

Understanding Impulsive Buying Behavior in the Digital Ecosystem: the Roles of Engagement, Marketing Stimuli, and Social Pressure

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ABSTRACT

The rapid expansion of e-commerce within contemporary digital markets has fundamentally reshaped consumer purchasing behavior, shifting it toward instant gratification and spontaneous purchasing. Moving away from traditional technology adoption models like UTAUT2, which struggle to account for purely affective and unplanned behaviors, this conceptual paper applies the Stimulus-Organism-Response (S-O-R) framework to examine the determinants of online impulse buying behavior in modern live-commerce environments. The proposed model posits those external digital stimuli—specifically interactive marketing stimuli and real-time social pressure—influence the consumer's internal organism state (heightened consumer engagement and the fear of missing out), which subsequently drives the behavioral response of online impulse buying. Rather than viewing impulse buying as an isolated internal urge, this research redefines it as a structured behavioral response generated by a highly synchronized digital ecosystem that blends entertainment with immediate purchasing options. The proposed conceptual model provides significant theoretical implications by advancing the S-O-R framework within real-time, interactive retail settings. Furthermore, it offers practical insights for digital marketers and platform developers, suggesting that optimizing live social proof, implementing seamless one-click interfaces, and triggering dynamic emotional responses are critical strategies for accelerating online conversions.

Keywords— Impulsive Buying Behavior; Consumer Engagement; Interactive Marketing; Social Pressure; Conceptual

INTRODUCTION

The rapid advancement of digital technologies has transformed consumer lifestyles by enabling greater convenience and accessibility in everyday activities. One of the most significant developments is the widespread adoption of online shopping, which has fundamentally reshaped the retail landscape. E-commerce has evolved into a dominant channel for buying and selling goods and services, allowing transactions to be conducted efficiently through digital networks. The continuous expansion of e-commerce has accelerated digital transformation across various industries and has substantially influenced consumer purchasing behavior, particularly in terms of how consumers navigate high-sensory digital retail environments.

In Southeast Asia, the e-commerce ecosystem has experienced remarkable growth, driven by increasing internet penetration, smartphone adoption, and the proliferation of digital platforms. Malaysia has emerged as one of the region's fastest-growing e-commerce markets, supported by favorable digital infrastructure and increasing consumer acceptance of online shopping. While traditional e-commerce research heavily relied on utilitarian frameworks like the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2)—which focuses on structured variables such as performance expectancy, effort expectancy, and facilitating conditions, these models fail to adequately capture the hedonic, spontaneous, and irrational nature of modern live commerce. Because impulse buying bypasses deliberate technological evaluations, relying on UTAUT2 constructs yields weak explanatory power regarding transactional immediacy.

To address this gap, this paper discards utilitarian adoption paradigms and embraces the Stimulus-Organism-Response (S-O-R) framework. Modern live-commerce environments rely heavily on instant gratification and real-time engagement, shifting consumer behavior toward spontaneous purchasing where product discovery, emotional validation, and final acquisition happen almost simultaneously. By synthesizing existing social commerce literature, this conceptual paper proposes a model mapping how external platform stimuli dictate internal consumer states to drive split-second purchasing decisions before logical evaluation occurs. The model contributes uniquely to the technology literature by offering an integrated socio-psychological perspective tailored specifically to real-time digital ecosystems.

LITERATURE REVIEW

Modern e-commerce relies heavily on instant gratification and real-time engagement, shifting consumer behavior toward spontaneous purchasing. Live-commerce environments have altered traditional retail dynamics by blending entertainment with immediate purchasing options, effectively removing the friction between product discovery and acquisition [12]–[15]. By optimizing platform features, digital retailers transform passive viewers into immediate buyers. Recent empirical evidence utilizing Structural Equation Modeling underscores the pivotal role of these interactive features in driving spontaneous sales, demonstrating that the immersive nature of live commerce acts as a direct catalyst for consumer action [16]. Central to this dynamic is consumer engagement, which bridges the gap between browsing and purchasing. When consumers actively engage with a digital platform, their cognitive barriers decrease, making them highly susceptible to spontaneous decisions. Based on this relationship, we propose the following hypothesis:

H1: Consumer engagement positively influences online impulse buying behavior.

Beyond general engagement, specific external triggers within the digital environment dictate behavioral outcomes. In digital retail, marketing stimuli serve as immediate prompts that bypass analytical evaluation and trigger the urge to buy [17]–[19]. These stimuli generally categorize into environmental cues, such as seamless platform navigation, and social cues, including influencer endorsements and real-time peer recommendations. In live-commerce settings, these triggers compress the traditional consumer decision-making timeline. By pairing persuasive live demonstrations with embedded, one-click purchasing options, the platform minimizes the cognitive friction typically associated with financial transactions [20], [21]. The heightened emotional response to these stimuli frequently overrides logical assessments of cost and utility, shifting the consumer from purposeful searching to immediate gratification. Therefore, we advance the following hypothesis:

H2: Interactive marketing stimuli has a significant positive effect on online impulse buying behavior.

Finally, the social pressure of modern digital platforms introduces external pressures that significantly accelerate impulse purchasing [22], [23]. Consumers naturally look to collective behavior to validate choices, a tendency that manifests as herd mentality within digital spaces. Real-time indicators of peer validation—such as rapid updates in live chats, rising view counts, and direct influencer endorsements—reduce the perceived risk of spending. This environment leverages the fear of missing out (FOMO), transforming the transaction into a participatory event where purchasing signifies community belonging rather than a simple exchange of goods [16]. Consequently, the presence of real-time peer reactions and social proof strips away typical shopping hesitations, driving split-second decisions before logical evaluation occurs. Based on these insights, we present the following hypothesis:

H3: Social pressure on digital platforms significantly increases online impulse buying behavior.

Integrating these perspectives reveals that online impulse buying is not a random, isolated event, but the logical output of a highly synchronized digital ecosystem. By synthesizing the roles of active consumer engagement (H1), real-time interactive marketing stimuli (H2), and collective social pressure (H3), our conceptual model maps how platform architecture systematically dismantles consumer hesitation. Rather than operating independently, these three dimensions converge within the live-commerce environment to target both the cognitive and emotional triggers of the shopper. Interactive stimuli capture immediate attention and simplify the

mechanics of the transaction, while social proof and heightened engagement validate the choice and generates psychological urgency. Ultimately, the model illustrates a shift from deliberate, multi-step decision-making to an accelerated pathway where product discovery, social validation, and final acquisition happen almost simultaneously.

Based on the extensive literature review, the following conceptual model are developed (Figure 1)

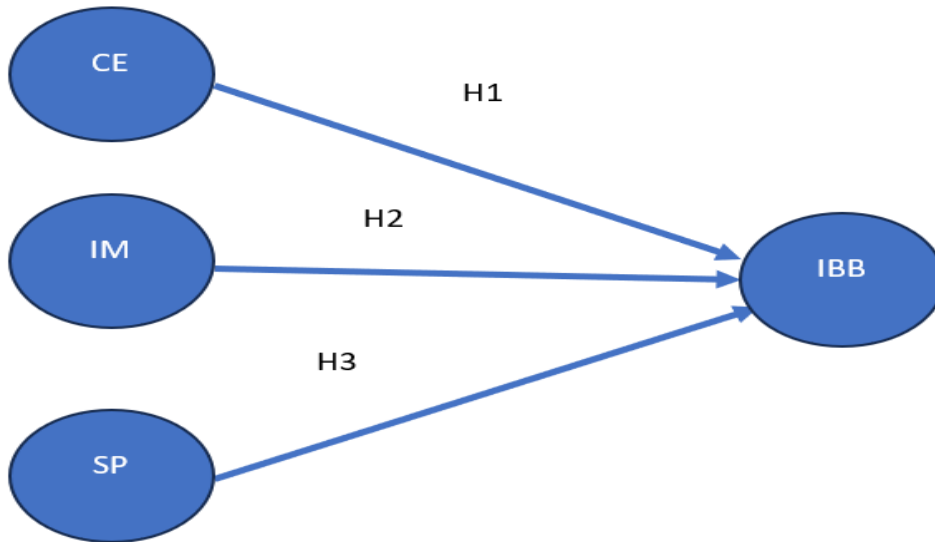


Figure 1: Conceptual Model of Impulsive Buying Behaviour (CE= Customer Engagement; IM=Interactive Marketing; SP=Social Pressure)

Figure 1 pulls all these pieces together into a single conceptual framework, showing exactly how these three forces converge to drive online impulse buying. When you look at the model, it becomes clear that spontaneous purchasing isn't just a random fluke; it's the direct result of a highly engineered digital environment. By testing H1, H2, and H3, this study looks under the hood of modern e-commerce to see how consumer engagement, interactive stimuli, and social pressure work in tandem to lower a shopper's natural defenses. When a platform successfully pairs high-energy interactivity with real-time social proof, it creates a perfect storm where the friction between seeing a product and buying it completely evaporates. Ultimately, this framework gives us a structured way to understand how digital retail environments successfully shift consumers away from slow, analytical decision-making and straight into immediate gratification.

CONCLUSION AND FUTURE RESEARCH DIRECTION

In conclusion, this study demonstrates that online impulse buying in the live-commerce era is a highly structured behavioral response driven by a carefully engineered digital ecosystem. By examining the interplay of consumer engagement, interactive marketing stimuli, and real-time social pressure, our framework highlights how modern platforms successfully compress the traditional consumer journey into a matter of seconds. However, this study is not without its limitations. First, the data relies heavily on self-reported consumer perceptions, which can introduce recall bias regarding actual impulse spending. Second, while Structural Equation Modeling confirms the strength of these relationships, the cross-sectional nature of the data captures consumer behavior at a single point in time, limiting our ability to track long-term behavioral shifts as live-commerce platforms evolve.

From a theoretical standpoint, these findings offer important implications for e-commerce literature by advancing our understanding of the Stimulus-Organism-Response (S-O-R) framework in real-time retail environments. While traditional retail research treats marketing stimuli and social influences as static elements, this study proves that in live commerce, interactivity and real-time herd mentality function as dynamic, immediate catalysts. We show that social pressure and interactive features do not just casually influence a shopper; they actively dismantle cognitive friction and bypass the logical evaluation of cost and utility. This shifts the academic conversation away from viewing impulse buying as an isolated internal urge, redefining it as

the direct output of a synchronized, high-sensory digital architecture.

For practitioners, the practical implications of this model offer a clear roadmap for digital marketers, platform developers, and live streamers aiming to optimize conversions. The data shows that simply pushing limited-time countdowns or standard advertisements is not enough; the real driver of spontaneous sales is active, two-way engagement. Retailers should focus on designing seamless, low-friction interfaces—such as embedded one-click checkout buttons directly within video feeds—to minimize the time a consumer has to reconsider a purchase. Furthermore, maximizing live social proof, like featuring real-time "just purchased" notifications and encouraging active peer dialogue in chat rooms, helps build a high-energy community environment that triggers the fear of missing out (FOMO) and turns passive viewers into immediate buyers.

Looking ahead, several promising avenues for future research emerge from this study. First, future investigations should employ longitudinal designs or experimental field studies to track actual user clickstreams and spending data, moving beyond self-reported measures to capture objective impulse behavior in real time. Second, as digital retail technologies advance, researchers should explore how emerging interactive tools—such as artificial intelligence hosts, virtual reality storefronts, and personalized algorithmic recommendations—affect the speed and frequency of spontaneous purchasing. Finally, future studies could investigate the boundary conditions of this model by examining moderating variables, such as varying consumer personality traits, differing product categories (e.g., luxury versus everyday goods), or cultural differences in herd mentality, to see if these interactive triggers hold universal appeal.

REFERENCES

1. V. Marozzo, A. Costa, and T. Abbate, "Innovation, signaling, and virtual try-on: Aligning immersive tools with a luxury brand," vol. 29, no. 11, pp. 471–495, 2026, doi: 10.1108/EJIM-08-2025-1053.
2. S. Dzene, A. Eglite, and G. Grinberga-Zalite, "Handbook of Research on Consumerism in Business and Marketing," in *Handbook of Research on Consumerism in Business and Marketing: Concepts and Practices*, vol. 11, no. 1, 2014, pp. 155–181. doi: 10.4018/978-1-4666-5880-6.
3. N. Souiden and M. Rani, "Consumer attitudes and purchase intentions toward Islamic banks: The influence of religiosity," *International Journal of Bank Marketing*, vol. 33, no. 2, pp. 143–161, 2015. doi: 10.1108/IJBM-10-2013-0115.
4. J. Chen, R. K. H. Ching, and H. T. Tsou, "Multi-channel store image and the effects on purchase intention," *Service Industries Journal*, vol. 29, no. 9, pp. 1215–1230, Sep. 2009. doi: 10.1080/02642060701847786.
5. K. B. Sridevi, "Filling the quality gaps for a futuristic management education," *Journal of Economic and Administrative Sciences*, vol. 37, no. 4, pp. 393–400, Oct. 2021. doi: 10.1108/JEAS-09-2018-0097.
6. L. Lao, Z. Li, S. Hou, B. Xiao, S. Guo, and Y. Yang, "A survey of IoT applications in blockchain systems: Architecture, consensus, and traffic modeling," *ACM Computing Surveys*, vol. 53, no. 1, 2020. doi: 10.1145/3372136.
7. S. Herold, J. Heller, F. Rozemeijer, and D. Mahr, "Dynamic capabilities for digital procurement transformation: A systematic literature review," *International Journal of Physical Distribution & Logistics Management*, vol. 53, no. 4, pp. 424–447, 2023. doi: 10.1108/IJPDLM-12-2021-0535.
8. N. Maehle, N. Iversen, L. Hem, and C. Otnes, "Exploring consumer preferences for hedonic and utilitarian food attributes," *British Food Journal*, vol. 117, no. 12, pp. 3039–3063, 2015. doi: 10.1108/BFJ-04-2015-0148.
9. Y. Bao, "Shanghai Weekly: Globalization, consumerism, and Shanghai popular culture," *Inter-Asia Cultural Studies*, vol. 9, no. 4, pp. 557–567, 2008. doi: 10.1080/14649370802386461.
10. L. Melander, "Customer and Supplier Collaboration in Green Product Innovation: External and Internal Capabilities," *Business Strategy and the Environment*, vol. 27, no. 6, pp. 677–693, 2018. doi: 10.1002/bse.2024.
11. R. Khandelwal and D. Kapoor, "Extending UTAUT with task-technology fit and ethical awareness: The mediating role of perceived trust in AI adoption," *Asian Education and Development Studies*, pp. 1–21, 2026. doi: 10.1108/AEDS-06-2025-0269.
12. A. S. Abu Bakar and R. Ameer, "Readability of Corporate Social Responsibility communication in

- Malaysia,” *Corporate Social Responsibility and Environmental Management*, vol. 18, no. 1, pp. 50–60, 2011. doi: 10.1002/csr.240.
13. T. Janowski, “Implementing Sustainable Development Goals with Digital Government – Aspiration-capacity gap,” *Government Information Quarterly*, vol. 33, no. 4, pp. 603–613, 2016. doi: 10.1016/j.giq.2016.12.001.
14. V. Kumar and A. Verma, “An exploratory assessment of the educational practices during COVID-19,” *Quality Assurance in Education*, vol. 29, no. 4, pp. 373–392, Oct. 2021. doi: 10.1108/QAE-12-2020-0170.
15. W. Siddiqui, “Study on Buying Behavior of Men and Women,” *Imperial Journal of Interdisciplinary Research*, vol. 2, no. 4, pp. 664–667, 2016.
16. A. A. Muhamed, M. N. Ab Rahman, F. Mohd Hamzah, C. R. Che Mohd Zain, and S. Zailani, “The impact of consumption value on consumer behaviour: A case study of halal-certified food supplies,” *British Food Journal*, vol. 121, no. 11, pp. 2951–2966, 2019. doi: 10.1108/BFJ-10-2018-0692.
17. K. L. Haws, K. P. Winterich, and R. W. Naylor, “Seeing the world through GREEN-tinted glasses: Green consumption values and responses to environmentally friendly products,” *Journal of Consumer Psychology*, vol. 24, no. 3, pp. 336–354, 2014. doi: 10.1016/j.jcps.2013.11.002.
18. R. Yadav, A. Tiruwa, and P. K. Suri, “Internet based learning (IBL) in higher education: A literature review,” *Journal of International Education in Business*, vol. 10, no. 2, pp. 102–129, 2017. doi: 10.1108/JIEB-10-2016-0035.
19. B. Charters and T. Heffernan, “A conceptual model identifying apartment owners’ attitude formation towards solar photovoltaic (PV) adoption,” *Property Management*, vol. 39, no. 3, pp. 325–342, 2020. doi: 10.1108/PM-08-2020-0049.
20. WFLO, “Frozen Foods Handling & Storage,” *WFLO Commodity Storage Manual: Frozen Foods*, pp. 1–12, 2008.
21. K. M. R. Taufique and S. Vaithianathan, “A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of Theory of Planned Behavior,” *Journal of Cleaner Production*, vol. 183, pp. 46–55, 2018. doi: 10.1016/j.jclepro.2018.02.097.
22. S. Kara, S. Ibbotson, and B. Kayis, “Sustainable product development in practice: An international survey,” *Journal of Manufacturing Technology Management*, vol. 25, no. 6, pp. 848–872, 2014. doi: 10.1108/JMTM-09-2012-0082.
23. B. J. Mariadoss, T. Chi, P. Tansuhaj, and N. Pomirleanu, “Influences of Firm Orientations on Sustainable Supply Chain Management,” *Journal of Business Research*, vol. 69, no. 9, pp. 3406–3414, 2016. doi: 10.1016/j.jbusres.2016.02.003.