_2 onward. Unlike a static linear sequence, the model captures how stimuli, organismic states, and responses are analytically distinct but temporally non-separable, such that responses may simultaneously function as new stimuli; how risk perception changes in form and valence across the cycle, and how post-purchase reactions may feed back into future exposure through social visibility, platform engagement, and algorithmic reinforcement (Jacoby 2002; Amin 2025; Beikverdi et al. 2024; Nguyen et al. 2025).

The model should not be interpreted as a literal topological model or as a decorative metaphor; its purpose is analytical. Building on prior conceptual uses of topological thinking in consumer research (Coffin and Chatzidakis 2021), the Möbius-inspired representation captures three properties that emerged from the review and that are difficult to represent in a conventional linear SOR diagram. First, it captures the absence of a fixed origin: impulse buying in social media does not necessarily begin with a single stimulus or end with the purchase. Instead, exposure, attention capture, urge formation, purchase, post-purchase emotions, and re-exposure may form a recursive trajectory. Second, it captures path-dependence because behavioural responses may become new stimuli through algorithmic reinforcement, social visibility, and renewed engagement with product-related content. Third, it captures non-orientability, because stimuli, organismic states, and responses are analytically distinct but temporally non-separable, such that they may simultaneously perform multiple functions or change function across phases.

In the pre-impulse phase (T_0), social media stimuli such as platform affordances, influencer content, personalised recommendations, peer visibility, scarcity cues, and UGC activate attentional, emotional, social, and risk-related mechanisms. These mechanisms are not yet equivalent to purchase behaviour, but they prepare the conditions for impulsive action. At this stage, consumers may experience arousal, curiosity, FOMO, anticipated regret, social comparison, or perceived opportunity loss (Hodkinson 2019; Li et al. 2021; Pranata et al. 2024). Risk perception is therefore already present, although often in anticipatory form: the perceived risk of missing a socially or economically valuable opportunity may become more salient than the risk of buying (Mitchell 1999; Stone and Grønhaug 1993).

At the purchase moment (T_1), organismic states and behavioural responses become more tightly connected. Urge to buy, pleasure, excitement, affective trust, parasocial attachment, perceived credibility, and validation needs may reduce deliberation and increase purchase immediacy. In this phase, social proof, influencer trust, and real-time interaction can temporarily suppress perceived risk by making the decision feel socially validated or emotionally justified (Hu et al. 2019; Shamim and Islam 2022; Shao 2024). The purchase is therefore not only a response to stimuli, but also the outcome of affective intensification and risk displacement.

TABLE 2 | Synthesis of temporal SOR mechanisms in social media impulse buying.

SOR sector	T ₀ : Pre-impulse activation	T ₁ : Purchase moment	T ₂ onward: Post-purchase phase
S	Platform cues; visual appeal; influencer exposure; personalised recommendations; scarcity signals; peer and UGC visibility	Flash sales; live interaction; checkout prompts; real-time recommendations; promotional urgency	Re-exposure through feeds, recommendations, social visibility, and product-related content
O	Trust propensity; perceived value; early risk appraisal; social comparison; perceived opportunity	Product and source appraisal; perceived usefulness; risk suppression; validation needs; decision confidence	Cognitive dissonance; reputational concern; value re-evaluation; awareness of poor judgement
SO	Attention capture; FOMO; arousal; curiosity; information overload; anticipatory affect	Excitement; pleasure; passion activation; affective intensification	Less prominent, although post-purchase exposure may restart SO mechanisms
SR	Visual triggers; dark patterns; authenticity cues; scarcity prompts that bypass deliberation	Automated cue-driven purchase; scarcity response; direct action under time pressure	Less prominent once the initial behavioural response has occurred
OR	Limited, as behavioural mobilisation is not yet central	Urge to buy; affective justification; mood repair; craving; purchase intention	Regret; guilt; rumination; dissatisfaction; emotional backlash
R	Limited, although browsing, clicking, and engagement may prepare later action	Impulse purchase; immediate engagement; sharing or clicking purchase-related content	Returns; avoidance; post-purchase monitoring; continued browsing; repetition; compulsive tendencies
Integrated SOR	Anticipated regret; early emotional pull; source trust; social proof; perceived social relevance	Parasocial bonding; affective trust; social approval; validation-seeking; reduced perceived risk	Technostress; reputational anxiety; affective repair; social comparison; algorithmic re-exposure

Note: Integrated SOR refers to mechanisms in which stimulus, organismic, and response functions are empirically intertwined.

Abbreviations: FOMO = fear of missing out; O = organism; OR = organism–response; R = response; S = stimulus; SO = stimulus–organism; SOR = stimulus–organism–response; SR = stimulus–response; T₀ = pre-impulse activation; T₁ = purchase moment; T₂ onward = post-purchase phase; UGC = user-generated content.

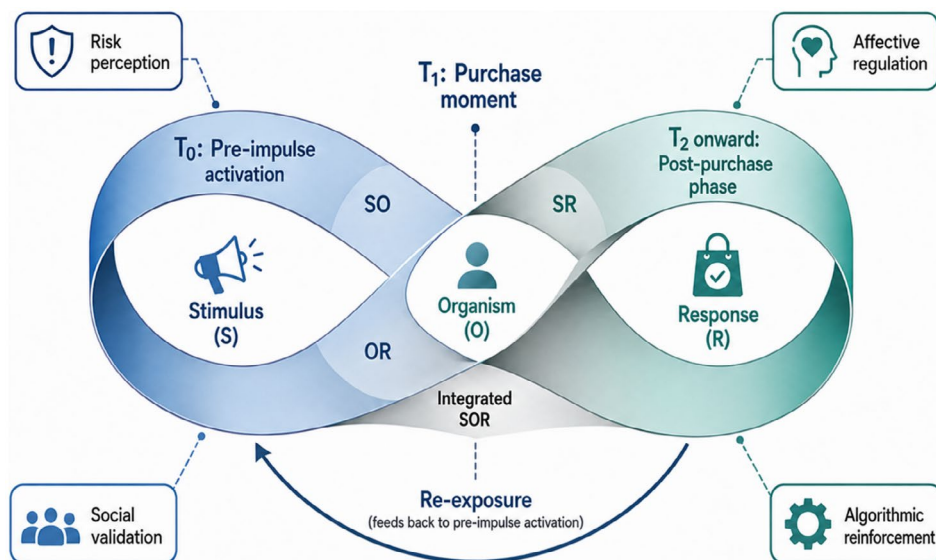


FIGURE 2 | Möbius-inspired temporal SOR framework of impulse buying in social media. O = Organism; OR = Organism–Response; R = Response; S = Stimulus; SO = Stimulus–Organism; SOR = Stimulus–Organism–Response; SR = Stimulus–Response; T0 = pre-impulse activation; T1 = purchase moment; T2 onward = post-purchase phase. Integrated SOR refers to mechanisms in which stimulus, organismic and response functions are empirically intertwined. Re-exposure refers to the reintroduction of behavioural and post-purchase responses into subsequent platform-mediated stimuli. The Möbius form is used as an analytical device and should not be interpreted as a literal topological model.

In the post-purchase phase (T_2 onward), the response generates emotional, cognitive, social, and behavioural consequences. Regret, guilt, satisfaction, dissonance, reputational concern, returns, avoidance, post-purchase monitoring, or renewed browsing may follow the impulse purchase (Beikverdi et al. 2024; Çelik and Eru 2019; Nguyen et al. 2025). These reactions may influence whether the cycle is interrupted, weakened, or re-activated. For some consumers, reflective risk may encourage avoidance or self-control. For others, negative affect, social comparison or validation seeking may encourage further platform engagement and re-exposure to similar stimuli.

The transversal mechanisms surrounding the loop explain why the process may repeat. Risk perception changes across the cycle, moving from anticipatory loss to suppressed uncertainty and later to retrospective regret or dissonance. Affective regulation explains how impulse buying may function as a temporary response to excitement, boredom, anxiety, envy, or identity tension. Social validation captures the role of peer cues, influencer relationships, visibility, and self-presentation in shaping both purchase and post-purchase evaluation. Algorithmic reinforcement is proposed as the structural process through which behavioural traces (engagement signals, browsing patterns and purchase history) are selectively detected and amplified by platform architectures, increasing future exposure to similar products, creators, or offers and converting consumer responses into recursive stimuli (Amin 2025; Nguyen et al. 2025).

The resulting framework extends SOR theory by shifting attention from a single purchase response to the recursive organisation of impulse buying in platform-mediated settings. It does not reject the explanatory value of SOR; rather, it specifies how SOR components, while analytically distinct, are temporally non-separable and interact recursively over time.

This temporal and recursive interpretation provides a basis for understanding why social media impulse buying may remain episodic for some consumers but become repetitive or maladaptive for others.

5 | Discussion

This study extends current understanding of social media impulse buying by interpreting the systematic synthesis through a recursive temporal lens. The findings do not suggest that the Stimulus–Organism–Response framework is inherently static or linear. Rather, they indicate that its empirical application in impulse buying research has frequently privileged one-way relationships in which external stimuli influence organismic states and purchase constitutes the final behavioural response (Mehrabian and Russell 1974; Jacoby 2002). In platform-mediated settings, this endpoint assumption provides only a partial account of the process because purchasing, clicking, sharing, returning, monitoring, and continued browsing may generate new affective states, behavioural traces, and opportunities for re-exposure (Beikverdi et al. 2024; Nguyen et al. 2025).

The synthesis addresses the three research questions through complementary findings. In response to RQ1, it shows that many mechanisms identified in the literature cannot be located consistently within a single SOR component. Social, affective, cognitive, behavioural, and platform-related processes frequently cross the boundaries between stimulus, organism, and response. In response to RQ2, it demonstrates that these mechanisms vary across pre-impulse activation, the purchase moment, and the post-purchase phase. Risk perception, affective activation, and social influence therefore change in function and meaning as the process develops. In response to RQ3,

the synthesis identifies pathways through which behavioural and post-purchase responses may contribute to subsequent exposure. Building on these patterns, the framework theorises algorithmic reinforcement as a structural mechanism connecting consumer response with personalised re-exposure.

The Möbius-inspired temporal SOR framework organises these findings without replacing the original SOR framework. As a theory-building device, the representation captures three characteristics of the process. Non-orientability represents the temporal non-separability of SOR components; path-dependence indicates that current responses are partly shaped by previous stimuli, states, and behaviours; and the absence of a fixed origin reflects the difficulty of identifying a single beginning or endpoint in recurring platform-mediated episodes. These properties provide an analytical language for interpreting the continuity between response and subsequent stimulation, rather than constituting a literal topological model.

Viewed through the lens of conceptual contribution theory, the study contributes by revising, integrating, and differentiating existing understandings of social media impulse buying (MacInnis 2011). It revises the endpoint assumption commonly embedded in empirical SOR applications, integrates fragmented affective, cognitive, social, behavioural, and platform-related mechanisms within a temporal framework, and differentiates risk perception as a process whose form and valence change across the impulse cycle. These contributions extend SOR theory in three related respects.

First, the framework offers a recursive temporal interpretation of SOR. Previous studies have used SOR productively to connect environmental stimuli, organismic states, and behavioural outcomes, but these elements have often been operationalised as a one-way sequence ending in purchase (Peng and Kim 2014; Kimiagari and Asadi Malafe 2021; Redine et al. 2023). The synthesis suggests that this assumption is particularly restrictive in social media environments. Behavioural responses may generate emotional consequences, social visibility, engagement signals, and browsing patterns that influence later platform use and subsequent impulse episodes (Amin 2025; Nguyen et al. 2025). Responses should therefore not always be treated as definitive endpoints. Depending on the consumer's subsequent affective, social, and behavioural reactions, they may also become inputs into later stages of the process.

This interpretation builds on, rather than replaces, the original SOR framework. SOR remains valuable because it provides a parsimonious structure for distinguishing environmental conditions, internal states, and behavioural responses. The proposed extension clarifies how this structure may be applied when the functions of its components change over time. Stimulus, organism, and response remain analytically distinguishable, but their functions are temporally non-separable because a response within one episode may contribute to the stimulus environment of the next (Jacoby 2002). Recursive temporality therefore concerns the relationship between episodes and phases, not the elimination of conceptual distinctions among SOR components.

Second, the study advances a dynamic and affectively embedded interpretation of risk perception. Conventional consumer decision models typically conceptualise perceived risk as a cognitive evaluation that increases deliberation or inhibits purchase (Mitchell 1999; Stone and Grønhaug 1993). The reviewed literature suggests that, in social media impulse buying, risk cannot always be separated from the affective and social conditions surrounding the decision. Its role varies across the temporal process.

During pre-impulse activation, risk may be experienced as anticipated loss, perceived opportunity cost, scarcity pressure, or concern about missing an economically or socially valued experience (Hodkinson 2019; Li et al. 2021; Qu et al. 2023). Fear of missing out is one manifestation of this anticipatory configuration, but it does not exhaust the mechanisms operating in this phase. Attention capture, curiosity, excitement, social comparison, perceived opportunity, and anticipated regret may also shape how consumers evaluate the consequences of acting or not acting.

At the purchase moment, risk may be temporarily suppressed, displaced, or reinterpreted through arousal, social proof, influencer credibility, parasocial trust, platform convenience or real-time interaction (Hu et al. 2019; Shamim and Islam 2022; Shao 2024). Risk does not necessarily disappear. Instead, affective intensity, perceived social legitimacy, and reduced transactional friction may make its consequences less salient at the point of decision.

During the post-purchase phase, risk may re-emerge as regret, guilt, cognitive dissonance, reputational concern, dissatisfaction, or financial anxiety (Beikverdi et al. 2024; Çelik and Eru 2019). Regret is therefore one possible manifestation of a broader post-purchase configuration rather than the defining feature of the entire phase. These retrospective evaluations may interrupt subsequent impulsive behaviour by encouraging avoidance or self-control. Conversely, when they generate rumination, negative affect, renewed social comparison, or compensatory motives, they may contribute to further engagement and reactivation. Treating risk as an affectively embedded and temporally variable mechanism helps explain why it may inhibit impulse buying under some conditions while intensifying urgency or renewed consumption under others.

Third, the framework theorises algorithmic reinforcement as a structural mechanism connecting consumer response with subsequent exposure. The reviewed studies show that social media impulse buying is associated not only with hedonic pleasure and product attractiveness, but also with anxiety, envy, loneliness, technostress, social comparison, parasocial attachment, identity regulation and validation needs (Dantas and Abreu 2020; Jin and Ryu 2020; Liu et al. 2019; Mundel et al. 2024; Zhang and Ahmad 2024). These findings indicate that impulsive purchasing may sometimes operate as temporary affective regulation or social self-management (Gross 1998; Wang and Tsai 2017).

The systematic synthesis does not demonstrate that every platform or impulse episode follows an identical algorithmically reinforced sequence. Rather, it documents the behavioural, social,

and affective mechanisms that make response-to-re-exposure feedback theoretically plausible. On this basis, the framework proposes that engagement signals, social interactions, browsing traces, and purchase histories can be detected and selectively amplified by platform architectures. Personalised recommendations and renewed commercial exposure may then convert previous responses into components of a subsequent stimulus environment (Amin 2025; Indriastuti et al. 2024).

This distinction between synthesis and conceptual inference is important. The reviewed evidence supports the existence of personalised cues, continued engagement, social visibility, post-purchase reactions, and recurring exposure. The framework integrates these findings to theorise algorithmic reinforcement as the structural process through which they may become recursively connected. This proposition requires direct empirical testing, but it provides a theoretically grounded explanation of how socially embedded responses may develop from situational reactions into repeated trajectories.

6 | Practical and Ethical Implications

The findings have implications for marketers, social media platforms, platform designers, policymakers, and consumer protection bodies. Because the framework is conceptual, these implications should be understood as evidence-informed considerations rather than as universally applicable prescriptions.

For marketers, the results indicate that impulse buying should not be evaluated solely in terms of immediate conversion. Post-purchase regret, perceived manipulation, dissatisfaction, reputational concern, return behaviour, and reduced trust may affect the longer-term relationship between consumers, brands, and platforms. Urgency, scarcity, social proof, and influencer appeals may increase short-term purchasing, but their cumulative use may also intensify vulnerability or generate adverse post-purchase responses. Marketing performance assessments should therefore consider post-purchase outcomes alongside immediate sales and engagement.

The recursive perspective also highlights the importance of distinguishing helpful personalisation from repeated exposure that exploits affective or social vulnerability. Personalised commercial communication may increase relevance and reduce search costs, but it may become problematic when previous signs of urgency, anxiety, repeated browsing, or reduced control are used to intensify further exposure. Marketers should therefore consider how targeting practices interact with consumers' prior responses, rather than treating every engagement signal as an unambiguous indication of preference.

For social media platforms and designers, the framework draws attention to the cumulative effects of platform architecture. Infinite scroll, algorithmic recommendations, live-stream urgency, countdowns, frictionless checkout, and social proof metrics may intensify impulsive behaviour when combined with emotional vulnerability, social comparison, or limited deliberation (Al-Tabakhi et al. 2024; Indriastuti et al. 2024; Qu et al. 2023). No single design feature necessarily produces harmful consumption. However, combinations of continuous

exposure, urgency, personalisation, and transactional convenience may reduce opportunities for reflection and sustain response-to-re-exposure feedback.

Potential safeguards include more transparent recommendation systems, clearer commercial disclosures, cooling-off prompts, spending reminders, and proportionate friction for purchases associated with heightened risk or repeated impulsive behaviour (Sen and Nayak 2021). Such interventions should preserve consumer autonomy while increasing the visibility of commercial intent and creating opportunities for deliberation. Their effectiveness and possible unintended consequences would nevertheless require empirical evaluation across different platforms and consumer groups.

For policymakers and consumer protection bodies, the framework supports a broader interpretation of digital consumer vulnerability. Harm may arise not only from an isolated deceptive cue, but also from cumulative exposure cycles in which affective activation, social validation, behavioural data and algorithmic reinforcement interact over time. Regulatory attention should therefore consider both individual persuasion episodes and the broader architecture through which consumer responses are captured and reintroduced into personalised environments.

This perspective also suggests that vulnerability should not be understood exclusively as a stable individual characteristic. Platform design, commercial practices, situational affect, social comparison, financial circumstances, and repeated exposure may jointly produce periods of heightened susceptibility. Consumer education and regulatory initiatives could consequently address both individual capacities, such as persuasion knowledge and digital literacy, and the structural conditions that shape repeated platform-mediated consumption.

7 | Conclusion, Limitations and Future Research

7.1 | Conclusion

This study extends SOR theory by conceptualising social media impulse buying as a recursive temporal process rather than as a discrete purchase event. The systematic synthesis indicates that stimuli, organismic states, and responses remain analytically distinct, but their functions may become temporally non-separable across pre-impulse activation, the purchase moment, and the post-purchase phase. Consumer responses may generate affective reactions, social visibility, behavioural traces, and renewed engagement that contribute to later exposure.

The Möbius-inspired temporal SOR framework integrates three central insights: responses may operate as inputs into subsequent episodes, risk perception changes in form and valence across the process, and algorithmic reinforcement may structurally connect consumer behaviour with personalised re-exposure. The framework does not replace SOR or imply that all impulse episodes become repetitive or maladaptive. It provides a conceptual basis for explaining why some episodes remain isolated while others may be reactivated through affective, social, behavioural and platform-mediated feedback.

7.2 | Limitations

Several limitations qualify the scope of these conclusions. First, although the framework is grounded in a systematic synthesis of 124 empirical studies, it remains conceptual. The proposed temporal pathways, hybrid SOR relationships, and response-to-re-exposure mechanisms have not been tested as an integrated empirical model. The framework should therefore be regarded as a theory-building structure whose propositions require validation.

Second, the review is limited to empirical research conducted in social media, social commerce, and related platform-mediated settings. Its conclusions should not automatically be generalised to traditional e-commerce, offline retailing, or other digital environments with different levels of social visibility, interaction, personalisation, and algorithmic mediation.

Third, the reviewed literature is concentrated predominantly on cross-sectional relationships and the purchase moment. Pre-impulse activation and post-purchase processes receive less direct empirical attention. This imbalance limits the ability to establish temporal order, distinguish short-term reactions from persistent trajectories, or determine whether post-purchase states causally influence subsequent exposure and purchasing.

Fourth, the mechanisms identified may vary across platforms, product categories, cultures, and consumer segments. Differences in recommendation architecture, commercial integration, platform affordances, social norms, and purchasing friction may influence how recursive processes develop. The framework consequently identifies general mechanisms but does not establish that their relative importance is constant across contexts.

Finally, the framework does not fully account for intersectional differences in vulnerability. Age, gender, income, digital literacy, financial literacy, emotional regulation, and socio-cultural context may interact in ways that cannot be captured through isolated demographic or psychological variables. Claims concerning escalation or maladaptive consumption should therefore remain cautious until these differences are examined empirically.

7.3 | Future Research Agenda

The findings and limitations generate four connected priorities for future research (see Appendix E).

First, future studies should test the temporal sequences proposed by the framework. The dominance of cross-sectional designs limits understanding of how anticipatory emotions, purchase urges, behavioural responses, and post-purchase evaluations develop over time (Redine et al. 2023; Xiao et al. 2020). Longitudinal surveys, experience-sampling designs, diary methods, time-lagged models, and repeated behavioural observations could examine pathways connecting fear of missing out, urgency, purchase, regret, and renewed exposure (Li et al. 2021; Pranata et al. 2024). Such studies should assess whether the temporal ordering proposed by the framework is stable or varies across consumers, platforms, and consumption contexts.

Second, research should model response-to-re-exposure feedback directly. Post-purchase reactions are commonly examined as consequences, but the synthesis suggests that they may shape subsequent browsing, monitoring, avoidance, searching, compensatory buying, and platform engagement (Beikverdi et al. 2024; Nguyen et al. 2025). Behavioural trace data, recommendation logs, platform experiments, and mixed-method designs could investigate whether engagement signals and post-purchase behaviours influence later commercial exposure (Amin 2025). Linking self-reported affective states with platform-generated behavioural data would be particularly useful for distinguishing perceived re-exposure from algorithmically documented changes in recommendations.

Third, further research should examine the boundary between impulsive and compulsive consumption. The framework does not equate impulse buying with compulsive buying. It instead proposes that repeated episodes may become maladaptive under particular combinations of temporal clustering, perceived loss of control, obsessive passion, negative affect, financial anxiety, and algorithmic reinforcement (Brook et al. 2015; Mueller et al. 2011; Turel and Serenko 2010; Wang and Tsai 2017). Longitudinal trajectory modelling, latent-class analysis, behavioural logs, and qualitative follow-up studies could distinguish episodic impulse buyers from consumers experiencing persistent or escalating patterns. Research should also identify conditions under which post-purchase regret interrupts the cycle and conditions under which it contributes to rumination, mood repair, or compensatory consumption.

Fourth, future research should examine consumer vulnerability and platform responsibility jointly. Individual differences in age, self-esteem, impulsivity, emotional regulation, financial literacy, digital literacy, deal proneness, and persuasion knowledge may shape responses to scarcity, influencer appeals, dark patterns and personalised recommendations (Husnain et al. 2025; Leong et al. 2017; Pellegrino et al. 2022; Shamim and Azam 2024; Zafar et al. 2021). However, vulnerability cannot be understood solely as an individual deficit because platform design can intensify urgency, comparison, frictionless purchasing, and repeated exposure (Al-Tabakhi et al. 2024; Amin 2025).

Comparative studies across platforms, cultures, demographic groups, and product categories could identify how individual and structural factors interact. Experiments could test the effects of disclosures, spending reminders, cooling-off periods, recommendation transparency and transactional friction. Participatory and qualitative research could also examine how consumers interpret personalisation, social pressure, and post-purchase re-exposure. Together, these approaches would clarify when platform-mediated personalisation supports consumer relevance and when it contributes to recurrent or harmful impulse-buying trajectories.

Author Contributions

All authors contributed equally to the conceptualisation, analysis, and writing of this manuscript.

Funding

The authors have nothing to report.

Ethics Statement

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Supporting Information

Additional supporting information can be found online in the Supporting Information section. **Table A1.** Comparison with prior systematic reviews on digital and social media impulse buying **Table B1.** Stimulus-related constructs and SOR-sector reclassification **Table C1.** Organismic cognitive constructs and SOR-sector reclassification **Table C2.** Organismic affective constructs and SOR-sector reclassification **Table D1.** Moderators, contextual factors and vulnerability-related constructs **Table E1.** Future research agenda derived from the temporal SOR framework