
Driving Impulsive Buying on TikTok Shop Live: Scarcity Promotion, Consumer Arousal and Impulsivity

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Abstract

Objective – This study aims to analyze the effect of scarcity promotions on impulsive buying in TikTok Shop live streams, examining the mediating role of consumer arousal and the moderating role of individual impulsivity.

Design/Methodology/Approach – This study applied a quantitative method, and data were collected via an online questionnaire from TikTok Shop users who had watched and made purchases during live streams. A total of 166 responses were obtained using purposive sampling. The data were analyzed using PLS-SEM with SmartPLS 4.0 to examine the direct and indirect relationships between scarcity promotions, consumer arousal, impulsive buying, and individual impulsivity.

Findings – The results of the study indicate that scarcity promotions do not directly influence impulsive buying, but positively influence consumer arousal. Consumer arousal positively influences impulsive buying and mediates the relationship between scarcity promotions and impulsive buying. Meanwhile, individual impulsivity does not moderate the relationship between consumer arousal and impulsive buying.

Implications – This study shows that scarcity promotions indirectly encourage impulsive buying by increasing consumer arousal. Therefore, businesses can leverage scarcity based promotional strategies to enhance consumer emotional engagement in live commerce. This research also contributes to the literature on digital consumer behavior in the context of live commerce.

Keywords: Scarcity Promotion, Impulsive Buying, Arousal, Impulsivity.

INTRODUCTION

The rapid development of digital technology has transformed the way people engage in buying and selling. The rise of e-commerce allows consumers to shop more easily, quickly, and efficiently, without having to meet in person, while also opening up broader opportunities for businesses to expand their market reach and sales (Andriani et al., 2022). In addition, social media which previously served as a means of communication and entertainment has evolved into an effective marketing medium through features such as promotional content and live streams (Wijoyo, 2023). Through these platforms, consumers can place orders directly if they are interested in purchasing the products or services offered, with Indonesians now frequently using online marketplaces to meet their daily needs (Rafiah, 2019).

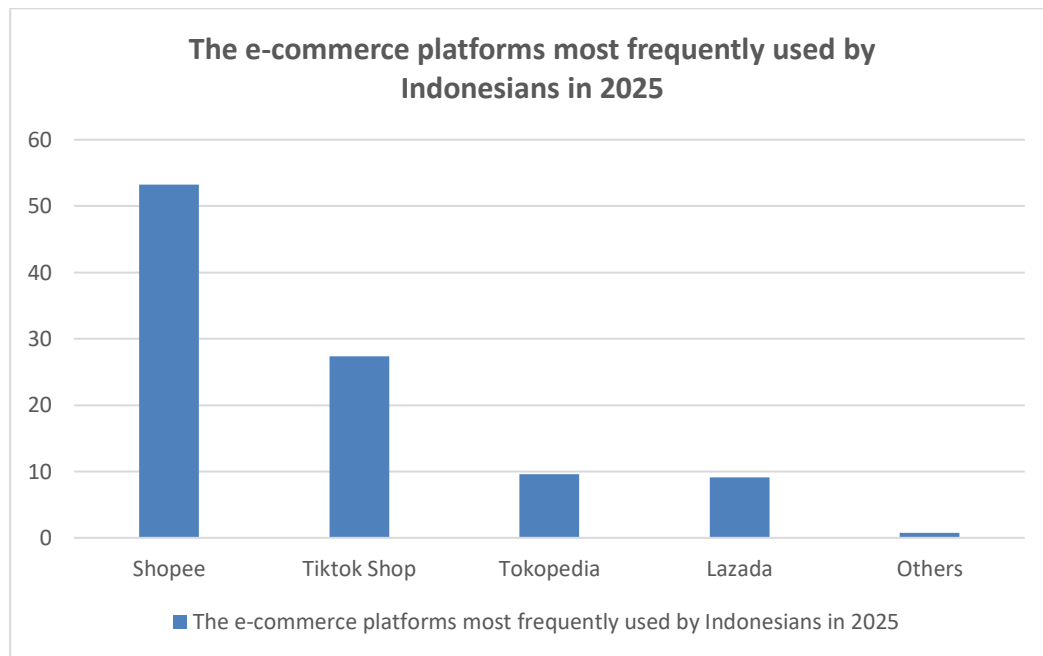


Figure 1. The e-commerce platforms most frequently used by Indonesians in 2025

Source: *Databoks.katadata.co.id*, 2025

According to Databox 2025, Shopee remains the most frequently used e-commerce platform among Indonesians in 2025. TikTok Shop ranks second, followed by Tokopedia, Lazada, Bilibili, and others. TikTok Shop's high ranking indicates that the platform attracts a large number of visitors and has strong user engagement (Databoks, 2025). Initially, TikTok functioned solely as an entertainment platform, but on April 17, 2021, it evolved into a highly effective marketing medium with the addition of shopping features namely, live streaming and TikTok Shop. These features are considered an innovative form of commerce because they connect producers, sellers, buyers, and content creators within a single system.

The expansion of the TikTok Shop online marketplace has introduced a new shopping feature and trend, live streaming. In the context of live streaming, intense interaction between sellers and consumers can influence purchasing behavior. Consumers not only obtain product information but are also influenced by the responses of other viewers and purchasing activity during the broadcast (Ye et al., 2022). Purchase intention is a consumer's desire to buy a product and is considered a stage in the decision-making process prior to purchase (Aquinia et al., 2025). Conversely, impulsive buying

is a spontaneous purchasing decision made by consumers without careful planning or consideration, typically influenced by momentary emotional impulses (Syamsudin, 2022). A strategy frequently used to encourage this behavior is promotion. Promotions are marketing activities conducted to introduce products, build consumer trust, and increase sales (Suhana et al., 2022). One form of promotion is scarcity marketing, a strategy that emphasizes limited stock or time constraints to create a sense of urgency among consumers (Feng et al., 2024). Promotions that emphasize this strategy can influence consumers to make purchases, including impulse buying out of fear of missing out.

As stated by Feng et al. (2024), this scarcity promotion strategy can encourage viewers to make impulse buying, especially during live streaming sessions. The pressure created by this scarcity promotion also often triggers excitement among consumers while shopping. The fewer items in stock and the shorter the timeframe, the greater the consumers' desire to act quickly. This pressure ultimately creates stimuli experienced by consumers, such as tension, excitement, and enthusiasm (Sari & Kurniawan, 2025). This heightened arousal then makes consumers more responsive to stimuli and tends to reduce rational consideration in purchasing decisions (Ngo et al., 2024). When consumers are exposed to scarcity promotions on TikTok Shop live streams, they tend to experience a strong and difficult to control emotional urgency, which drives them to make a purchase immediately. Conversely, individuals with low impulsivity tend to be more self-controlled, weighing the consequences before making a decision (Aras, 2026). Therefore, the effect of scarcity promotions on TikTok Shop live streams is not always the same for every consumer, as each individual's response to scarcity can vary.

Several previous studies on impulsive buying in e-commerce have been conducted, but most still focus on factors such as price discounts, marketing content, and online reviews (Hasanah & Sudarwanto, 2023; Putri & Artanti, 2022). In the context of live streaming commerce, several studies have examined scarcity promotion strategies, but generally treat them only as supporting or moderating variables (Feng et al., 2024; Shi et al., 2025), or place greater emphasis on live stream viewing intensity and consumer emotions (Qu et al., 2023). Furthermore, the study by Xiao et al. (2026) links emotional arousal to the quality of live stream content, such as the host's professionalism and the level of interactivity, rather than specifically as a psychological response to scarcity promotion strategies. This indicates that research directly testing scarcity promotion as a primary variable influencing impulsive buying through consumer psychological mechanisms in the context of TikTok Shop Live remains limited.

In addition to the limited research on this mechanism, previous studies have also yielded inconsistent findings regarding the effect of scarcity promotions on consumer behavior. Tiemessen et al. (2023) found that time limited promotions can increase consumers' emotional tension, thereby driving purchasing decisions. Conversely, Hermawan & Rafiah (2025) reported that time limited strategies had no significant effect on perceived excitement during TikTok live streams. These differing results indicate that the relationship between scarcity promotions and impulsive buying cannot yet be consistently explained, therefore it is necessary to test the underlying psychological mechanisms, specifically through the mediating role of consumer arousal and the moderating role of individual impulsivity. Based on these knowledge and theoretical gaps, this study was conducted to explain the mechanism by which scarcity promotions influence impulsive buying through the mediating role of consumer arousal and the moderating role of individual impulsivity in the context of TikTok Shop Live.

The novelty of this study lies in the development of a model that positions scarcity promotion as the primary variable in explaining impulsive buying in the context of TikTok Shop Live, by integrating the mediating role of consumer arousal and the moderating role of individual impulsivity into a single research model. Unlike previous studies, which have largely highlighted scarcity promotions as a supporting factor, this study explains the psychological mechanisms underlying how scarcity strategies can influence impulsive buying by increasing consumers' emotional arousal, as well as how this relationship is influenced by individual impulsivity characteristics. Thus, this study makes a scientific contribution by expanding our understanding of the mechanisms linking scarcity promotions and impulsive buying in the context of live streaming commerce, while also enriching the literature on digital consumer behavior through the integration of mediation and moderation approaches into a single conceptual model.

Based on the background, research gaps, and theoretical framework outlined above, this study aims to analyze the effect of scarcity promotions on impulsive purchasing during TikTok Shop live streams. In addition, this study also aims to examine the effect of scarcity promotions on consumer arousal, the effect of consumer arousal on impulsive buying, the mediating role of consumer arousal in the relationship between scarcity promotions and impulsive buying, and the moderating role of individual impulsivity in the relationship between consumer arousal and impulsive buying.

Scarcity promotions are believed to encourage impulsive buying because they create the perception that a product or offer is available only in limited quantities and for a limited time. This creates a sense of urgency and fear of missing out, which leads consumers to make quick purchasing decisions without much consideration (Panguriseng & Nur, 2022; Syahwa et al., 2026). Previous research has also shown that limited stock and promotional timeframes can increase the likelihood of impulsive purchases (Yustanti et al., 2022; Zhang et al., 2022).

H1: Scarcity promotions have a positive effect on impulsive buying during TikTok Shop live streams.

Scarcity promotions not only influence consumer behavior but can also heighten their emotional responses. Information about limited stock or promotions that are about to end can generate enthusiasm, tension, and fear of missing out, thereby increasing consumers' emotional arousal (Lamis et al., 2022; Sari & Kurniawan, 2025). Consumer arousal is an emotional state that arises in response to stimuli from the shopping environment, such as promotions, interactions, or an engaging atmosphere (Suwito & Susilowati, 2025). High emotional arousal can reduce rational consideration and increase consumers' tendency to make impulsive buying (Lee et al., 2025).

H2: Scarcity promotions have a positive effect on consumer arousal during TikTok Shop live streams.

High emotional arousal can reduce rational judgment and increase consumers' tendency to act impulsively. In the context of live streams, consumers who feel more enthusiastic and emotionally engaged are more likely to make impulse purchases (Chen et al., 2022; Ngo et al., 2024). Therefore, scarcity promotions can increase consumers' emotional arousal by creating a sense of urgency and fear of missing out. This increase in arousal then drives consumers to make impulsive purchases (Ma & Liao, 2022; Wu et al., 2021).

H3: Consumer arousal has a positive effect on impulsive buying during TikTok Shop live streams.

H4: Consumer arousal mediates the relationship between scarcity promotions and impulsive buying in TikTok Shop live streams.

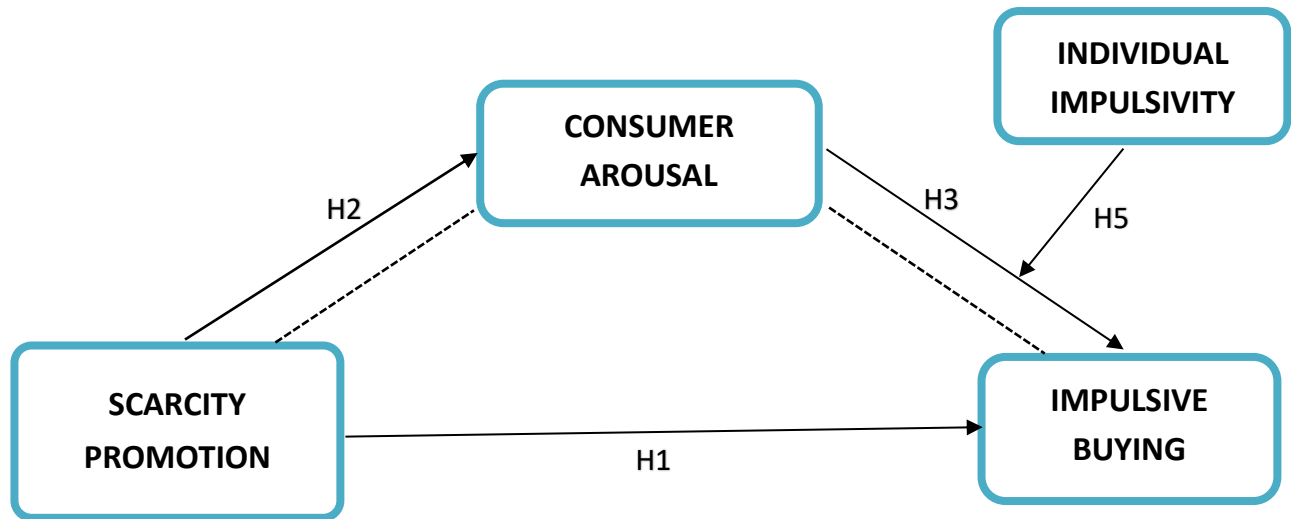
The influence of emotional arousal on impulsive purchasing can vary from person to person. Individual impulsivity is a personality trait that reflects a person's tendency to act spontaneously without considering potential consequences (Crisp & Grant, 2024). Consumers with high levels of

impulsivity tend to have more difficulty exercising self-control, making them more likely to engage in impulsive purchases when experiencing high levels of emotional arousal. Conversely, consumers with low impulsivity tend to be more rational in their decision-making (Morits et al., 2025; Raza et al., 2022).

H5: Individual impulsivity moderates the relationship between consumer's perceived arousal and impulsive buying on TikTok Shop live streams.

Based on the hypotheses formulated above, the following is the theoretical framework for this research.

Figure 2. Conceptual Model of the Study



Note: Dashed line indicates the mediating effect of Consumer Arousal (H4).

Source: Author (2026).

METHODS

This study employs a quantitative approach to examine the causal relationship between scarcity promotions as the independent variable, impulsive buying as the dependent variable, consumer arousal as the mediating variable, and individual impulsivity as the moderating variable. The study population consists of all TikTok users who have made purchases through TikTok Shop Live. Primary data were collected via a Google Forms-based questionnaire using a 1–5 Likert scale. The sampling technique employed was purposive sampling, selecting respondents who have a TikTok account, have watched a TikTok Shop live stream, have purchased products during a live stream, and are at least 17 years old. Based on the guideline of 5–10 times the number of indicators Hair et al. (2019), the minimum sample size was 100 respondents. However, this study successfully collected data from 166 respondents. To answer the research questions and test the hypotheses, the analysis utilized Structural Equation Modeling (SEM) with the assistance of SmartPLS version 4.0 for Windows.

To answer the research questions and test the hypotheses, the analysis utilized Structural Equation Modeling (SEM) with the assistance of SmartPLS version 4.0 for Windows. The PLS-SEM method was chosen because it is suitable for analyzing complex research models, including those involving mediating and moderating variables, and can be applied to relatively small sample sizes.

Furthermore, PLS-SEM focuses on testing predictive relationships among constructs and developing research models. Unlike CB-SEM, which is more geared toward testing and confirming established theories, PLS-SEM is better suited to the objectives of this study, which focus on analyzing relationships among variables and developing research models.

Table 1. Variable identification

Variable	Indicators	Statement
Scarcity Promotion (X)	1. Limited Quantity Scarcity 2. Limited Time Scarcity (Wu et al., 2021)	1. I often notice that products offered on TikTok Shop Live have limited stock. 2. I find it hard to get products when the stock level on TikTok Shop Live is low. 3. I often feel that the time to buy products on TikTok Shop Live is very limited. 4. I feel that promotional discounts on TikTok Shop Live are only available for a limited time. 5. I often feel like I have to buy right away because TikTok Shop Live promotions end quickly. 6. The remaining time on a TikTok Shop Live promotion pushes me to buy immediately.
Consumer Arousal (Z)	1. Relaxed-Stimulated 2. Calm-Excited 3. Sleepy-Wideawake 4. Unaroused-Aroused (Wu et al., 2021)	1. I feel more engaged when watching TikTok Shop Live. 2. I feel very excited by the atmosphere and interactions on TikTok Shop Live. 3. I feel very focused on the products when watching TikTok Shop Live. 4. I feel motivated to participate on TikTok Shop Live (such as by commenting or clicking the shopping cart).
Individual Impulsivity (Z)	1. Spontaneity 2. Without Consideration 3. Momentary Impulse 4. Ignoring Consequences (Wu et al., 2021)	1. I tend to buy products on the spur of the moment 2. I often make purchases without thinking them through first. 3. I often feel like I have to buy a product right away as soon as I see it. 4. I often decide to buy something right away without considering the consequences.
Impulsive Buying (Y)	1. Spontaneous Purchase 2. Unplanned Purchase 3. Initially did not want to buy 4. Initially did not intend to buy (Fathia & Vania,	1. I've bought a product on TikTok Shop Live on a whim after seeing an attractive offer. 2. I've bought a product on TikTok Shop Live without giving it much thought. 3. I've bought a product on TikTok Shop Live even though it wasn't on my shopping list. 4. I've bought a product on TikTok Shop Live without any prior preparation or planning.

2023)

5. I've bought something on TikTok Shop Live even though I initially just wanted to browse.
6. I've bought something on TikTok Shop Live without any prior intention to buy.

Source: Processed Data, (2026)

Table 2. Respondent Characteristics

Description		Frequency	Percentage
Gender	Male	55	33,1%
	Female	111	66,9%
Age	17 - 25	107	64,5%
	26 - 33	33	19,9%
	34 - 50	22	13,3%
	> 50	4	2,4%
	Rarely	17	10,2%
Frequency of watching TikTok shop live	1 – 2 times/ week	32	19,3%
	3 – 5 times/ week	67	40,4%
	Almost every day	50	30,1%

Source: Processed Data, (2026)

Of the 166 respondents who participated, women made up the majority, with 111 participants (66.9%). In terms of age, the respondents were predominantly in the 17–25 age group, totaling 107 people (64.5%), indicating that TikTok Shop Live users in this study were mostly from the younger age group and were active viewers of TikTok Shop live streams. Most respondents watched 3–5 times per week, totaling 67 people (40.4%). This indicates that the respondents involved share characteristics relevant to the study's objective regarding impulsive buying behavior during TikTok Shop live streams.

RESULTS AND DISCUSSION

Result

In this study, statistical analysis will be performed using SmartPLS software. The first step is to measure the outer model and inner model structure.

Table 3. Loading Factor

	Consumer Arousal	Individual Impulsivity	Impulsive Buying	Scarcity Promotion
CA1	0,801			
CA2	0,848			
CA3	0,795			
CA4	0,837			
II1		0,768		
II2		0,857		
II3		0,857		
II4		0,882		
IB1			0,752	

IB2	0,841
IB3	0,832
IB4	0,847
IB5	0,709
IB6	0,830
SP1	0,712
SP2	0,749
SP3	0,741
SP4	0,737
SP5	0,821
SP6	0,807

Source: Processed Data, (2026)

The outer model is evaluated by testing construct validity and reliability. Convergent validity is measured using external factor loadings, where an indicator is considered valid if it has a factor loading > 0.7 (Hair et al., 2019). Based on the test results, it can be concluded that all indicators meet the criteria for convergent validity with values above 0.7. Therefore, the research instrument is valid and suitable for use, allowing for further model testing and analysis.

Table 4. Average Variance Extracted (VAVE)

Variable	Average Variance Extracted (VAVE)
Scarcity Promotion	0.581
Consumer Arousal	0.673
Individual Impulsivity	0.709
Impulsive Buying	0.646

Source: Processed Data, (2026)

In addition to examining the loading factors, the validity test also considers the Average Variance Extracted (AVE). An Average Variance Extracted (AVE) value greater than 0.50 is also required, as it indicates that more than 50% of the variance in the indicators can be explained by the construct being measured. Thus, it can be concluded that the variables of scarcity promotion, impulsive buying, consumer passion, and individual impulsivity obtained AVE values higher than 0.50, which meets the required criterion (> 0.50).

Table 5. Reliability Test Result

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)
Consumer Arousal	0,838	0,840	0,892
Individual Impulsivity	0,862	0,865	0,907
Impulsive Buying	0,889	0,893	0,916
Scarcity Promotion	0,856	0,867	0,892

Source: Processed Data, (2026)

Reliability testing was conducted by examining Cronbach's alpha and composite reliability. A composite reliability Score above 0.7 is considered satisfactory. This indicates that the data obtained is reliable, and Cronbach's alpha serves as a reliability test to corroborate the composite reliability results. Thus, all variables have Cronbach's alpha and Composite Reliability values above 0.70. This

indicates that all constructs demonstrate a good level of consistency in measuring the variables under study; therefore, all variables are deemed reliable and meet the criteria for reliability testing.

Table 6. Goodness of Fit Model

	<i>Saturated model</i>	<i>Estimated model</i>
SRMR	0,073	0,089
d_ ULS	1,112	1,665
d_ G	0,428	0,454
Chi-square	410,818	415,390
NFI	0,796	0,793

Source: Processed Data, (2026)

The goodness of fit of the PLS model is assessed based on its Standardized Root Mean Square Residual (SRMR) value. A PLS model is considered to meet the Goodness of Fit Index criteria if the SRMR value is <0.10 , and the model is considered to fit very well if the SRMR value is <0.08 . Meanwhile, the NFI can be used to assess the accuracy of the PLS model. An NFI value close to 1 indicates that the tested model has good accuracy. Thus, the test results show that the SRMR value for the estimated model is 0.089. This value meets the model acceptability criteria because it is below the maximum tolerance limit of 0.10 ($\text{SRMR} < 0.10$), indicating that the structural model in this study is appropriate. In addition, the Normed Fit Index (NFI) value obtained was 0.793; a value close to 1 indicates that the tested model has a good level of fit and accuracy.

Table 7. Hypothesis Testing

	Path Coefficient	T statistics	P values	Decision
Scarcity promotion (X) – Impulsive Buying (Y)	0,071	0,912	0,181	Not Supported
Scarcity promotion (X) – Consumer Arousal (Z)	0,612	13,049	0,000	Supported
Consumer Arousal (Z) – Impulsive Buying (Y)	0,408	5,397	0,000	Supported
Scarcity promotion (X) – Consumer Arousal (Z) – Impulsive Buying (Y)	0,249	4.617	0,000	Supported
Individual Impulsivity (Z) x Consumer Arousal (Z) – Impulsive Buying (Y)	-0,015	0,193	0,424	Not Supported

Source: Processed Data, (2026)

The results of hypothesis testing using the bootstrapping method in SmartPLS indicate that not all hypotheses were supported. Hypothesis 1 was rejected, indicating that scarcity promotions do not have a significant positive effect on impulsive buying (p-value 0.181). Hypothesis 2 was accepted because scarcity promotions have a significant effect on consumer arousal (p-value 0.000). Furthermore, Hypothesis 3 was accepted, indicating that consumer arousal has a significant positive effect on impulsive buying (p-value 0.000). Hypothesis 4 showed that consumer arousal mediates the relationship between scarcity promotions and impulsive buying. Meanwhile, H5 was rejected because individual impulsivity does not moderate the relationship between the research variables (p-value > 0.05).

Discussion

Scarcity promotions do not influence impulsive buying, contrary to the hypothesis proposed in this study. According to Syahwa et al. (2026), scarcity promotions are a marketing strategy designed to encourage impulsive purchasing among consumers. However, the findings of this study contradict this view, as the analysis shows that scarcity promotions do not significantly influence impulsive purchasing behavior. Therefore, this study demonstrates that scarcity promotions in TikTok Shop live streams are insufficient to encourage consumers to make spontaneous and unplanned purchases, as consumers tend to consider other factors before making a purchase; consequently, information about product availability or the duration of the promotion is not strong enough to trigger impulsive purchasing behavior. This is consistent with research by Özçifçi & Gürdil (2026), which states that scarcity promotions alone are not enough to encourage consumers to make impulsive purchases. However, this study found that scarcity promotions can indirectly influence impulsive purchasing through other factors that act as mediators in the consumer decision-making process.

Scarcity promotions have a positive and significant effect on consumers perceived arousal, so the results of the second hypothesis align with those proposed in this study. These results indicate that the higher consumers' perceptions of limited stock and the promotion's duration, the higher their perceived excitement when participating in TikTok Shop live streams. This finding is consistent with Lamis et al. (2022), who state that information about product scarcity can create a sense of urgency and increase consumers' emotional engagement. Consumers who receive information about limited product availability and time-limited discount offers tend to experience increased emotional excitement, thereby limiting the time available to consider purchasing decisions.

In the context of TikTok Shop live streams, information such as "limited stock" or "promotion ends in a few minutes" can generate enthusiasm and an emotional urge to make an immediate purchasing decision (Handayani et al., 2025). This creates a strong sense of urgency and reinforces consumers' emotional drive to make a purchase immediately so as not to miss out on what is perceived as a favorable opportunity. As in a previous study by Sari & Kurniawan (2025), which showed that promotions featuring a countdown timer can increase emotional responses such as tension, anxiety, and alertness, which ultimately drive consumers to make a purchase.

Consumer arousal has a positive and significant influence on impulsive buying. Thus, the results of the third hypothesis are consistent with those proposed in this study. Emotional arousal plays a crucial role in increasing consumer engagement, which ultimately influences the purchase decision-making process (Lee et al., 2025). These findings indicate that the higher the level of emotional arousal experienced by consumers, the greater their tendency to make spontaneous purchases without careful consideration. This is consistent with the research by Ngo et al. (2024), which states that consumers in a highly emotional state may reduce rational consideration and increase the tendency to make impulsive purchases. Therefore, consumers who feel more excited, enthusiastic, and engaged while watching TikTok Shop live streams are more likely to make spontaneous purchases. In the context of live streams, consumer arousal reflects the level of emotional response triggered by various stimuli received during the broadcast. These findings support the research by Chen et al. (2022) which shows that consumer arousal has a positive effect on impulsive purchases. High levels of emotional arousal can encourage consumers to make immediate purchases, leading to spontaneous decision-making without evaluation.

The results of the study show that Consumer Arousal mediates the relationship between Scarcity Promotions and Impulsive Purchases, thereby confirming the fourth hypothesis. The use of

scarcity strategies, such as limited-time products with limited-time offers, can encourage consumers to buy immediately, as emotional arousal triggers a fear of missing out. For example, research by Ma & Liao (2022) shows that scarcity can increase the tendency to buy spontaneously through psychological mechanisms such as reduced self-control, increased emotional arousal, and fear, which ultimately lead consumers to make impulsive buying.

Promotions that emphasize limited product quantities and time-limited offers make consumers feel that the product will sell out soon, thereby increasing a sense of emotional urgency and prompting consumers to make purchasing decisions more quickly. This is consistent with research by Fathia & Vania (2023); Wu et al. (2021), which concluded that scarcity-based promotions, whether in the form of limited-quantity products or time-limited offers can increase consumers' emotional arousal, which in turn drives impulsive purchasing behavior. Thus, the role of consumers' perceived arousal in this study falls under the category of full mediation, as the effect of scarcity promotions does not directly drive impulsive purchasing but first increases consumers' perceived arousal, which then triggers impulsive purchasing behavior.

Individual impulsivity was unable to moderate the relationship between Consumer Arousal and Impulsive buying. Thus, the results of the fifth hypothesis were inconsistent with the hypotheses proposed in this study. Impulsivity is an innate tendency to act spontaneously without considering the consequences. According to Raza et al. (2022), impulsivity is a personality trait that can reinforce consumers' tendency to make impulsive purchases. However, the results of this study reveal a different finding. The analysis indicates that individual impulsivity does not have a significant effect, as suggested by the theory. Consumers who experience high arousal while watching TikTok Shop live streams are more likely to make impulsive purchases regardless of their level of impulsivity. This finding aligns with research by Lee & Yi (2008), which showed that individual impulsivity in shopping does not moderate the relationship between arousal and impulsive purchasing. Thus, when consumers experience high levels of arousal, they are more likely to make spontaneous purchases, regardless of their level of impulsivity.

CONCLUSION

This study aims to analyze the effect of scarcity promotions on impulsive buying in TikTok Shop live streams, taking into account the mediating role of consumer arousal and the moderating role of individual impulsivity. Based on the test results, this study concludes that scarcity promotions have no direct effect on impulsive purchasing. However, scarcity promotions have been shown to have a positive effect on consumer arousal, and consumer arousal also has a positive effect on impulsive buying. The higher the arousal felt by consumers, the greater their tendency to make impulsive buying. Furthermore, consumer arousal has been shown to mediate the effect of scarcity promotions on impulsive purchasing. Meanwhile, individual impulsivity has not been shown to moderate the effect of consumer arousal on impulsive buying. Therefore, impulsive buying on TikTok Shop Live is more influenced by the increase in consumer arousal generated by scarcity promotions than by the direct effect of the scarcity promotions themselves.

Based on these findings, it is recommended that sellers and businesses using e-commerce live-streaming features not only rely on scarcity-based promotional strategies, such as limited stock or time limited promotions, but also strive to create shopping experiences that can increase consumer engagement during live streams. This can be achieved through engaging product presentations, active interaction with the audience, and creative and entertaining offers. Furthermore, future research is encouraged to develop a research model by incorporating additional

variables that may influence impulsive buying, such as fear of missing out (FOMO), consumer trust, the host's credibility, interaction quality, and hedonistic shopping motivation. Future research could also expand the scope of the study to other e-commerce live-streaming platforms to achieve broader coverage and better generalizability of the results.

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