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Fear of Missing Out and Impulse Buying in the Digital Economy: The Mediating Role of Emotional Arousal in a Cross-border Indonesia–Malaysia Setting

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Abstract- The digital economy and social commerce have transformed consumer spending patterns, particularly in border regions such as North Kalimantan, where consumers are increasingly exposed to cross-border marketplaces and digital promotional stimuli. Promotions emphasizing urgency, scarcity, and discounts may intensify consumers' fear of missing out and stimulate emotional arousal, thereby encouraging impulse buying even among well-educated and financially stable consumers. This study examines the influence of fear of missing out on impulse buying behavior in the Indonesia–Malaysia border region, with emotional arousal positioned as a key psychological mechanism linking digital marketing stimuli to spontaneous purchasing decisions. Drawing on structural equation modeling, the findings reveal that fear of missing out has a significant positive effect on both emotional arousal and impulse buying, while emotional arousal further strengthens consumers' tendency to engage in impulse buying. These findings contribute to the literature on digital consumer psychology by highlighting the role of emotional mechanisms in cross-border social commerce contexts. In practice, the study offers insights for businesses and policymakers on designing digital marketing strategies that are persuasive yet ethical, while also supporting consumer protection in border regions.

Keywords: *behavior consumer, border region*, *digital economy, fear of missing out, purchase impulsive*

INTRODUCTION

Fear of missing out (FOMO) has a profound impact on consumer behavior in the digital economy (Tandon et al., 2022). Previous studies show that FOMO encourages impulse buying in response to promotional offers, scarcity cues, and social pressure on e-commerce and social media platforms (Sun et al., 2023). Live shopping, push notifications, and algorithmically generated content intensify consumers' exposure to emotional stimuli, leading to rapid, less deliberative purchasing decisions. In the global digital context, the increasing use of the internet and social media has turned FOMO into a structural consumer phenomenon that intensifies impulsive consumption (Singh et al., 2022).

FOMO-driven impulse buying is closely associated with the rapid growth of e-commerce and social commerce, which integrate online marketplaces with digital content such as live shopping and personalized recommendations (Vaddhano & Widyarini, 2024; Wongkitrungrueng & Assarut, 2020). Indonesian consumers, particularly younger generations and the middle class, are prone to impulse buying during time-limited promotions because of psychological pressure and perceived urgency (Suleman et al., 2025; Sun et al., 2023).

In the Indonesia–Malaysia border region, such as North Kalimantan, consumers are exposed to dual digital influences from both countries, leading to greater price, brand, style, and consumption choice variation. Exposure to social pressure and cross-country

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trends may strengthen FOMO and increase consumers' tendency toward impulse buying. Consumers in border areas often follow emerging offers and trends across multiple digital marketplaces. Cross-border studies on live-streaming commerce indicate that interactive stimuli on digital platforms can increase trend-driven impulse buying, strengthen user engagement, and intensify emotional responses to marketing stimuli, ultimately triggering rapid purchases with limited prior planning (Hansopaheluwakan et al., 2025a; Jian et al., 2022). Institutional structures and market heterogeneity in cross-border e-commerce and live-streaming markets influence impulse buying through cultural orientation and consumers' responses to digital stimuli, thereby reinforcing the psychological effect of FOMO on purchase decisions (Fang & Ma, 2024; Y. Zhang et al., 2023).

Despite extensive research on the relationship between FOMO and impulse buying among digital consumers, most studies have focused on young urban populations and social media exposure. This creates a research gap regarding consumers in border areas with more diverse social, cultural, and economic backgrounds (Chen & Cheng, 2023; Nisa & Roostika, 2024).

Recent studies show that FOMO positively influences impulse buying, particularly among Generation Z consumers in digital marketing contexts (B. et al., 2025). FOMO also mediates the relationship between social media advertising exposure and impulse buying, highlighting the role of emotional mechanisms in shaping digital consumption behavior (Akram et al., 2021; Lee et al., 2023). FOMO increases impulsive behavior on online shopping platforms, especially for limited or exclusive products, where time pressure and scarcity cues trigger immediate purchasing decisions (Handayani et al., 2025; Putri et al., 2025).

Although empirical evidence from urban and context-specific consumer settings provides useful insights, it does not fully explain border-area dynamics, including infrastructure limitations, uneven market access, and unique cross-cultural interactions. Previous research often treats FOMO as a homogeneous construct, overlooking contextual variations such as social pressure and local economic conditions that may influence its impact on impulse buying (B. et al., 2025; Wu et al., 2023). This study explores how FOMO drives impulse buying among consumers in the Indonesia–Malaysia border region, while accounting for local social and economic influences. It examines how exposure to cross-country promotions, price differences, and digital lifestyle trends affects FOMO intensity and consumption responses in border communities.

This study aims to analyze the role of FOMO as a driver of impulse buying in the digital economy of the Indonesia–Malaysia border region and to understand the contextual factors that shape consumers' responses to cross-country digital marketing stimuli. This study contributes empirical evidence from border areas, a context that remains underexplored in the literature on digital consumer behavior. It integrates FOMO, impulse buying, and cross-border context into a single analytical framework, thereby offering theoretical novelty. It enriches the development of digital consumer behavior theory by incorporating the spatial and cultural characteristics of border areas. Practically, the findings can guide e-commerce firms, digital marketers, and policymakers in designing consumer-oriented strategies and promoting digital literacy among border communities.

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LITERATURE REVIEW

Fomo, Emotional Arousal, and Impulse Buying

The stimulus–organism–response (SOR) model explains how marketing stimuli influence consumers' internal states and behavioral responses, including impulse buying decisions (Gan et al., 2025; Rifa Safitri et al., 2025). FOMO, emotional arousal, and impulse buying are key psychological constructs in digital consumer behavior (Lee et al., 2023; Yang et al., 2025). Fear of missing out (FOMO) is consumers' anxiety about missing out on valuable opportunities, trends, or social experiences, which may trigger impulsive behavior. Marketing strategies such as limited-time offers may increase emotional arousal and weaken cognitive control, thereby leading to impulse buying. Emotional arousal can accelerate impulse buying by reducing consumers' cognitive control during purchase decision-making. FOMO, particularly when triggered by urgency cues and limited offers, can further increase consumers' impulsive tendencies (Handayani et al., 2025; Shetty, 2024).

Impulse buying is a spontaneous, emotionally driven behavior influenced by environmental stimuli and internal states, leading to rapid purchase decisions with limited rational deliberation (K. Z. K. Zhang et al., 2018). As a social and psychological stimulus, FOMO may trigger impulse buying among young digital consumers by increasing emotional arousal and reducing rational evaluation (Tandon et al., 2022). Previous studies show a positive relationship between FOMO and impulse buying, particularly among Generation Z consumers, who are often influenced by psychological pressure (Sharma et al., 2023). Digital marketing elements such as promotional urgency, content interactivity, short-video platforms, and personalized algorithms can increase impulse buying among Generation Z by triggering FOMO (Azmi et al., 2025; Sharma et al., 2023).

Research in social media marketing and digital advertising indicates that FOMO mediates the relationship between social media exposure and impulsive decision-making (Nisa & Roostika, 2024). Generation Z consumers tend to buy spontaneously when they worry about missing exclusive opportunities or promotional offers. This suggests that digital marketing influences consumers through internal psychological mechanisms that strengthen emotional drivers in purchase decision-making. In live-streaming commerce, FOMO driven by information quality, user interaction, and livestreamer attractiveness can increase impulse buying, particularly among young consumers (Li et al., 2023; Sharma et al., 2023; Vaddhano & Widyarini, 2024).

The operational variables in this study include FOMO, emotional arousal, and impulse buying. FOMO is measured as consumers' anxiety about missing social experiences, trends, or valuable opportunities, using items that reflect concerns about losing exclusivity or being left behind (Chae et al., 2025). Emotional arousal is measured as the intensity of consumers' emotional responses to digital marketing stimuli, such as excitement, enthusiasm, or emotional pressure (Wang et al., 2023). Impulse buying is measured as the frequency or intensity of spontaneous purchasing behavior influenced by strong emotional impulses (Abbas et al., 2021).

Based on the theoretical discussion, the following hypotheses are formulated:

H1: FOMO positively affects impulse buying
H2: Emotional arousal positively affects impulse buying
H3: Emotional arousal mediates the relationship between FOMO and impulse buying
H4: FOMO positively affects emotional arousal

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Social Media Engagement, Emotional Arousal, Impulse Buying

This study examines how social media engagement influences impulse buying via emotional arousal. High levels of interaction with digital content increase consumers' affective experiences and impulse buying tendencies (Bazi et al., 2023; Shaheen et al., 2025). As an external stimulus, social media engagement influences consumers' internal emotional states, which may lead to impulse buying behavior. Previous studies show that high-intensity external stimuli, particularly in interactive, real-time social media environments, increase emotional reactions such as enthusiasm and excitement, reduce rational cognitive control, and accelerate impulse buying (Chae et al., 2025; Chen & Cheng, 2023).

Emotional arousal refers to the level of emotional stimulation consumers experience when exposed to psychologically engaging digital content (Gómez-Rico et al., 2023). Recent research shows that emotional arousal mediates the relationship between social media engagement and impulse buying, as strong emotional experiences enhance the influence of digital engagement on spontaneous purchasing behavior (Bazi et al., 2023; Chae et al., 2025; He et al., 2008). Impulse buying, defined as spontaneous and unplanned purchasing behavior driven by emotional stimuli, is significantly influenced by increased digital interactions and affective experiences, particularly when consumers are emotionally aroused (Akram et al., 2021; Lee et al., 2023).

The variables in this study include social media engagement, emotional arousal, and impulse buying. Social media engagement is measured by the frequency of viewing, liking, commenting on, sharing, and following product-related content (Osei-Frimpong & McLean, 2018). Emotional arousal refers to the degree of emotional stimulation generated by product-related social media content, reflected in feelings of enthusiasm, interest, or excitement (Yang et al., 2025). Impulse buying refers to consumers' tendency to make unplanned product purchases motivated by emotional responses to digital marketing stimuli (K. Z. K. Zhang et al., 2018).

Based on the theoretical discussion, the following hypothesis is formulated:

H5: Social media engagement positively influences emotional arousal

H6: Social media engagement positively influences impulse buying

H7: Emotional arousal mediates the relationship between social media engagement and impulse buying. High digital engagement increases emotional stimulation, which strengthens consumers' tendency toward impulse buying

Digital Advertising Exposure, Emotional Arousal, Impulse Buying

Digital advertising exposure triggers emotional reactions that influence consumers' purchasing decisions. Emotional arousal, such as interest or happiness, may reduce rational processing and enhance heuristic processing, leading to impulse buying. Emotional content and interactive features in digital advertising create immersive experiences that may weaken cognitive control and increase emotional arousal, thereby further driving impulse buying (Yang et al., 2025). Digital advertising exposure, through visual elements, audio features, and personalization, stimulates emotional arousal and impulsive buying. Increased advertising exposure may also enhance brand awareness and consumer engagement (Nguyen et al., 2024; Yang et al., 2025).

Emotional arousal, measured through feelings of interest, excitement, or emotional stimulation, is associated with consumers' psychological involvement and attention to marketing messages (X. Wang et al., 2023). Higher emotional arousal

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mediates the relationship between advertising exposure and impulse buying by encouraging faster and less deliberative purchase decisions (Miller et al., 2024). Impulse buying, influenced by external stimuli such as digital promotions and ease of access, is significantly triggered by digital advertising and emotional arousal, particularly in e-commerce and social media contexts (Putri et al., 2025). Interactive and personalized features in digital media further encourage spontaneous purchasing behavior.

Based on the theoretical discussion, the following hypothesis is formulated:

H8: Digital advertising exposure positively affects emotional arousal

H9: Digital advertising exposure positively affects impulse buying

H10: Emotional arousal mediates the relationship between digital advertising exposure and impulse buying

METHODOLOGY

FOMO and impulse buying are common in the Indonesia–Malaysia border context due to frequent cross-border interactions and exposure to limited-time digital promotions. Respondents who had made online purchases and had been exposed to urgency-based promotions were selected for this study. Digital promotions and social factors in live commerce may trigger impulse buying by creating urgency, evoking emotions, and emphasizing scarcity. A sample size of at least 10 times the number of indicators was determined to ensure adequate statistical power and robustness in PLS-SEM analyses of complex latent constructs such as FOMO and impulse buying (Kock & Hadaya, 2016).

Data were collected via an online survey using a structured questionnaire to systematically measure psychological constructs, including FOMO, perceived urgency, and impulse buying. This method enabled the researchers to reach digital respondents effectively and minimize administrative bias in cross-regional data collection (Arbale & Mutisya, 2024). The measurement instrument was adapted from validated scales to ensure validity and reliability in the context of digital consumer behavior, particularly in e-commerce and social media. This adaptation involved construct validity and internal reliability testing to ensure consistent measurement of psychological variables in a dynamic digital environment (Fong & Law, 2013; Kock & Hadaya, 2016).

PLS-SEM was used for data analysis in this study because of its suitability for predictive models and for examining relationships among latent variables in digital consumer behavior (Hair Jr. et al., 2019). The analysis evaluated both the measurement and structural models by assessing construct quality and FOMO's influence on impulse buying using factor loadings, average variance extracted (AVE), the Fornell–Larcker criterion, and the heterotrait–monotrait ratio (HTMT) (Cheah et al., 2018). Construct reliability was assessed using Cronbach's alpha and composite reliability, with a minimum threshold of 0.70 to ensure measurement consistency and support the validity of the PLS-SEM results (Cheah et al., 2018).

Ethical considerations included informing respondents about the study's purpose, ensuring data confidentiality, and obtaining informed consent in accordance with international research ethics standards. Respondents' data were used for academic purposes only, analyzed in aggregate form, and anonymized in accordance with social research ethics and reputable journal publication standards.

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Table 1. Operational Definition

Variable	Operational Definition	Indicators	Scale	Source
Fear of Missing Out (FOMO)	Psychological anxiety about missing trends, information, or opportunities that encourages rapid purchasing behavior	Fear of missing promotions; concern about others owning trendy products; monitoring product/promotional updates; urgency to buy quickly; anxiety about not following shopping trends	Likert 1–5	Adapted from (Tandon et al., 2022)
Social Media Engagement	Individual involvement in interacting with product or brand content on social media	Liking content; commenting on posts; sharing promotions; following brand accounts; viewing product-related content	Likert 1–5	Adapted from (Voorveld et al., 2018)
Digital Advertising Exposure	Intensity and frequency of exposure to digital advertisements across online platforms	Seeing ads on social media; seeing marketplace ads; receiving promotional notifications; exposure to flash sale ads; clicking online ads	Likert 1–5	Adapted from (Shetty, 2024)
Emotional Arousal	Emotional excitement and purchase urge triggered by digital content or advertising	Feeling happy with promotions; excitement from discounts; emotional attraction to products; emotional urge to buy; difficulty resisting offers	Likert 1–5	Adapted from (Yang et al., 2025)
Impulse Buying	Spontaneous and unplanned purchasing behavior driven by emotional or digital stimuli	Unplanned purchases; immediate buying after promotions; buying unnecessary products; difficulty delaying purchases; sudden purchases	Likert 1–5	Adapted from (K. Z. K. Zhang et al., 2018)

Respondent Profile

Table 2. Respondent Profile

Demographics	Category	n (%)
Country	Indonesia (North Kalimantan)	145 (58.0)
	Malaysia (Sabah & Tawau)	105 (42.0)
Gender	Male	118 (47.2)
	Female	132 (52.8)
Age	17–24	78 (31.2)
	25–34	92 (36.8)
	35–44	56 (22.4)
	≥45	24 (9.6)
Occupation	Student	62 (24.8)
	Private employee	71 (28.4)
	Government/SOE employee	32 (12.8)
	Entrepreneur/trader	48 (19.2)
	Informal worker	37 (14.8)
Monthly Income	< Rp3M / < RM1k	83 (33.2)
	Rp3–5M / RM1–2k	91 (36.4)
	Rp5–8M / RM2–3.5k	52 (20.8)
	> Rp8M / > RM3.5k	24 (9.6)
Shopping Frequency	1–2×/month	54 (21.6)
	3–5×/month	96 (38.4)
	6–10×/month	63 (25.2)
	>10×/month	37 (14.8)

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Data Analysis Results

Table 3. Measurement Model

Construct	Loading Range	AVE	Cronbach's Alpha	Composite Reliability
Digital Advertising Exposure	0.856–0.919	0.541	0.937	0.952
Emotional Arousal	0.829–0.917	0.705	0.927	0.945
FOMO	0.631–0.793	0.799	0.788	0.854
Impulse Buying	0.821–0.878	0.654	0.896	0.923
Social Media Engagement	0.607–0.872	0.774	0.864	0.903

Source: Authors

The evaluation of the measurement model confirmed that all constructs met the required validity and reliability standards. Factor loadings ranged from 0.607 to 0.919, indicating adequate convergent validity. All constructs had AVE values above 0.50 (Digital Advertising Exposure: 0.541; Emotional Arousal: 0.705; FOMO: 0.799; Impulse Buying: 0.654; Social Media Engagement: 0.774), indicating that the indicators explained a substantial proportion of variance within their respective constructs. Cronbach's alpha and composite reliability values exceeded 0.70 (0.854–0.952), indicating strong internal consistency and supporting the suitability of the measurement model for structural model analysis.

Table 5. HTMT (Heterotrait–Monotrait Ratio)

Constructs	1	2	3	4	5
1. DAE	—				
2. EA	0.894	—			
3. FOMO	0.655	0.749	—		
4. IB	0.655	0.730	0.648	—	
5. SME	0.833	0.815	0.774	0.740	—

Notes: DAE = Digital Advertising Exposure; EA = Emotional Arousal; IB = Impulse Buying; SME = Social Media Engagement.

Source: Authors

The HTMT results confirmed discriminant validity, as all values were below the recommended threshold of 0.90. The strongest associations were found between Digital Advertising Exposure and Emotional Arousal (0.894), Digital Advertising Exposure and Social Media Engagement (0.833), and Emotional Arousal and Social Media Engagement (0.815), indicating a close relationship among digital content exposure, emotional responses, and social media engagement. Emotional Arousal was also strongly associated with FOMO (0.749) and Impulse Buying (0.730), while Social Media Engagement showed a strong association with Impulse Buying (0.740). Overall, the results indicate adequate discriminant validity and show that the dimensions of digital consumer behavior are closely interconnected.

Table 6. Fornell-Larcker Criteria

Constructs	DAE	EA	FOMO	IB	SME
DAE	**0.894**				
EA	0.838	**0.880**			
FOMO	0.572	0.658	**0.736**		
IB	0.605	0.667	0.560	**0.840**	
SME	0.853	0.830	0.647	0.657	**0.809**

Notes: DAE = Digital Advertising Exposure; EA = Emotional Arousal; IB = Impulse Buying; SME = Social Media Engagement

Source: Authors

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Based on the Fornell–Larcker criterion, all constructs in the model met the requirements for discriminant validity. The square root of the average variance extracted (AVE), shown on the main diagonal, exceeded the correlations among the constructs. The diagonal values were 0.894 for Digital Advertising Exposure, 0.880 for Emotional Arousal, 0.736 for FOMO, 0.840 for Impulse Buying, and 0.809 for Social Media Engagement. These results indicate that all constructs demonstrated adequate discriminant validity, confirming that the measurement model met the required validity criteria.

Table 7. Structural Model Evaluation

Endogenous Construct	R^2	Adj. R^2	Q^2predict	Predictor → Outcome (f^2)
Emotional Arousal	0.772	0.769	0.765	DAE → EA = 0.256; FOMO → EA = 0.093; SME → EA = 0.100
Impulse Buying	0.477	0.471	0.439	DAE → IB = 0.011; EA → IB = 0.082; FOMO → IB = 0.046

Notes: DAE = Digital Advertising Exposure; EA = Emotional Arousal; IB = Impulse Buying; SME = Social Media Engagement

Source: Authors

Emotional Arousal has a high explanatory effect, with an R^2 of 0.772 and Q^2predict of 0.765, largely explained by DAE, FOMO, and SME. DAE has the largest effect size ($f^2 = 0.256$), followed by SME ($f^2 = 0.100$) and FOMO ($f^2 = 0.093$). Impulse Buying has moderate to good explanatory and predictive capability, with an R^2 of 0.477 and Q^2predict of 0.439. Emotional Arousal has the strongest effect on Impulse Buying ($f^2 = 0.082$), followed by FOMO ($f^2 = 0.046$), while DAE's direct effect is small ($f^2 = 0.011$).

Table 8. Hypothesis Testing

Path	β	t-value	p-value	Result
Direct Effects				
Digital Advertising Exposure → Emotional Arousal	0.463	6.869	0.000	Supported
Digital Advertising Exposure → Impulse Buying	0.139	1.394	0.163	Not Supported
Emotional Arousal → Impulse Buying	0.414	3.783	0.000	Supported
FOMO → Emotional Arousal	0.192	4.495	0.000	Supported
FOMO → Impulse Buying	0.207	3.235	0.001	Supported
Social Media Engagement → Emotional Arousal	0.311	4.239	0.000	Supported
Indirect Effects				
Digital Advertising Exposure → Emotional Arousal → Impulse Buying	0.192	3.314	0.001	Supported
FOMO → Emotional Arousal → Impulse Buying	0.079	3.061	0.002	Supported
Social Media Engagement → Emotional Arousal → Impulse Buying	0.129	2.695	0.007	Supported

Source: Authors

Most hypotheses in this study were supported based on the hypothesis testing results. Digital Advertising Exposure had a positive and significant effect on Emotional Arousal ($\beta = 0.463$; $p < 0.05$), supporting the direct-effect hypothesis. However, Digital Advertising Exposure did not have a significant direct effect on Impulse Buying ($p > 0.05$); therefore, the corresponding hypothesis was not supported. Emotional Arousal had a positive and significant effect on Impulse Buying ($\beta = 0.414$; $p < 0.05$), supporting the direct-effect hypothesis. FOMO had a positive and significant effect on both Emotional Arousal ($\beta = 0.192$; $p < 0.05$) and Impulse Buying ($\beta = 0.207$; $p < 0.05$), supporting the proposed direct-effect hypotheses.

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Social Media Engagement had a positive and significant effect on Emotional Arousal ($\beta = 0.311$; $p < 0.05$), supporting the direct-effect hypothesis. All indirect relationships mediated by Emotional Arousal were significant, indicating that all mediation hypotheses were supported. These results indicate that Emotional Arousal plays an important mediating role, while only the direct effect of Digital Advertising Exposure on Impulse Buying was not supported.

DISCUSSION

In the context of the Indonesia–Malaysia cross-border digital economy, emotional factors play a central role in driving impulse buying behavior (Dwivedi et al., 2021; Islam et al., 2021; Sharma et al., 2023). Digital advertising exposure, social media engagement, and FOMO significantly influence emotional arousal, which in turn triggers impulse buying (Ahmed et al., 2019; Dholakia et al., 2004). Interestingly, direct exposure to digital advertising alone does not significantly influence impulse buying; however, its effect becomes significant when mediated by emotional arousal (Jiang et al., 2023; S. Wang et al., 2023; Yao & Chen, 2025). This suggests a more complex relationship among the variables, rather than a simple direct response driven by consumers' emotions (Lim et al., 2022; Tandon et al., 2022).

The stimulus–organism–response (SOR) framework helps explain this relationship. Digital advertising exposure, FOMO, and social media engagement function as stimuli, emotional arousal represents the organismic state, and impulse buying serves as the behavioral response. Emotional arousal activates the affective system, reduces cognitive control, and increases consumers' tendency toward spontaneous purchasing (Gan et al., 2025; Xuan Nguyen & Nguyen, 2026). Affective response theory also explains that heightened emotional states, especially those triggered by social pressure such as FOMO, accelerate decision-making without deep rational consideration. In digital contexts, interactivity and rapid information flow strengthen this effect, increasing the likelihood of impulse buying (Dodds et al., 1991; Fan et al., 2024).

Prior research shows that emotional arousal mediates the relationship between digital stimuli and consumption behavior (Chen & Cheng, 2023; Fang & Ma, 2024; Kumar & Kadakia, 2025). FOMO increases impulse buying (Islam et al., 2021; Yannopoulou et al., 2024), while social media engagement enhances consumers' emotional involvement with products (Huang & Chen, 2023; Lou & Xie, 2020). However, digital advertising exposure alone may not directly influence impulse buying due to advertising fatigue. Geographical context, digital literacy, and consumer characteristics in border areas may affect the direct influence of digital advertising on impulse buying (Fang & Ma, 2024; Hansopaheluwakan et al., 2025).

The insignificant relationship between digital advertising exposure and impulse buying may be explained by several factors: consumers in border areas may be skeptical of digital advertising, which can limit their purchasing responses; purchasing power or logistical access may hinder impulsive decisions; and other intervening variables, such as perceived trust or financial constraints, may not have been included. Therefore, the insignificant direct relationship emphasizes the importance of emotional arousal as a key mediating mechanism (Park et al., 2023; Verhagen & Van Dolen, 2011).

This study extends the application of the SOR model to cross-border digital contexts by integrating FOMO and social media engagement as relevant antecedents in the digital

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economy (Lee et al., 2023; Nguyen et al., 2024; Q. Zhang, 2023). It confirms emotional arousal as a core bridging mechanism through which digital stimuli influence consumption behavior (Chen & Cheng, 2023; S. Wang et al., 2023). This study enriches the impulse buying literature by offering a comprehensive mediation-based approach.

For e-commerce firms and digital marketers, the practical implication is that advertising should not merely increase in frequency or intensity, but should be designed to evoke appropriate emotional responses through storytelling, urgency cues, and social proof. Digital platforms can enhance emotional engagement through interactive features such as live streaming and user-generated content. Marketers and content creators should also consider the psychological effects of aggressive digital marketing, particularly in protecting consumers from excessive impulsive consumption (Dholakia et al., 2004; Tan & Salo, 2021; Verhagen & Van Dolen, 2011).

This study contributes to the literature by examining the Indonesia–Malaysia border region, a relatively underexplored context in digital marketing research. The region has unique characteristics, including infrastructure limitations, cultural differences, and cross-border influences on consumer behavior. The findings enrich the global literature and offer new perspectives on the dynamics of digital marketing in emerging and under-researched regions (Akram et al., 2021; Venkatesh et al., 2022).

The limitations of this study include its cross-sectional design, which limits causal inference; its regional sample, which may reduce generalizability; and the exclusion of variables such as trust, perceived risk, and financial literacy, which may influence impulse buying. Future research should use longitudinal or experimental designs, expand the sample to urban and rural contexts, and include additional moderating or mediating variables to strengthen causal explanations.

CONCLUSION

This study found that Fear of Missing Out (FOMO) significantly influences impulse buying among consumers, particularly in border areas. Urgency-based promotional messages, limited-time discounts, and intensive social media exposure reinforce consumers' feelings of being left behind, leading to impulsive purchase decisions. Financial literacy alone may not fully counteract FOMO; therefore, even financially literate consumers may remain vulnerable to impulse buying in competitive digital environments. The findings highlight the dominance of psychological and social dynamics over purely economic rationality in digital consumption.

This study integrates perspectives from consumer behavior, social emotion, and behavioral economics to explain decision-making in the digital ecosystem. The proposed model illustrates how FOMO operates as an emotional mechanism linking digital marketing stimuli to impulse-buying responses, particularly in border areas with cross-border market access and intensive information exchange. This study emphasizes the importance of emotion-based psychological variables as central constructs in digital consumer behavior models, rather than treating them merely as supplementary variables. The findings of this study have strategic implications for e-commerce firms, digital marketers, and content creators. Companies should use urgency, scarcity, and social proof ethically to avoid encouraging excessive consumption that may harm consumers. Strengthening digital financial literacy and consumer protection in border regions, such as North Kalimantan, is crucial to reducing impulse buying and improving consumers'

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economic well-being. These findings are also relevant for educational institutions and regulators seeking to design interventions that balance digital economic growth with public welfare.

LIMITATION AND IMPLEMENTATIONS

This study has several limitations. The cross-sectional nature of the data limits the ability to capture dynamic changes in FOMO and impulse buying behavior over time. The measurement of the variables relies on self-reported responses, which may be subject to response bias. The focus on a single border area limits the generalizability of the findings to other digital ecosystems and regional contexts.

To strengthen causal explanations regarding the relationship between FOMO and impulse buying, future studies should employ longitudinal or experimental designs. Comparative studies across border regions or countries may further reveal how social and cultural contexts shape digital consumer behavior. Future research may also include moderating variables such as self-control, social media pressure, and digital addiction to enrich the theoretical model and provide a more holistic understanding of consumer behavior in the digital economy.

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