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Impulsive Buying Behavior in Live-Streaming Shopping Mechanism: Do Fear of Missing Out Matter?

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Abstract

The aim of this study is to examine the factors influencing young consumers' impulsive buying behavior during TikTok Shop live-streaming flash sales, focusing on the effects of scarcity, discounts during live-streaming sales (DOLS), and fear of missing out (FoMO). The research targets Generation Y and Z, known for their high engagement with digital platforms. Using the Stimulus-Organism-Response (SOR) theory, the study explores how these factors interact to drive impulsive purchases. Data were collected from 295 respondents via an online survey and analyzed using SEM-PLS method to assess the relationships between the variables. The results indicate that both scarcity and DOLS significantly heighten FoMO, which acts as a psychological trigger for impulsive buying behavior. FoMO mediates the effect of scarcity and discounts on impulsive purchases, where scarcity creates urgency by limiting product availability, and DOLS entice consumers with time-sensitive deals. Additionally, the interactive nature of live-streaming enhances these effects by enabling real-time engagement with sellers. This study underscores the psychological impact of FoMO in live-stream shopping and provides valuable insights for marketers seeking to optimize social commerce strategies on platforms like TikTok.

Keywords: Scarcity, Discount, Fear of Missing Out, Impulsive Buying Behavior, Live-Streaming

INTRODUCTION

The internet and fast-growing technology are important in supporting our daily activities (Usha and Surbhi, 2020). We need them to support various activities, such as communicating with others, searching for information, shopping, watching entertainment, doing live video broadcasts, and other activities (Pratama and Sukaesih, 2019). One of the biggest results of the development of the internet and technology is online stores, commonly called e-commerce. As time goes by, various forms of e-commerce have developed. One of the most popular ones lately is social commerce. It is different from traditional e-commerce, where consumers usually interact with online shopping sites separately. Social commerce combines elements of social media and e-commerce. Social commerce allows users to share their experiences with products and shopping experiences to help them make purchasing decisions (Abdelsalam et al., 2020). One significant outcome of social commerce is the rise of notable user behaviors, particularly the tendency of online shoppers to make impulsive purchases. This shift reflects how the integration of social media and e-commerce platforms can influence consumer decision-making and foster spontaneous buying patterns (Mapanje, 2024; Sanapang et al., 2024).

TikTok Shop is Indonesia's most frequently used social commerce platform for online shopping. According to data from Databoks (2024), the number of monthly active TikTok Shop users in Indonesia reached 125 million as of February 2024. At its inception in 2016, TikTok was a platform that could only be used to share short videos (Doan and Lee, 2023). Over time, TikTok has transformed into a dynamic social commerce ecosystem with the TikTok Shop feature. This development provides a unique and engaging new experience for users. Through TikTok, sellers can advertise their goods through promotional videos and live streaming. Customers can purchase directly through live-streaming videos and in-feed videos on official brand and content creator accounts, not only for sellers (Valerio et al., 2019).

Live streaming directly communicates between brands or companies and their consumers online (Zhang et al., 2020). The live-streaming feature in e-commerce is believed to increase sales and enhance brand promotion activities (Sun and Zhang, 2019). Compared to other marketing communications, live streaming has two unique elements: generating direct interaction between buyers and sellers and creating a strong, immersive brand presence that customers can feel (Antczak, 2024; Hua and Chiu, 2022). Customers can ask the host questions about products, usage, variants, and features through live streaming. Customers can also get discounts, promos, special prices, and free shipping if they purchase through the live-streaming feature. Setting up a live-streaming session is relatively straightforward, making it accessible for sellers. Through live streaming, they can effectively communicate their messages to the audience in real-time. Additionally, it provides an opportunity for sellers to engage directly with viewers and receive immediate feedback (Utomo, 2023).

The success of e-commerce is certainly driven by consumers' purchase intentions and behaviors, which form the backbone of online sales. Understanding what provokes consumers to make purchases, repurchases, or impulsive purchases has become a focal point of research in e-commerce (Saini, 2024). Numerous studies have sought to identify the key factors

influencing consumer behavior in these areas. More recently, as e-commerce continues to evolve, research has expanded into new territories, particularly focusing on social commerce platforms that integrate live-shopping features, which is a trend rapidly gaining traction (Budree et al., 2021). This trend highlights the growing impact of social media, influencer marketing, and real-time interactions on consumer decision-making.

Live-streaming sales have emerged as a unique form of social commerce that enables real-time interaction between sellers and consumers (Hettiarachchi et al., 2017). This interactive environment creates a persuasive and engaging shopping experience. Studies have explored how such settings influence impulsive buying behavior (Kim and Srivastava, 2007; Lăzăroiu et al., 2020; Xiang et al., 2016). Perceived enjoyment is found to significantly increase the likelihood of impulsive purchases during live shopping. When consumers find the experience entertaining, they are more inclined to buy spontaneously. Li et al. (2021) emphasized the importance of social presence, noting that a strong connection with the broadcaster boosts consumer engagement and trust. This highlights the critical role of human connection and real-time interaction in driving impulse buying in live-stream commerce.

Further supporting these insights, Lo et al. (2022) identified several other factors that drive impulse buying during live streams. Their research revealed that parasocial interaction (the one-sided relationship consumers feel with the broadcaster), vicarious experience (the ability to experience products through others), scarcity persuasion (limited time offers or stock), and price perception (value for money) all significantly contribute to consumers' impulsive buying decisions. Additionally, the social validation that consumers perceive through live-streaming platforms reinforces their purchasing decisions, as they often observe others engaging in similar behaviors. Together, these studies demonstrate that social commerce, particularly through live-streaming platforms, creates a powerful blend of entertainment, social connection, and urgency that fosters impulsive purchasing behavior.

Another study conducted by Doan and Lee (2023) found that the impulsive buying behavior of consumers is influenced by the fear of missing out (FoMO). FoMO, in this context, is a feeling where we feel a sensation of loss of knowledge, opportunities, and experiences that may affect life. FoMO also results in a person's concern about anxiety, a sense of abandonment, a sense of deprivation, and loneliness, as a result of which a person may not be able to capture the opportunities provided by others (Abel et al., 2016). Sun and Zhang's research (2019) shows that FoMO also has a role in determining consumers' tendency to make impulse purchases. However, different results were shown by the research of Fumar et al. (2023) and Nurjanah et al. (2023), who found that when FoMO is mediated by self-control, the indirect effect of FoMO on impulse buying is negative. So, when consumers have good self-control, they tend not to be influenced to make impulse purchases due to FoMO.

The topic of FoMO is not new in the marketing world. Several previous studies have investigated the influence of FoMO on impulse buying behavior in various contexts, such as the use of pay later applications (Harahap et al., 2023), the purchase of hype beast products (Fumar et al., 2023), purchases in the Shopee application (Deliana et al., 2024), and retail stores

(Çelik et al., 2019). However, not much has been done in the context of live-streaming in social commerce applications. Due to the inconsistency of previous studies' results and the limited number of studies related to this topic, this study intends to explore the effect of FoMO on impulse purchases. In addition to examining the impact of FoMO on impulse purchases, this study investigates the influence of scarcity and discount offers DOLS on FoMO, which may ultimately lead to impulsive buying behavior. Not only that, this study also explores the mediating effect of FoMO on the relationship between scarcity, DOLS, and impulsive buying behavior. Understanding whether these factors significantly and consistently trigger impulsive purchases is crucial for developing effective marketing strategies.

This study selected TikTok as its primary focus due to the platform's substantial influence in the social commerce landscape, particularly in Indonesia, where it has millions of active users. TikTok's live-streaming feature merges entertainment with shopping, fostering high engagement and encouraging spontaneous buying decisions. The platform's interactive nature and time-sensitive promotions create an ideal environment for studying these behaviors. Furthermore, TikTok's user base is predominantly composed of young individuals. According to Business of Apps data, more than 75% of TikTok users in Indonesia are aged between 13 and 44 (Databoks, 2024), making Generation Y and Z the primary subjects of this study. These age groups are known for their digital savviness and preference for online shopping. The novelty of this study lies in its focus on the mediating role of FoMO in the relationship between scarcity, discount offers, and impulsive buying in the live-streaming context of TikTok Shop.

LITERATURE REVIEW

The SOR (Stimulus-Organism-Response) theory was first coined by Mehrabian and Russell (1974) in psychology. SOR theory is usually used to explain human behavior by analysing intellectual and emotional states that are influenced by stimuli from outside themselves (Shah et al., 2020). In this theory, the stimulus is an external factor that can generate internal human states (Song et al., 2021). The organism is an individual who receives a stimulus and processes it using the intellect, emotions, and personal experiences before giving a response (Wu and Li, 2018). Then, the response is the final decision, behavior, or reaction, based on the individual's intellectual evaluation and feelings (Sherman et al., 1997).

Several previous studies have used SOR theory in the context of live-streaming. Gao et al. (2018) found that the strong presence of live streamers can positively influence the attitudes and behaviors of potential customers. Research by Guo et al. (2021) showed that stimulus in the form of features in live-streaming makes buyers feel it is useful and reduces feelings of uncertainty, thus making them not hesitate to buy the products offered in it. It will further explore the role of stimulus in the form of scarcity and DOLS on the organism. In the context of this research is the FoMO felt by consumers, which results in a response in the form of impulsive buying behavior. This study also investigates how scarcity cues and DOLS influence consumer urgency, leading to impulsive buying behavior.

Live-streaming sales are currently a global economic phenomenon. This is because the sales mechanism in live-streaming makes it easier for sellers to market their products to buyers by using the element of presence and real-time interaction (Fu and Hsu, 2023). Many brands have started using TikTok live-streaming to show and sell their products. The products sold are diverse, from clothing and cosmetics to motor vehicles. Not only in the industrial world, live streaming has also become a phenomenon in marketing science this decade. Several studies have been conducted to find what factors in live streaming can make buyers purchase. Xu et al. (2020) found that seller attractiveness and parasocial interaction make consumers impulse purchases in live streaming. Meanwhile, the results of Zuo dan Xiao (2021) show that social presence and seller telepresence cause consumers to buy impulsively in live-streaming sales.

Live-streaming is one of the sales mechanisms that allow customers to make impulse purchases because it includes real-time direct interaction between buyers and sellers (Cheng, 2020; Fu and Hsu, 2023). Before watching live-streaming, buyers do not know what products are offered. However, the seller will explain the product in detail in the live-streaming, from function to usage. Buyers can also respond directly on the platform through the comment section and the like button. After that, the seller will answer them directly in the broadcast. Sellers also make live-streaming more enjoyable by providing entertaining activities. Adding entertainment elements to live-streaming aims to make the promotion more convincing and create a memorable shopping experience for customers so that potential buyers are interested in making a purchase directly (Fu and Hsu, 2023; Wohn et al., 2018).

Impulsive buying behavior is an immediate unplanned purchasing behavior caused by a stimulus to a product (Doan and Lee, 2023; Piron, 1991). Impulsive buying behavior is when consumers tend to make unexpected, fast, and careless purchases (Badgaiyan et al., 2016; Rook and Fisher, 1995). This study focuses on impulsive buying in live-streaming flash sales, referring to consumers who buy products without planning after watching a live broadcast. Previous research suggests that scarcity and FoMO affect impulsive buying behavior (Zhang et al., 2022). Another study by Doan and Lee (2023) stated that FoMO affects impulsive buying behavior when mediated by TikTok flow. Nasib (2021) also found that price discounts positively affect impulsive buying behavior. Research by Zakiyyah (2018) states that offers on flash sales positively influence impulsive buying behavior. Therefore, this research will explore three elements in the TikTok flash sale case study: scarcity, discount on live-streaming, and FoMO, and whether these elements affect consumer behavior to carry out impulsive buying.

Scarcity refers to the condition where a resource or product is limited, making it difficult to obtain. This limitation often prompts consumers to act quickly out of fear that the product may no longer be available. The phenomenon of scarcity arises from an imbalance between supply and demand, where demand exceeds supply, leading to a sense of urgency (Kristofferson et al., 2016). In the context of this study, scarcity is particularly relevant to live-streaming flash sales, a form of online shopping that leverages time-sensitive offers and limited stock to create a high-pressure buying environment. During these flash sales, products are available for a short duration or in restricted quantities, amplifying consumer FoMO on the opportunity to purchase.

Previous research has shown that scarcity can significantly influence consumers to make unplanned, impulse purchases. The fear or worry of losing the chance to obtain a product, especially when stock is limited in quantity or availability time, often triggers a psychological response where consumers feel threatened by the possibility of missing out. This response, known as FoMO, is a powerful motivator that drives impulse buying (Hajar and Musadik, 2021; Li et al., 2021; Redine et al., 2023). Prior research also found that scarcity can make consumers afraid or worried about the loss of opportunity to obtain a product (Doan and Lee, 2023). Consumers tend to feel threatened when they see or experience the phenomenon of limited product inventory in terms of quantity and time, which results in the emergence of FoMO in themselves, ultimately leading to a response in the form of impulse buying behavior (Zhang et al., 2022). Based on this, the research proposes the following hypothesis.

H1. Scarcity has a positive and significant effect on FoMO

H4. Scarcity has a positive and significant effect on impulsive buying behavior.

Live-streaming selling is a sales channel that can strongly increase engagement because it allows consumers to see the visibility and presence of the streamer. The phenomenon focuses on streamers who can directly showcase and sell products through live video (Chen and Lin, 2018). Consumers can watch live streaming through smartphones to interact in real-time with the streamer and make purchases by clicking the link provided. Consumers tend to be interested in live-streaming selling because one main reason is the discount offered during live-streaming (Hou et al., 2021). According to Çavuşoğlu et al. (2021), a discount is when a business offers products at a value below the normal price. Discounts can encourage consumers to make impulse purchases, especially if they are familiar with the product. Tiemessen et al. (2023) found that providing discounts for a limited time significantly affects the FoMO, leading to impulse buying behavior. Based on this, the research proposes the following hypothesis.

H2. Discount on live-streaming has a positive and significant effect on FoMO

H5. Discount on live-streaming has a positive and significant effect on impulsive buying behavior.

FoMO is an emotional condition that describes consumer concerns and fears of missing opportunities that others have (Przybylski et al., 2013; Zhang et al., 2022). FoMO is closely related to conditions where first popularized FoMO consumers will feel anxious if they miss a valuable opportunity, so they must feel present and not miss the opportunities that come. In this study, FoMO refers to consumers who receive stimuli in the form of scarcity and DOLS at live-streaming flash sales so that there is a fear of losing the opportunity to buy, resulting in impulsive buying responses. This psychological trigger is especially powerful in time-sensitive sales environments, such as flash sales or limited-time offers. It creates urgency, which marketers strategically use to accelerate purchasing decisions.

In line with the explanation above, previous research states that FoMO has a positive and significant effect on impulsive buying (Ahmed et al., 2020; Çelik et al., 2019; Zhang, et al., 2022). Marketers and companies use various stimuli to make consumers anxious if they miss out on buying, such as slogans, taglines, discounts, special prices, limited offers, and limited

stock (Çelik et al., 2019). The hope is that with this stimulus, consumers feel afraid if they miss it, so they immediately make an impulse purchase. From the explanation above, this study proposes the following hypotheses.

H3. FoMO positively and significantly affects impulsive buying behavior.

H6. FoMO mediates the effect of scarcity on impulse buying behavior.

H7. FoMO mediates the effect of DOLS on impulse buying behavior.

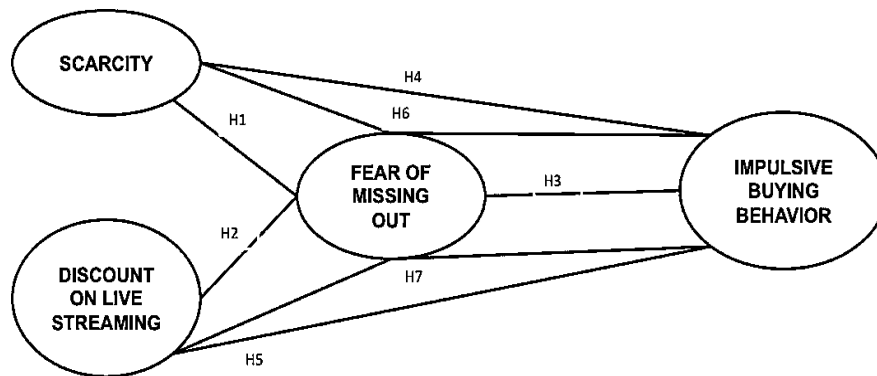


Figure 1. Research model

METHODS

This study employed a quantitative research method to examine the relationships between key variables (Hair et al. 2017). The variables under investigation included scarcity, live-streaming discounts, FoMO, and impulsive buying behavior. By utilizing this approach, the research aimed to statistically analyze how these factors interact and influence consumer behavior. This study uses primary data to test the influence between variables. The population in this study is TikTok users in Indonesia who have made purchases on the TikTok platform within the past year. Furthermore, our questionnaire was distributed through the Populix platform via their official website to collect data. Populix is a collaborative platform that brings together researchers and research respondents to obtain accurate and reliable data. This research successfully collected 295 questionnaire data that qualified as respondents. Then, the questionnaire data was further processed to the data analysis stage.

All question items were adopted and modified based on previous research and literature to ensure the items are valid and reliable. The scarcity and FoMO question items were developed from studies conducted by Föbker (2018) and Battista et al. (2020). Meanwhile, the discount on live-streaming question items was adopted and modified by Refasa et al. (2023), and impulsive buying items were developed by Fumar et al. (2023). This approach helps maintain the relevance and consistency of the constructs across different contexts. All items are measured using a seven-point Likert scale. The number one means strongly disagree, and the number seven means strongly agree. Respondents were then asked to enter their demographic data, such as gender, generation, latest education, occupation, and duration of TikTok use in a day. Details of the question items are presented in Table 1 below.

Table 1. Questionnaire items

Variable	Code	Questionnaire Items	Source
Scarcity	SCR1	I think the items sold in TikTok's live-streaming flash sale will be sold out soon.	Föbker (2018)
	SCR2	I think many people will buy the items sold in TikTok's live-streaming flash sale.	
	SCR3	I think the limited number of items sold in TikTok's live-streaming flash sale causes many people to buy.	
	SCR4	I think the items sold in TikTok's live-streaming flash sale have limited availability.	
Discount on Live-Streaming	DOL1	I think the duration of TikTok's live-streaming flash sale is relatively short.	Refasa et al. (2023)
	DOL2	In TikTok's live-streaming flash sale, there is little time to make a decision.	
	DOL3	The closer to the time limit of TikTok's live-streaming flash sale, the more it pushes me to buy as soon as possible.	
	DOL4	I will continue to watch the TikTok live-streaming flash sale to receive additional discount coupons.	
	DOL5	I am compelled to purchase on TikTok live-streaming flash sales because of the amount of discount.	
	DOL6	I am triggered to purchase on TikTok's live-streaming flash sale because it is within the discount period.	
Fear of Missing Out	FOM1	I feel anxious if I miss TikTok's live-streaming flash sales.	Föbker (2018) and De Battista et al. (2020)
	FOM2	I feel anxious if I miss TikTok's live-streaming flash sales.	
	FOM3	I worry if I miss TikTok's live-streaming flash sales.	
	FOM4	When I miss a TikTok live-streaming flash sale, I feel upset.	
	FOM5	I feel sad when I miss a TikTok live-streaming flash sale.	
	FOM6	I feel disappointed when I miss a TikTok live-streaming flash sale, especially after knowing that the products on offer are out of stock.	
Impulsive Buying	IMP1	I like to shop mindlessly in TikTok's live-streaming flash sales.	Fumar et al. (2023)
	IMP2	I like to shop spontaneously in TikTok live-streaming flash sales.	
	IMP3	In TikTok's live-streaming flash sales, I often buy products immediately without any consideration.	
	IMP4	"I see it, I buy it" describes the way I shop in TikTok live-streaming flash sales.	
	IMP5	"Buy now, think about it later" describes the way I shop in TikTok's live-streaming flash sales.	

Partial least squares (PLS) is a multivariate analysis technique designed to manage relationships between dependent and independent variables (Santoso, 2017). Its primary goal is to generate optimal weight components for the endogenous variable, enhancing the understanding of variable interactions and explaining the influence of both X and Y variables within the model (Gunawan et al., 2023). In this study, descriptive analysis was conducted to understand the data set, followed by confirmatory factor analysis to test the measurement scale. Data reliability and validity were tested to ensure the data's quality.

Finally, relationships between variables were assessed using structural equation modeling (SEM), with PLS-SEM being particularly suitable for exploratory research and complex models. According to Hair et al. (2017), the minimum sample size for SEM is ten times the number of question items for each variable. Since the discount on live-streaming and FoMO variables each have 6 question items, the minimum required sample size is 60. With 295 samples collected, this study exceeded the required sample size, ensuring sufficient statistical power, minimizing the margin of error, and enhancing the generalizability of the findings across various contexts. This robust sample size significantly strengthens the validity of the results and provides a more reliable basis for drawing conclusions.

RESULT

Based on the data of the respondents in this study, 67% were female, while 33% were male. Generation Z category respondents are the majority of respondents, namely 178 or 60% of the total respondents. In the demographics of the last education, the SMA / SMK category is the largest, at 55%, while the SMP category is the least, at only 1%. 142 respondents, or 48% of the respondents, are classified as students. The duration of their internet usage is mostly one to 3 hours a day (44%). Other participants spent less than one hour a day (14%), three to 6 hours a day (32%), and more than 6 hours a day (11%). Table 2 is the complete data of descriptive test results to determine the characteristics of respondents in this study.

Table 2. Respondent characteristics

Demographics	Category	Frequency (N=295)	Percentage
Gender	Male	97	33%
	Female	198	67%
Generation	Generation Z (1995 - 2021)	178	60%
	Generation Y (1981 - 1994)	117	40%
Education	Junior High School	3	1%
	Senior High School	162	55%
	Diploma	13	4%
	Undergraduate (S1)	104	35%
	Master (S2)	13	4%
Occupation	Not Employed	1	0%
	Private Employee	77	26%
	Civil Servant	2	1%
	Entrepreneurship	31	11%
	Student	142	48%
Duration of TikTok Usage in a Day	Others	42	14%
	< 1 hours	40	14%
	1 – 3 hours	129	44%
	3 – 6 hours	94	32%
	> 6 hours	32	11%

Subsequently, the data were further examined using confirmatory factor analysis, validity test, and reliability test. The results of the factor analysis are shown in Table 3. This study uses the rule of thumb stated by Chin (1995) and Hair et al. (2017), namely factor loading above 0.7 and average variance extracted (AVE) above 0.5. Then, Cronbach's alpha and composite reliability must be above 0.7 to pass the reliability test. These procedures ensure the robustness and consistency of the measurement model, confirming the validity and reliability of the data for further analysis. The results validate the strength, accuracy, and robustness of the measurements used in this study, ensuring the overall integrity of the model.

Table 3. Validity and reliability test results

Variable	Factor Loading	p-values
Scarcity		
(Composite Reliability = 0.843; AVE = 0.574; Cronbach's Alpha = 0.753)		
SCR1	0.789	<0.001
SCR2	0.717	<0.001
SCR3	0.746	<0.001
SCR4	0.776	<0.001
Discount on Live-streaming		
(Composite Reliability = 0.893; AVE = 0.583; Cronbach's Alpha = 0.857)		
DOL1	0.702	<0.001
DOL2	0.706	<0.001
DOL3	0.770	<0.001
DOL4	0.803	<0.001
DOL5	0.823	<0.001
DOL6	0.771	<0.001
Fear of Missing Out		
(Composite Reliability = 0.967; AVE = 0.829; Cronbach's Alpha = 0.959)		
FOM1	0.880	<0.001
FOM2	0.942	<0.001
FOM3	0.937	<0.001
FOM4	0.904	<0.001
FOM5	0.939	<0.001
FOM6	0.857	<0.001
Impulsive Buying		
(Composite Reliability = 0.955; AVE = 0.808; Cronbach's Alpha = 0.941)		
IMP1	0.870	<0.001
IMP2	0.886	<0.001
IMP3	0.919	<0.001
IMP4	0.924	<0.001
IMP5	0.895	<0.001

In the first iteration of confirmatory factor analysis, the results show that all factor loadings for all question items have met the rule of thumb, which is more than 0.7, and the AVE is above 0.5. The reliability test results show that the Composite Reliability and Cronbach's alpha of each variable have met the expected value. It can be concluded that all variables in this study have passed the validity and reliability tests. Therefore, the measurement model is considered valid and reliable for further analysis.

Table 4. Hypothesis testing results

Path	Path coefficient	p-values	Result	Effect
H1. Scarcity → Fear of missing out	0.365 ***	0.000	Supported	Direct
H2. Discount on live-streaming → Fear of missing out	0.272 ***	0.000	Supported	Direct
H3. Fear of missing out → Impulsive buying behavior	0.508 ***	0.000	Supported	Direct
H4. Scarcity → Impulsive buying behavior	-0.032	0.588	Unsupported	Direct
H5. Discount on live-streaming → Impulsive buying behavior	0.257 ***	0.000	Supported	Direct
H6. Scarcity → Fear of missing out → Impulsive buying behavior	0.138 ***	0.000	Supported	Indirect
H7. Discount on live-streaming → Fear of missing out → Impulsive buying behavior	0.185 ***	0.000	Supported	Indirect

Finally, the results of hypothesis testing are shown in Table 4 above. The results show that all hypotheses in this study, except H4, are supported with a p-value below 0.05. From these results, scarcity and discount on live-streaming have a significant effect on the FoMO felt by consumers. Then, FoMO and discount on live-streaming also has a significant and positive effect on impulsive buying behavior in consumers. Meanwhile, scarcity does not have any significant effect on impulsive buying behavior. Next, the mediation test shows that FOMO can act as a mediator of scarcity and discount on live-streaming on impulse buying behavior.

DISCUSSION

Based on the SOR model, this study successfully explores the factors that make consumers engage in impulsive buying behavior in the live-streaming sales mechanism. The results of data analysis show that stimulus in the form of scarcity and discount on live-streaming can lead to feelings of FoMO for consumers, so they tend to perform impulsive buying behavior. In this study, seven hypotheses are proposed, and all of these hypotheses are supported, except Hypothesis 4, which states that scarcity does not have a direct effect on impulsive buying behavior. These results emphasize the importance of psychological stimuli in driving impulsive buying behaviors in live-streaming contexts.

This study found that the scarcity element in the direct selling mechanism is one of the factors that can trigger feelings of FoMO on consumers. This is in line with research by De Battista et al. (2021), Doan and Lee (2023), and Zhang et al. (2022), which show that the scarcity factor has a positive effect on consumers' FoMO feelings. In this study, scarcity refers to consumers' perception of limited product availability during live-streaming events. This

perception creates a heightened scarcity effect, especially among younger consumers such as millennials and Generation Z, who are more susceptible to FoMO in fast-paced digital environments. When they see that the quantity of products being sold is decreasing rapidly, their FoMO intensifies, stimulating them to make quick, often impulsive purchasing decisions. This sense of urgency not only stimulates consumer engagement but also highlights the powerful influence that scarcity can have on purchasing behavior in live sales settings.

This study also found that discounts on live-streaming sales can positively influence consumers' FoMO. Previous research by Refasa et al. (2023) and Wahyudi (2017) supports this, suggesting that discounts act as psychological triggers, encouraging consumers to act quickly to secure a perceived valuable deal. The time-sensitive nature of live sales, combined with discounts, fosters impulsive buying behavior. In this study, the discounts specifically refer to those offered during live-streaming events on platforms like TikTok. By presenting time-limited or exclusive discounts, sellers create urgency, making consumers fear they might miss out on future savings opportunities. This fear stimulates many consumers to make unplanned purchases driven by anxiety about losing a limited-time deal. The findings emphasize how discount strategies in live sales not only encourage immediate purchases but also leverage FoMO as a powerful motivator for consumer behavior.

This study highlights that FoMO has a significant positive impact on impulsive buying behavior. Previous research by Deliana et al. (2024) and Nurjanah et al. (2023) also concluded that FoMO drives consumers to make unplanned purchases. When individuals experience FoMO, they tend to act impulsively, fearing they might miss out on a limited-time opportunity. This psychological pressure compels them to make quick purchasing decisions without thorough consideration. The emergence of FoMO in consumers is often triggered by scarcity and discounts presented during live-streaming sales. These two factors contribute to the development of FoMO and serve as mediating variables in this study. Consumers who experience FoMO worry about losing the best available offers, believing they may not have the same opportunity in the future. As a result, young consumers, in particular, are more likely to engage in impulsive buying as a reaction to these feelings. These findings are in line with prior studies that found FoMO has a positive and significant effect on impulsive buying behavior (Ahmed et al., 2020; Çelik et al., 2019; Zhang et al., 2022).

In the context of this study, FoMO is triggered by two key factors: scarcity and discounts during live-streaming sales, as previously discussed. These elements create an environment where consumers feel a heightened sense of urgency, fearing that they might not get the same deal in the future. This fear motivates them to make quick purchasing decisions without much prior thought or planning. Young consumers, particularly millennials and Generation Z, are especially prone to this behavior in live-streaming events. The study underscores how strategic marketing elements like scarcity and discounts can amplify FoMO and, in turn, increase the likelihood of impulsive buying. This study highlights the implication of how scarcity and discounts during live-streaming sales amplify FoMO, especially among young consumers, leading to more impulsive buying behavior, driving greater engagement.

CONCLUSIONS

The main objective of this study is to understand the role of scarcity, discount on live-streaming, and FoMO on impulsive buying behavior on the TikTok platform. The results show that scarcity, discount on live-streaming, and FoMO positively influence impulsive buying behavior. Additionally, FoMO mediates the relationship between scarcity, discount on live-streaming, and impulsive buying behavior. When young consumers see limited product availability and attractive discounts in live-streaming sales, they fear missing out, prompting immediate purchases. This study contributes to marketing and consumer behavior research, exploring young consumers' behavior on TikTok using the S-O-R Theory. From a managerial perspective, the results offer insights for marketing and brand managers on how to leverage TikTok effectively, particularly targeting young consumers. By creating urgency with limited availability and discounts, brands can stimulate impulsive buying and increase sales.

LIMITATION

This research does not escape some of the limitations of the study. Firstly, the data for this study was collected through the Populix service, whose respondents are Indonesians, so the results of this study can only represent Indonesian consumers. So, for future research, it is necessary to explore the behavior of consumers from other countries. There is a possibility that the results of the study will be different from this study because there are differences in consumer culture and characteristics. Secondly, this study only focuses on Generation Y and Generation Z, so the results of this study cannot be compared to those of other generations. Suggestions for future research are to explore other generations because each generation has different characteristics as customers. Third, this study only explores two factors that trigger FoMO, namely scarcity and discount on live-streaming. Recommendations for future research are to test other stimulus factors, such as social comparison and price sensitivity. Finally, this study only focuses on the use of the TikTok platform, so it cannot represent other platforms. We encourage future research to explore other similar platforms, such as Instagram. Different results are possible if this research framework is applied to other platforms.

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