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# FOMO-DRIVEN PURCHASING IN E-COMMERCE FLASH SALES: AN INTEGRATIVE CONCEPTUAL FRAMEWORK

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**Abstract:** Flash sales on e-commerce platforms have become one of the most widely used promotional formats in digital retail, generating billions of dollars in transactions during single-day events worldwide. Yet the psychological mechanisms that make these events effective — and potentially harmful to consumers — remain undertheoretically integrated. This article examines how the Fear of Missing Out (FOMO) operates as a central mediating force between platform-level design stimuli and consumer purchase behavior during flash sale events.

This study adopts an integrative review approach, synthesizing peer-reviewed literature published between 2019 and 2025. Sources were retrieved from Scopus, Web of Science, and Google Scholar using keyword combinations covering FOMO, scarcity marketing, social proof, impulse buying, and e-commerce interface design. The conceptual framework was constructed by mapping findings onto the Stimulus-Organism-Response (SOR) theoretical model.

The review demonstrates that FOMO is not simply a personality trait but a context-activatable psychological state that platform designers can deliberately trigger. Countdown timers, low-stock alerts, and real-time social proof indicators function as environmental stimuli that elevate FOMO, which in turn amplifies both impulsive and compulsive purchasing. However, the same tactics that boost short-term conversions risk eroding consumer trust and generating post-purchase regret when overused or deceptively applied.

The article makes three contributions: first, it reframes FOMO as a strategically activatable state rather than a stable trait; second, it integrates scarcity theory, social proof theory, and behavioral economics within a single SOR-anchored model; and third, it introduces ethical boundaries as a structural dimension of the framework, connecting platform design choices to long-term brand outcomes.

**Key words:** FOMO; flash sales; e-commerce; impulse buying; scarcity marketing; social proof; urgency cues; SOR framework; dark patterns; consumer psychology.

## INTRODUCTION

Consider a familiar experience for online shoppers in any country with an active e-commerce market: a product page displaying a countdown clock ticking toward zero, a banner reading “Only 3 items left,” and a real-time notification indicating that nineteen other shoppers are viewing the same item at that moment. These design features appear on major platforms globally — from Amazon and Alibaba to regional marketplaces

across Central Asia, Eastern Europe, and Southeast Asia. They are not accidental design choices. They represent the deliberate activation of a specific psychological mechanism: the Fear of Missing Out, or FOMO.

What makes this phenomenon academically significant is not simply that it increases purchase rates, but why it works and at what cost to consumers and brands alike. A substantial body of research confirms that FOMO amplifies both impulsive and compulsive buying behavior in digital retail environments ([Li et al., 2021](#); [Sun & Bao, 2023](#); [Ardyan & Sanapang, 2023](#)). What remains insufficiently integrated is how the various mechanisms — temporal scarcity, quantity scarcity, social proof, and platform interactivity — relate to one another within a coherent theoretical model, and what the downstream consequences are for consumer well-being and brand equity over time.

This article addresses those gaps by proposing an integrative conceptual framework that maps the pathway from platform-level stimuli through FOMO to purchase behavior, drawing on the Stimulus-Organism-Response (SOR) model as its theoretical backbone. The framework serves both as a theoretical contribution and as a practical reference for e-commerce managers navigating the tension between short-term conversion optimization and long-term relationship building with consumers.

Flash sales are defined as time-limited promotional events in which e-commerce platforms offer discounted products for a short duration and in restricted quantities ([Prasetyo et al., 2020](#)). Flash sales compress the consumer decision-making process by simultaneously introducing temporal pressure and supply scarcity — two of the most reliably effective triggers of urgency identified in behavioral economics research ([Yadav et al., 2025](#)).

Single-day shopping events — such as Singles' Day (11.11) originating in China, Black Friday and Cyber Monday in North American and European markets, and equivalent date-anchored campaigns proliferating across Central Asian and Middle Eastern e-commerce platforms — now generate revenues measured in tens of billions of dollars within 24-hour windows ([Rosario & Raimundo, 2021](#)). E-commerce growth in emerging markets, including Central Asia and the broader post-Soviet region, has accelerated sharply in recent years as smartphone penetration and digital payment infrastructure have expanded, creating new populations of consumers encountering FOMO-activating marketing for the first time.

Most existing research examines individual variables — discount depth, scarcity messaging, social cues — in isolation ([Pattinaja et al., 2023](#); [Jamnani & Jamnani, 2024](#)). This article argues that a more integrative approach is needed: one that treats flash sale design as a coordinated system of stimuli and connects this system to a multi-level model of psychological and behavioral response.

This article pursues three interrelated objectives: (1) to synthesize the theoretical and empirical literature on FOMO in e-commerce and social commerce contexts; (2) to propose a conceptual framework integrating multiple stimulus types, psychological mediators, and behavioral outcomes within the SOR model; and (3) to derive propositions for future empirical research alongside practical recommendations for ethical flash sale design. Section 2 reviews the relevant literature across five thematic areas. Section 3 develops the conceptual framework and theoretical propositions. Section 4 discusses key analytical insights, including cross-cultural considerations and ethical dimensions. Section 5 presents conclusions, limitations, and directions for future research.

## REVIEW OF LITERATURE ON THE SUBJECT

Consumer behavior in online retail environments cannot be adequately explained by classical rational choice theory alone. Digital platforms are deliberately engineered to reduce friction, compress decision timelines, and minimize deliberation — all of which systematically tilt the balance from reflective toward impulsive processing ([Rosario & Raimundo, 2021](#)). The result is that a substantial share of online purchases, particularly during promotional events, are unplanned at the moment a consumer enters the purchase funnel ([Li et al., 2021](#)).

Research has consistently identified both individual and situational antecedents of online impulse buying. Situational factors — platform design features, real-time social signals, and perceived time pressure — have emerged as especially powerful drivers of unplanned purchasing ([Ardyan & Sanapang, 2023](#); [Rita & Iswanto, 2023](#)). Critically, these situational factors are not passively present in the consumer's environment; they are deliberately constructed by platform designers.

A distinction between impulsive and compulsive buying is important to establish at the outset. Impulsive buying refers to unplanned, in-the-moment purchase decisions that may or may not produce subsequent regret. Compulsive buying denotes a more persistent pattern of purchasing driven by psychological need or anxiety relief rather than product utility ([Ardyan & Sanapang, 2023](#)). FOMO is implicated in both: in impulsive buying, FOMO functions as an acute situational trigger; in compulsive buying, it operates as a chronic reinforcer deepened through repeated platform exposure over time ([Sun & Bao, 2023](#); [Li et al., 2021](#)).

Scarcity theory offers the most direct theoretical account of why flash sales are effective. The core proposition holds that people assign greater value to things they perceive as rare or difficult to obtain (Pattinaja et al., 2023). In flash sale contexts, scarcity is operationalized along two dimensions — temporal scarcity (limited time) and quantity scarcity (limited stock) — both of which create conditions under which consumers feel compelled to act immediately. The psychological mechanism is closely tied to loss aversion: framing inaction as loss rather than depicting action as gain produces measurably different behavioral responses. Empirical evidence confirms that time-constrained promotional offers outperform open-ended discount formats by a substantial margin in conversion rates (Yadav et al., 2025).

That said, the effectiveness of scarcity cues is not unconditional. Evidence reviewed by the OECD (2022) indicates that a significant proportion of consumers interpret scarcity claims as sales pressure rather than genuine information, with nearly half reporting reduced trust after exposure to such claims. Mathur et al. (2019) documented “dark patterns” in e-commerce interface design — deliberate design choices that mislead consumers, including countdown timers that reset upon page refresh and low-stock alerts disconnected from actual inventory data. These practices are ethically problematic and, in an increasing number of jurisdictions, are attracting regulatory attention.

Social proof — the tendency of individuals to look to others’ behavior as a guide for their own actions — is among the most powerful principles in consumer psychology (Mathur et al., 2019). In e-commerce environments, social proof is operationalized through interface elements such as “47 people are viewing this item,” “Best seller this week,” and live viewer counts displayed during streaming commerce events.

The relationship between social proof and FOMO is direct and mutually reinforcing. Consumers experience both informational social influence — “if others want it, it must be valuable” — and normative social influence — “I should want this too, to maintain parity with my peers.” Sun and Bao (2023) found that both types of social influence significantly and positively predict FOMO, which in turn drives compulsive buying behavior. Live streaming commerce represents an especially potent amplification of these dynamics, producing what Ardyan and Sanapang (2023) describe as a convergence of interactivity and FOMO, in which simultaneous social stimulation and temporal pressure drive purchasing behavior that consumers themselves retrospectively characterize as unintended.

Behavioral economics provides a complementary theoretical perspective through which flash sale design can be systematically analyzed. Loss aversion makes deadline framing more motivationally powerful than discount framing alone. Hyperbolic discounting — the tendency to disproportionately prefer immediate rewards over equivalently valued future rewards — explains why a flash deal expiring in two hours outperforms a coupon redeemable at any time in the next month (Yadav et al., 2025).

Anchoring effects are embedded in standard flash sale interface design: when a product is displayed with a struck-through original price alongside a discounted flash price, the original price functions as a cognitive anchor that makes the discount appear more favorable regardless of whether it reflects genuine market value. The endowment effect is activated when consumers add items to a digital cart during a flash sale, creating a sense of anticipated ownership that makes cart abandonment feel psychologically aversive. The cumulative effect of these simultaneously activated mechanisms constitutes what behavioral economists term a “nudge architecture” (Yadav et al., 2025) — a structured commercial environment in which multiple cognitive biases are engaged in concert to channel consumer behavior toward a specific outcome.

The theoretical status of FOMO in consumer behavior research has evolved considerably over the past decade. Initially framed as a dispositional personality trait associated with problematic social media use, FOMO has been progressively reconceptualized as a context-dependent psychological state that can be situationally activated through specific environmental stimuli (Sun & Bao, 2023). This reconceptualization shifts the locus of explanation: rather than locating FOMO primarily in vulnerable individuals, it locates it in the interaction between individuals and strategically designed environments.

Empirically, FOMO has been shown to mediate the relationship between social commerce stimuli and purchasing behavior across multiple studies and market contexts. Li et al. (2021) demonstrated that FOMO mediates the pathway from informational incentives to continued platform use and impulse buying. Li et al. (2025) found that FOMO moderates the effect of perceived hedonic value on impulse buying. Liu (2025) extended these findings to influencer marketing contexts, showing that FOMO activated by influencer content strengthens purchase intentions beyond what product quality perceptions alone would predict. Nonetheless, the moderating role of individual traits — particularly materialism — is more complex than simple additive models imply, pointing toward the need for more precise measurement instruments in future empirical investigations.

## RESEARCH METHODOLOGY

The research methodology of this study is based on a systematic and integrative literature review combined with conceptual modeling. Data were collected through structured searches in major academic databases,

including Scopus, Web of Science, and Google Scholar, using predefined inclusion and exclusion criteria focused on recent peer-reviewed studies and policy reports related to FOMO and digital consumer behavior. The selected sources were then analyzed using qualitative synthesis techniques to identify key constructs, relationships, and theoretical patterns. Furthermore, a conceptual framework was developed and analytically structured using the Stimulus–Organism–Response (SOR) model, while the proposed relationships were examined through logical reasoning and comparative analysis of empirical findings from prior studies.

## ANALYSIS AND RESULTS

The Stimulus-Organism-Response (SOR) framework, originally developed in environmental psychology by [Mehrabian and Russell \(1974\)](#) and subsequently adapted for consumer behavior research, provides the theoretical backbone of the proposed model. The SOR framework posits that external stimuli (S) act upon an organism's internal psychological states (O), which in turn determine behavioral responses (R). The framework is well-suited to e-commerce contexts because it explicitly accommodates the role of platform design in shaping consumer psychology ([Li et al., 2025](#)).

In the framework proposed here, the stimulus layer corresponds to four categories of platform-level design features: temporal scarcity cues, quantity scarcity cues, social proof signals, and interactive platform features. The organism layer comprises two psychological mechanisms: FOMO as the primary mediator, and perceived value — both hedonic and utilitarian — as secondary mediators. The response layer encompasses three behavioral outcomes: purchase intent, impulsive buying, and compulsive buying tendency. Two moderating variables — individual FOMO disposition and hedonic shopping motivation — condition the strength of relationships within the organism-to-response pathway (Table 1).

Table 1. Conceptual Framework: Variable Mapping by SOR Layer<sup>1</sup>

Framework Layer	Variables	Role in SOR Framework
STIMULUS LAYER — Independent Stimuli	Time limit cues, stock availability alerts, social proof cues, platform interactivity	Activates FOMO and perceived value; increases urgency and anxiety-driven engagement
ORGANISM LAYER — Mediating Variables	FOMO (fear of missing out), perceived value (hedonic and utilitarian)	Translates platform stimuli into affective and cognitive states preceding behavioral responses
RESPONSE LAYER — Behavioral Outcomes	Purchase intent, impulsive buying, compulsive buying	Measurable behavioral consequences of FOMO activation
MODERATION — Boundary Conditions	Individual FOMO disposition, hedonic shopping motivation, self-control, materialism	Moderates the FOMO–purchase outcome pathway; explains individual-level heterogeneity

[Pattinaja et al. \(2023\)](#) found that temporal scarcity — operationalized through countdown timers, session-limited offers, and deadline-framed messages such as “Ends in 01:47:22” — significantly increases purchase intent among young adult consumers. The mechanism operates primarily through loss aversion: the approaching deadline reframes inaction as loss rather than simply depicting action as gain, triggering urgency that can override deliberative cognitive processing.

Quantity scarcity signals — “Only 5 left in stock,” “Limited edition,” “Almost sold out” — introduce an element of social competition: the implication that other shoppers are simultaneously claiming units of the same product intensifies the perceived threat of exclusion. Consumers consistently attribute higher desirability to demand-scarce items, a pattern that is amplified when scarcity is framed as driven by high consumer demand rather than low production volume ([Pattinaja et al., 2023](#); [OECD, 2022](#)).

[Li et al. \(2025\)](#) found that social cue intensity — encompassing explicit social proof displays (“238 sold today”), activity notifications, and peer comparison features — significantly enhances both perceived utilitarian and perceived hedonic value in social commerce contexts, with the effect on hedonic value being particularly pronounced. Both informational and normative dimensions of social influence are subsumed within this construct ([Sun & Bao, 2023](#)).

[Ardyan and Sanapang \(2023\)](#) found that platform interactivity — encompassing live streaming, interactive chat during sales events, gamified flash deal mechanics, personalized notifications, and collaborative purchasing features — is a significant predictor of both FOMO and compulsive buying in social commerce contexts, suggesting that the always-on, highly interactive nature of modern platforms creates conditions for chronic FOMO re-activation rather than a one-time acute response.

<sup>1</sup> Note: SOR = Stimulus-Organism-Response framework (Mehrabian & Russell, 1974). Variable assignments are based on review of empirical literature synthesized in Section 2.

Consistent with the reconceptualization outlined in Section 2.5, FOMO is positioned within the proposed framework as a context-activated psychological state rather than a stable dispositional trait. When environmental stimuli — particularly combinations of temporal scarcity and social proof — are simultaneously present, consumers experience a distinctive anxiety characterized by the perception that others are accessing valuable opportunities from which they are excluded (Ardyan & Sanapang, 2023). The mediating role of FOMO has been empirically supported across multiple studies and contexts (Li et al., 2021; Sun & Bao, 2023; Li et al., 2025).

Li et al. (2025) demonstrated that platform interactivity and social cues influence impulse buying partly through their effects on perceived value, and that FOMO strengthens the translation of hedonic value into actual purchasing behavior. This suggests a sequential mediation structure in which stimuli influence perceived value, perceived hedonic value in turn elevates FOMO, and elevated FOMO drives the transition from purchase intention to completed transaction.

The framework distinguishes between three related but conceptually distinct behavioral outcomes: (1) purchase intent — the consumer's measured intention to complete a specific transaction, representing the most proximate outcome of acute FOMO activation; (2) impulsive buying behavior — actual unplanned purchases made during or immediately following flash sale exposure, associated with post-purchase regret (Ofem, 2024); and (3) compulsive buying tendency — a more persistent pattern of repetitive, hard-to-control purchasing that may develop through sustained exposure to FOMO-activating platform environments. The framework treats compulsive buying as a distal outcome requiring sustained FOMO activation across multiple purchase episodes over time, distinguishing it from the acute impulsive response that a single flash sale event may produce.

Individual FOMO disposition moderates the relationship between perceived hedonic value and impulse buying: consumers with higher trait-level susceptibility to FOMO translate positive product evaluations into completed purchases more readily (Li et al., 2025). Hedonic shopping motivation moderates the effect of platform interactivity on buying behavior, with pleasure-seeking consumers responding more strongly to experiential and social platform features (Rita & Iswanto, 2023). Materialism has shown inconsistent moderating effects across studies, suggesting that its role may be context-specific and requiring more careful operationalization in future empirical work (Li et al., 2021).

Based on the integrative framework developed above, six propositions are advanced for future empirical investigation. These are framed as propositions — not hypotheses — to reflect the conceptual nature of the present article and to signal that empirical testing through appropriate designs (e.g., PLS-SEM with field survey data) is required before directional conclusions can be drawn (Table 2).

Table 2. Theoretical Propositions: Summary, Pathways, and Grounding<sup>2</sup>

No.	Pathway	Description & Theoretical Grounding
P1	Time Limit Cues → FOMO	Time-limited promotional cues (countdown timers, expiry messaging) positively associate with consumer FOMO intensity. Loss aversion amplifies urgency responses (Pattinaja et al., 2023; Yadav et al., 2025 [Preprint]).
P2	Stock Availability Alerts → FOMO	Low-stock alerts (e.g., 'Only 3 left') trigger the scarcity heuristic and increase perceived item value, positively associating with FOMO (Mathur et al., 2019; Pattinaja et al., 2023).
P3	Social Cue Intensity → FOMO	Intensity of social proof cues (peer purchase indicators, review volume) positively associates with FOMO via normative social influence (Li et al., 2021; Mathur et al., 2019).
P4	Platform Interactivity → FOMO	Higher platform interactivity (real-time notifications, gamification, live streaming) positively associates with FOMO by amplifying social engagement and scarcity perceptions (Ardyan & Sanapang, 2023; Rita & Iswanto, 2023).
P5	FOMO → Purchase Outcomes	Consumer FOMO positively mediates the relationship between platform stimuli and purchase behavior outcomes (intent, impulsive buying, and compulsive buying), such that higher FOMO levels produce greater purchasing responses (Sun & Bao, 2023; Li et al., 2025 [Preprint]).
P6	Individual Traits & FOMO Disposition as Moderators	The FOMO–purchase outcome relationship is moderated by individual traits (self-control, materialism) and baseline FOMO disposition; consumers with higher trait FOMO and lower self-control exhibit stronger purchasing responses (Ardyan & Sanapang, 2023; Li et al., 2021).

<sup>2</sup> Note: Propositions are conceptual in nature and require empirical validation through survey-based or experimental research designs.

The review followed an integrative approach (Torraco, 2005). Three databases were systematically searched: Scopus, Web of Science, and Google Scholar. Inclusion criteria were: peer-reviewed journal articles or policy reports, published 2019–2025, in English, directly addressing FOMO or related constructs in commercial digital contexts. Exclusion criteria included studies focused exclusively on offline retail, duplicate publications, and inaccessible full texts. Twenty-four peer-reviewed sources and three policy-level documents were included in the final synthesis. Three preprint sources were retained where no published peer-reviewed version was available at time of writing, and are identified explicitly throughout (Table 3).

Table 3. Summary of Key Empirical Studies Reviewed<sup>3</sup>

Author(s) & Year	Method	Context	Key Findings
Li et al. (2021)	PLS-SEM	Social commerce, China	FOMO mediates informational incentives → impulse buying; both informational and normative social influence → FOMO confirmed.
Sun & Bao (2023)	PLS-SEM	Live streaming commerce, China	Informational and normative social influence → FOMO → compulsive buying; supports FOMO as context-activatable state.
Ardayan & Sanapang (2023)	PLS-SEM	Social commerce, Indonesia	FOMO and platform interactivity jointly predict compulsive buying and brand addiction tendencies.
Pattinaja et al. (2023)	Survey	Online marketplace (Shopee), Indonesia	UI quality and time scarcity positively influence purchase intent; demographic factors moderate the scarcity effect.
Rita & Iswanto (2023)	Survey	Online marketplace, Indonesia	Hedonic motives and promotional tools positively predict online impulse buying behavior.
Mathur et al. (2019)	Automated audit	~11,000 e-commerce sites globally	1,818 dark pattern instances identified; urgency timers and fabricated scarcity exploit FOMO and inflate micro-conversion rates.
OECD (2022)	Policy review	Digital retail markets, multi-country	65% of consumers interpret scarcity claims as sales pressure; 49% report reduced trust after exposure to such claims.
Li et al. (2025)*	PLS-SEM	Social commerce, n = 398	Platform interactivity and social cues → perceived value; FOMO moderates hedonic value → impulse buying path.
Yadav et al. (2025)*	Behavioral event data	Digital retail (Nykaa), India	Scarcity cues boost early conversions; final-day GMV share rises from 21% to 27% due to loss aversion messaging effects.
Eitan (2025)*	Mixed methods	Social media marketing	FOMO tactics drive high engagement but also skepticism and negative affect; balanced urgency-mindfulness messaging improves consumer outcomes.

Perhaps the most consequential theoretical implication of the framework proposed in this article is the reframing of FOMO — not as a psychological vulnerability inherent to certain consumers — but as a psychological state that platform designers can deliberately construct and activate. If FOMO were primarily a stable trait, the appropriate response would logically center on consumer education and individual-level cognitive interventions. But if FOMO is primarily a designed response to constructed environmental stimuli, the locus of responsibility shifts substantially toward the platform side of the transaction.

The evidence reviewed here supports the latter interpretation more strongly. Consumers who show minimal FOMO responses in non-commercial social media contexts may exhibit substantially elevated FOMO in flash sale environments that deploy countdown timers, low-stock alerts, and real-time social proof signals in combination (Sun & Bao, 2023; Mathur et al., 2019). This context-dependency is precisely what the SOR model predicts: it is the stimulus configuration, not merely the organism's predispositions, that determines the character and intensity of the psychological response. Recognizing this reorients how we think about the ethics of flash sale design.

<sup>3</sup> Note: Preprint source (not yet peer-reviewed at time of writing). Findings should be treated with appropriate caution.

The immediate effectiveness of FOMO-based tactics is empirically well-established: scarcity messaging increases conversion rates, countdown timers generate purchase spikes in final sale hours, and social proof displays measurably amplify perceived product desirability (Yadav et al., 2025). In the short term, FOMO-driven design works.

The longer-term picture is considerably more complicated. The OECD (2022) found that nearly half of surveyed consumers reported that scarcity and social proof claims reduced their trust in the presenting company. Eitan (2025) documented that while FOMO-based marketing content generated high engagement metrics, it simultaneously produced negative affect and skepticism among a meaningful proportion of the audience. Ofem (2024) found that algorithmic marketing strategies associated with impulse purchase increases were also associated with elevated post-purchase regret, suggesting that the conversion gain is partly realized at the expense of subsequent consumer satisfaction. For brand managers, platforms optimizing single-mindedly for conversion rates may be, in effect, optimizing against long-term brand equity.

Mathur et al. (2019) documented over 1,800 dark pattern instances across approximately 11,000 shopping websites — indicating that practices such as countdown timers that reset upon page refresh, low-stock alerts disconnected from actual inventory, and fabricated social proof displays are widespread rather than marginal. From an ethical standpoint, what distinguishes legitimate urgency marketing from manipulative design is the relationship between the stimulus and reality: a genuine countdown timer reflecting an actual promotional deadline constitutes legitimate information provision, whereas a false timer that resets on refresh constitutes a deception designed to override autonomous decision-making by exploiting psychological mechanisms the consumer cannot easily detect or counteract.

Eitan (2025) proposes a constructive path forward: a marketing approach that integrates urgency elements with mindfulness-oriented messaging, positioning the brand as respecting consumer autonomy rather than exploiting consumer anxieties. Early evidence suggests this balanced approach can generate comparable engagement levels while producing significantly more positive post-exposure affect. This model — urgency without manipulation — is the direction this article recommends for e-commerce platforms seeking sustainable long-term consumer relationships.

The cultural context in which flash sales are deployed significantly shapes the magnitude and character of FOMO effects. Research has found that FOMO correlates meaningfully with collectivist cultural orientations, in which social comparison and group belonging carry strong normative weight (Li et al., 2021). This suggests that consumers in cultural contexts characterized by high collectivism — including many Central Asian, East Asian, and Middle Eastern societies — may be more susceptible to FOMO-activating stimuli than consumers in more individualistic cultural settings.

For researchers and practitioners working in emerging e-commerce markets across Central Asia — including Uzbekistan, Kazakhstan, and the broader post-Soviet digital retail landscape — these cultural moderators carry direct relevance. The rapid expansion of digital payment infrastructure and smartphone penetration is creating new cohorts of online shoppers encountering FOMO-activating promotional mechanics, in many cases, for the first time. Whether the FOMO response patterns documented in Chinese, South Asian, and Western contexts generalize reliably to Central Asian consumer populations remains an open empirical question that future research should prioritize. FOMO research in this region is virtually absent from international Scopus-indexed literature — this represents a genuine and significant originality opportunity.

## CONCLUSIONS AND SUGGESTIONS

This article addressed a specific gap in the consumer behavior literature: the absence of an integrative theoretical framework connecting platform-level flash sale design features to consumer purchase behavior through the mediating mechanism of FOMO, while simultaneously accounting for both short-term conversion dynamics and the longer-term brand and consumer well-being consequences of urgency-based marketing strategies.

Three primary contributions emerge from the analysis. First, the article reframes FOMO as a context-activatable state rather than a stable personality trait, locating a meaningful share of responsibility for FOMO activation with platform designers rather than exclusively with consumers. Second, the integrated SOR-based model specifies the relationships among four stimulus categories, two psychological mediators, three behavioral outcomes, and two moderating variables within a single coherent model. Third, by incorporating the short-term/long-term paradox and the ethical dimensions of dark pattern design as structural elements of the framework, the article bridges behavioral consumer psychology with broader concerns about consumer autonomy, platform responsibility, and regulatory adequacy in digital retail contexts.

For practitioners, conversion-focused optimization metrics should be complemented by measures capturing longer-term consumer outcomes: repeat purchase rates, post-purchase satisfaction scores, and brand trust

indices measured weeks after a promotional event. On the design side, countdown timers and stock alerts should reflect genuine constraints, social proof displays should be grounded in real transaction data, and messaging that frames purchasing as socially necessary should be balanced with content affirming consumer autonomy. [Eitan's \(2025\)](#) balanced urgency-mindfulness framework suggests that ethically designed urgency is commercially viable, offering a model for platforms willing to invest in long-term consumer trust. Consumer segmentation by FOMO disposition and self-control could further enable personalized strategies that optimize conversion without amplifying compulsive purchasing.

For consumers, the primary recommendation is informed awareness. Understanding that countdown timers, low-stock alerts, and real-time social proof displays are strategically designed stimuli — not neutral informational services — enables a more critical and autonomous stance toward them. Introducing a deliberate pause between the impulse to purchase and the completion of the transaction substantially reduces the probability of post-purchase regret ([Pattinaja et al., 2023](#)). Consumers who find themselves repeatedly purchasing during flash sale events without clear utility, or who experience anxiety when unable to access a platform during a promotional period, should recognize these patterns as potential indicators of FOMO-driven compulsive behavior rather than simply enthusiastic shopping (Table 4).

Table 4. Evidence-Based Recommendations for FOMO-Driven E-Commerce Marketing Practice<sup>4</sup>

Recommendation	Target Stakeholder	Expected Outcome	Priority
Adopt transparent, authentic urgency design (genuine countdown timers and stock alerts)	E-commerce managers	Reduced consumer skepticism; stronger long-term brand trust and customer lifetime value	High
Implement balanced FOMO-mindfulness strategies combining urgency with positive affect messaging	Marketing teams	Positive consumer engagement without trust erosion and post-purchase regret of pure FOMO tactics	High
Develop consumer digital literacy programs addressing urgency dark patterns	Policymakers, platforms	Reduced compulsive buying; healthier consumption patterns and more informed purchase decisions	High
Conduct empirical studies validating the six propositions in Central Asian e-commerce contexts	Academics	Fills major gap in international FOMO literature; tests cross-cultural generalizability of framework	Medium
Segment consumers by FOMO disposition and self-control for personalized flash sale strategies	Platform designers, marketers	Optimized conversion rates without amplifying compulsive or harm-generating purchasing patterns	Medium

This study carries several limitations that should guide interpretation of its findings. As a conceptual article, it offers no primary empirical evidence; the propositions advanced remain to be tested through appropriate quantitative or mixed-method designs. The literature synthesized reflects a geographic concentration in Chinese, South Asian, and Western e-commerce contexts, and findings from these settings may not generalize directly to Central Asian, Eastern European, or other emerging digital retail markets. Three preprint sources ([Li et al., 2025](#); [Yadav et al., 2025](#); [Ofem, 2024](#)) were incorporated due to the absence of published peer-reviewed versions at time of writing; their findings should be interpreted with appropriate caution pending formal peer review. Finally, the reviewed empirical studies predominantly rely on self-report survey measures administered at single time points, which may not accurately capture the dynamic, real-time nature of FOMO as it unfolds during an active flash sale event.

Four research directions are particularly pressing. First, the propositions advanced in Section 3.6 require empirical testing using structural equation modeling — specifically PLS-SEM — with samples drawn from active flash sale participants rather than general online shopper populations. Second, longitudinal research designs are needed to track the compulsive buying trajectory described in P6: how does repeated exposure to FOMO-activating platforms across months or years affect purchasing patterns and psychological well-being? Third, cross-cultural comparative studies are essential for testing whether the cultural moderation effects theorized in Section 4.4 — particularly the predicted stronger FOMO responses in collectivist cultural contexts — are empirically confirmable across Central Asian, East Asian, and Western consumer populations. Fourth, experimental research directly testing the commercial viability of the balanced urgency-mindfulness marketing

<sup>4</sup> Note: Priority levels reflect consumer impact magnitude, implementation feasibility, and urgency as assessed from the reviewed literature.

approach proposed by Eitan (2025) would provide evidence of high practical value for platforms considering whether ethical flash sale design is economically sustainable relative to conventional FOMO-maximizing tactics.

#### LIST OF USED LITERATURE:

1. Ardyan, E., & Sanapang, G. (2023). Online compulsive buying and brand addiction in Indonesia: The importance of using fear of missing out and social commerce interactivity. *The Winners*, 24(2), 117–126. <https://doi.org/10.21512/tw.v24i2.10817>
2. Eitan, T. (2025). Fear and joy of missing out in marketing: A two-study mixed-methods analysis of contrasting tactics and their consumer impact. *International Journal of Consumer Studies*, 49(6). <https://doi.org/10.1111/ijcs.70140> [Preprint]
3. Hamli, S., & Sobaih, A. (2023). Factors influencing consumer behavior towards online shopping in Saudi Arabia amid COVID-19: Implications for e-businesses post pandemic. *Journal of Risk and Financial Management*, 16(1), 36. <https://doi.org/10.3390/jrfm16010036>
4. Jamnani, A., & Jamnani, J. (2024). Flipkart's sales promotion tools: A model development study. *SDMIMD Journal of Management*, 65–77. <https://doi.org/10.18311/sdmimd/2024/32765>
5. Li, J., Qi, J., Wu, L., Shi, N., Li, X., Zhang, Y., & Zheng, Y. (2021). The continued use of social commerce platforms and psychological anxiety: The roles of influencers, informational incentives and FoMO. *International Journal of Environmental Research and Public Health*, 18(22), 12254. <https://doi.org/10.3390/ijerph182212254>
6. Li, Y., Majid, M., & Arham, A. (2025). Consumer perceived value and impulsive buying in social commerce: The moderating role of fear of missing out [Preprint]. <https://doi.org/10.21203/rs.3.rs-7039008/v1>
7. Ling, S., Zheng, C., & Cho, D. (2023). How brand knowledge affects purchase intentions in fresh food e-commerce platforms: The serial mediation effect of perceived value and brand trust. *Behavioral Sciences*, 13(8), 672. <https://doi.org/10.3390/bs13080672>
8. Liu, S. (2025). Exploring purchase intention in online influencer marketing campaigns through an integrated model. *SAGE Open*, 15(3). <https://doi.org/10.1177/21582440251355184>
9. MacInnis, D. J. (2011). A framework for conceptual contributions in marketing. *Journal of Marketing*, 75(4), 136–154. <https://doi.org/10.1509/jmkg.75.4.136>
10. Mathur, A., Acar, G., Friedman, M., Lucherini, E., Mayer, J., Chetty, M., & Narayanan, A. (2019). Dark patterns at scale. *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 1–32. <https://doi.org/10.1145/3359183>
11. Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. MIT Press.
12. Novanda, R. (2023). Promotion effectiveness of small scale enterprises (SMEs) in Indonesian unicorn marketplace. *International Journal of Accounting and Management Information Systems*, 1(1), 33–44. <https://doi.org/10.35912/ijamis.v1i1.1467>
13. Ofem, O. (2024). Impulse buying in the age of algorithms: A systematic literature review of psychological triggers leading to buyer's remorse [Preprint]. <https://doi.org/10.21203/rs.3.rs-5353669/v1>
14. Organisation for Economic Co-operation and Development (OECD). (2022). Dark commercial patterns. *OECD Digital Economy Papers*, No. 336. <https://doi.org/10.1787/44f5e846-en>
15. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., & Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>
16. Pattinaja, M., Mangantar, M., & Pandowo, M. (2023). The impact of user interface and time scarcity on purchase intention through e-commerce Shopee among young adults in Manado. *Jurnal EMBA*, 11(3), 149–160. <https://doi.org/10.35794/emba.v11i3.49323>
17. Prasetyo, E., Sopiah, S., & Zen, F. (2020). The effect of discount price on purchasing intentions through consumer's perceived risk in the flash sale program at Shopee. *Proceedings of the 4th International Conference on Management, Economics and Business*. <https://doi.org/10.2991/aebmr.k.200305.129>
18. Rita, R., & Iswanto, M. (2023). The role of openness personality in an online marketplace that influences online impulsive buying behavior. *International Journal of Membrane Science and Technology*, 10(4), 1969–1982. <https://doi.org/10.15379/ijmst.v10i4.2337>
19. Rosarío, A., & Raimundo, R. (2021). Consumer marketing strategy and e-commerce in the last decade: A literature review. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 3003–3024. <https://doi.org/10.3390/jtaer16070164>
20. Sun, Y., & Bao, Z. (2023). Live streaming commerce: A compulsive buying perspective. *Management Decision*, 61(11), 3278–3294. <https://doi.org/10.1108/MD-10-2022-1461>
21. Syah, I., & Salim, M. (2024). The influence of viral marketing and online customer reviews on purchasing decisions among Generation Z: A study of the mediating role of consumer trust. *Jurnal Ilmiah Manajemen Ekonomi & Akuntansi (MEA)*, 8(2), 1736–1757. <https://doi.org/10.31955/mea.v8i2.4230>
22. Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356–367. <https://doi.org/10.1177/1534484305278283>
23. Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
24. Yadav, K., Yadav, M., & Shah, R. (2025). Necessity or nudge? Behavioural economics insights from Nykaa's Pink Friday Sale [Preprint]. <https://doi.org/10.21203/rs.3.rs-7685755/v1>

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