



Impact of Live Streaming on Impulsive Buying Among Millennials in Banjarmasin on E-Commerce Platforms

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ABSTRACT

The development of live streaming shopping has transformed consumer behavior in online purchasing, particularly through platforms such as TikTok and Shopee. This study aims to analyze the effects of streamer characteristics, interaction and promotion, perceived enjoyment, and Fear of Missing Out (FoMO) on impulsive buying among Millennial consumers in Banjarmasin. This study employed a quantitative approach using a causal associative method. The sample consisted of 100 Millennial respondents who actively used TikTok or Shopee and had made purchases through live streaming shopping features within the previous three months. The respondents were selected using purposive sampling, while data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS. The results show that streamer characteristics have a positive and significant effect on impulsive buying, with a path coefficient of 0.563 ($p = 0.000$). Interaction and promotion also have a positive and significant effect, with a coefficient of 0.248 ($p = 0.031$). Perceived enjoyment has a positive and significant effect, with a coefficient of 0.052 ($p = 0.044$), while FoMO has a positive and significant effect, with a coefficient of 0.146 ($p = 0.037$). The R^2 value of 0.945 indicates that 94.5% of the variance in impulsive buying can be explained by the four variables. Streamer characteristics are the most dominant factor influencing impulsive purchasing behavior. These findings indicate that streamer credibility and attractiveness, interaction and promotion, enjoyable shopping experiences, and FoMO can increase Millennial consumers' tendency to make spontaneous and unplanned purchases

INTRODUCTION

The rapid growth of information and communication technology has redefined the global economic landscape, especially in retail trade. Digitalization has not only expanded market reach but also fundamentally reshaped consumer behavior by integrating information-seeking activities and buying decisions. In the early era of electronic commerce (e-commerce), digital transactions were dominated by asynchronous and static interactions, in which consumers evaluated products independently through image-based visual catalogs and brief text descriptions. Although efficient, this conventional e-commerce model often left behind limitations such as high product uncertainty and a lack of direct social presence.

As a response to these limitations, the digital commerce landscape has evolved toward a new, more interactive and participatory paradigm through the integration of live streaming features (live streaming shopping or live commerce). This live commerce phenomenon represents the convergence of e-commerce transaction functionality with the intimacy of real-time social media communication. Through this live-streaming medium, sellers or hosts (streamers/anchors) do more than simply present product visuals dynamically; they also demonstrate product use, provide personalized recommendations, and respond to consumer questions spontaneously and directly. This interactive shopping atmosphere is further strengthened by the presence of various time-limited promotional stimuli, such as flash sales, exclusive stream discounts, and product stock countdowns. The presence of this highly engaging shopping space transforms the originally rational and planned buying process into a dynamic experience rich in emotional impulses and spontaneous decisions.

The evolution of live commerce as a modern shopping medium is inseparable from its ability to bridge psychological factors and social interaction. In theory, the synergy between two-way communication, the availability of real-time comment sections from other consumers, and a streamer's participatory performance can create an immersive shopping experience. As explained in the findings of Chen, Zhao, and Wang (2022), the interaction mechanism within live streaming can transfer trust from the streamer figure to the products being offered. When consumers trust a streamer's credibility and authenticity, psychological barriers in the form of doubts about product quality can be significantly reduced. As a result, this trust has proven to be a key accelerator that drives purchase intention all the way to actual transactions on the platform. One of the most prominent psychological and behavioral implications emerging from the rise of live-stream shopping is the escalation of impulsive buying behavior. Impulsive buying is conceptually defined as a purchase action made without prior planning, spontaneous in nature, and driven by a strong emotional response to external stimuli encountered during the shopping process. In the context of live commerce, the live broadcast environment acts as an epicenter of highly complex stimuli. Consumers are not only exposed to technical product information, but are also bombarded with visual aesthetic stimuli, the streamer's interpersonal appeal, social proof through interactions with other buyers, and scarcity pressure.

The dynamics of consumer responses to this live-stream shopping environment can be comprehensively explained through the Stimulus-Organism-Response (S-O-R) framework. As described by Lee and Chen (2021), the elements of the live streaming commerce ecosystem act as stimuli that expose consumers, which then trigger changes in consumers' internal emotional and cognitive states, ultimately leading to unplanned purchasing behavior. Within this framework, the enjoyable experience of watching the stream (perceived enjoyment) plays a central role as a psychological mediator. A streamer's distinctive characteristics—such as visual attractiveness, expertise, and ease of communication—simultaneously enhance consumers' emotional enjoyment. These findings underscore a new philosophy in digital consumer behavior: purchasing decisions in live streaming are no longer calculated solely on the basis of a rational assessment of product availability and usefulness, but are heavily driven by emotional gratification and the hedonic experience created during the stream.

The practical application of this phenomenon is clearly visible in the two giants of digital commerce platforms in Indonesia, TikTok and Shopee, both of which have aggressively made live shopping features the backbone of their business ecosystems. These two platforms have successfully combined commercial algorithms with interactive entertainment features. Iskanto and Gunawan's (2023) study of the Shopee ecosystem confirms that anchor attributes, viewer-to-viewer comment dynamics, the reliability of logistics service quality, and the appeal of promotional incentive information interact linearly in building consumer trust perceptions. This positive perception ultimately triggers real-time transactions. Reinforcing these findings, Sofi and Waskito (2026) reveal that social presence, clarity of promotional information, and the manipulation of product scarcity levels in Shopee Live serve as concrete stimuli that exploit consumers' perceived value and perceived risk, ultimately multiplying the impulse to shop impulsively.

A similar pattern, but with a much stronger social media character, occurs on TikTok. The characteristics of TikTok Live Streaming Commerce, which combine the concept of shoppertainment (shopping and entertainment), have proven to have a powerful impact on impulsive buying in Indonesia. Perceived enjoyment acts as the single most dominant predictor. Consumers who feel entertained by a streamer's charismatic, communicative, and trustworthy communication style tend to ignore their spending budget considerations. The ease of payment features (frictionless checkout), transparent pricing information, and the practicality of the app interface further make it easier for consumers to convert emotional impulses into immediate transactional action.

In addition to streamer appeal and the intimacy of social interaction, urgency and the psychological manipulation of time are other major determinants that trigger an explosion of impulsive buying. The use of flash sale features with very short countdown durations, limited voucher quotas, and product stock displayed as if it were nearly sold out creates a perception of scarcity (perceived scarcity) and time pressure. This pressured shopping environment forces consumer cognition into an emergency state, giving rise to a

deep fear of missing out on a golden opportunity (Fear of Missing Out, or FoMO). Consumers feel they must execute the purchase right away before the promotion or item expires. The literature on young people's shopping behavior on TikTok Shop emphasizes that this combination of broadcast discounts, scarcity variables, and FoMO syndrome is empirically highly significant in breaking down consumers' rational defenses, although the effectiveness of flash sale variables on their own sometimes shows varying results depending on the type of product offered.

Amid the complexity of this live commerce phenomenon, the millennial consumer group (Generation Y) occupies a highly strategic demographic and sociological position for study. Millennials are a transitional generation that grew up during the shift from conventional analog consumption patterns to a fully digital commercial landscape. Millennials not only have mature digital technology literacy and high adaptability to e-commerce and social media trends, but financially they are also in a productive age phase with relatively independent and stable purchasing power compared with Generation Z. The combination of financial independence, familiarity with operating digital platforms, and exposure to a consumerist lifestyle makes Millennials a highly relevant group for examining the extent to which technology interactions, economic incentives, and social media's emotional pull can change their shopping behavior patterns.

The significance of this generational factor is reinforced by comparative studies examining fundamental differences between Millennial and Generation Z behavior when interacting with live shopping features. Although Generation Z is often described as true digital natives, Millennials show a distinct responsiveness to the sense of urgency and time efficiency offered by live streaming on Shopee and TikTok. Millennials' sensitivity to economically valuable promotions, combined with the busyness of daily routines, makes them vulnerable to impulsive urges when presented with transactional convenience and limited offers. Therefore, treating the characteristics of all generations as the same within a single live shopping behavior framework will produce biased and less precise conclusions.

Although theoretical thinking and empirical research on live streaming commerce and impulsive buying behavior have developed quite rapidly in recent years, there is still an urgent academic gap to be explored. Some previous studies have focused on a single platform, such as TikTok or Shopee, or used specific consumer groups such as Generation Z. Meanwhile, there are still only a few studies on millennials, even though productive adult age groups like millennials in reality account for a very large share of economic transaction volume.

LITERATURE REVIEW

1. *Live Streaming Shopping*

In general, live streaming shopping refers to interactive, real-time online buying and selling conducted through digital platforms. This model combines entertainment content with instant transaction mechanisms, thereby changing the way consumers evaluate and purchase products. Xu et al. (2020) highlight that real-time engagement in this virtual space creates strong opportunities for interaction between consumers and marketers. Consumers not only watch product demonstrations in a visual and transparent way, but can also ask questions and receive immediate responses that reduce uncertainty in shopping. This two-way interaction goes beyond the boundaries of traditional e-commerce, which Sun et al. (2019) identified as a new form of social commerce—an ecosystem in which social ties, community engagement, and personalized shopping experiences are integrated to drive purchasing decisions.

2. *Streamer Characteristics*

The characteristics of the streamer or host in live streaming shopping play a central role in influencing consumer perceptions, appeal, and purchasing decisions. Unlike traditional e-commerce, which relies on text and static images, live streaming shopping depends on the streamer as the primary source of information and real-time interaction (Xu et al., 2020). The streamer acts as a bridge between the brand and consumers, with their personality traits and communication style determining the success of engagement (Wongkitrungrueng & Assarut, 2020).

In theory, the influence of streamer characteristics is often analyzed using the Source Credibility Model and the Source Attractiveness Model (Ohanian, 1990; Hovland et al., 1953). Consumers tend to develop trust and parasocial interaction based on their evaluation of the personal qualities shown by the streamer during the live session (Chen & Lin, 2018; Gong et al., 2022). For measuring streamer characteristics, there are five dimensions, including:

- a. **Expertise & Product Knowledge:** The extent to which a streamer has a deep understanding of a product's specifications, benefits, how to use it, and its limitations. This expertise enhances the source's credibility and helps reduce consumers' perceived risk before purchase (Xu et al., 2020; Wongkitrungrueng & Assarut, 2020).
- b. **Physical & Personal Attractiveness:** The streamer's visual quality, presentation style, and personality appeal. A streamer's physical attractiveness and positive aura can capture viewers' initial attention and create a favorable first impression (Ohanian, 1990; Chen & Lin, 2018).
- c. **Trustworthiness & Authenticity:** The streamer's honesty, objectivity, and reliability in reviewing products without seeming to manipulate information solely for sales purposes. Authentic streamers are more likely to build long-term relationships and audience loyalty (Gong et al., 2022).
- d. **Interactivity & Responsiveness:** The streamer's ability to communicate in two directions, answer questions in the comments quickly, greet viewers, and create a friendly, inclusive atmosphere in the virtual space (Sun et al., 2019; Xu et al., 2020).

- e. Entertaining Ability: The streamer's ability to present content in a humorous, persuasive, and energetic way so that the live streaming session does not become boring and viewers stay longer (viewing duration) (Wongkitrungrueng & Assarut, 2020).

3. Interaction and Promotion

Interactivity is a key element that distinguishes live streaming shopping from conventional e-commerce. Interaction in a live streaming environment is defined as real-time, two-way communication between the streamer and viewers, as well as among viewers in the virtual space. According to Chen and Lin (2018), intense interaction triggers social presence and parasocial interaction, in which consumers feel a physical presence and emotional connection with the streamer despite being in different locations.

The main difference between live streaming shopping and conventional e-commerce lies in its level of interactivity. In this context, interaction is understood as a form of real-time, two-way communication that occurs not only between the streamer and viewers, but also among users in the virtual space. This intensive communication can evoke social presence and parasocial interaction, making consumers feel emotionally close and physically engaged with the streamer even though they are geographically separated (Chen & Lin, 2018).

Sales promotion in live streaming shopping functions as an external stimulus strategically designed to trigger immediate purchasing behavior. Common promotional practices include exclusive live discount coupons, flash sales with countdown timers, financial incentives such as free shipping, and value-saving bundle offers. Developed by Mehrabian and Russell (1974), the S-O-R theory explains that external environmental elements (Stimulus) influence a person's internal emotional and cognitive state (Organism), which ultimately produces behavior (Response).

Indicators in Interaction and Promotion in Live Streaming

a. Interaction Dimensions

- 1) Product Information Interaction: Communication exchanges focused on the clarity of product specifications, functions, prices, and how to use the product directly via comments/on-screen.
- 2) Socio-Emotional Interaction: The streamer's ability to greet viewers, create a casual atmosphere, use humor, and foster a sense of community in the broadcast room.
- 3) Responsiveness and Personalization: The speed and accuracy with which the streamer answers questions or responds to consumers' individual special requests.

b. Sales Promotion Dimensions

- 1) Exclusive Price Appeal (Low-Price Appeal / Exclusive Discounts): The perception that the prices offered are much lower than those available through regular purchasing channels.
- 2) Scarcity and Time Pressure: A strategy of limiting the duration of discounts (flash sales) or product stock, which creates a sense of time urgency for consumers.

- 3) Additional Monetary Incentives (Monetary Incentives & Bundling): Providing added-value benefits such as free shipping vouchers, free gifts, or combined promotional packages.

4. Fear of Missing Out (FoMO)

Fear of Missing Out (FoMO) is defined as a psychological anxiety that arises when someone worries about being left behind in the experiences or benefits obtained by others (Przybylski et al., 2013). In digital transactions, this condition stems from social pressure as well as the threat of material loss if consumers do not act quickly (Kang et al., 2020). In the live streaming context, FoMO becomes a major emotional driver that triggers sudden purchasing behavior. The live broadcast format combined with limited-offer tactics – such as flash discounts and dwindling stock availability – creates a sense of urgency among viewers (Abrar et al., 2021). This anxiety minimizes rational cognitive analysis while amplifying emotional responses, thereby encouraging impulsive buying (Zhang et al., 2020).

A study by Adyantari, Nugraha, and Dharomesz (2025) of 295 Generation Y and Z consumers on TikTok Shop found that product scarcity and discounts during live streaming can increase FoMO, while FoMO acts as a psychological trigger for impulsive buying. A study by Pangastuti and Kusumaningtyas (2025) also found that FoMO and live stream shopping have a significant effect on impulsive buying among TikTok Shop consumers. These findings show that the fear of missing an opportunity can strengthen consumers' urge to make immediate purchases.

To measure the FoMO variable more deeply in the live streaming shopping context, this variable can be developed into three main dimensions:

- a. Fear of Missing Economic Opportunities: Consumers' anxiety about missing financial advantages, such as the lowest discounted price, free shipping incentives, or exclusive vouchers that are only valid during the live session.
- b. Perceived Time & Stock Urgency: The pressured feeling consumers experience due to highly limited offer deadlines (countdown timers) and product stock indicators that keep decreasing rapidly on the screen.
- c. Fear of Social Exclusion / Social FoMO: The feeling of anxiety if one does not own popular products that many other viewers are buying in the broadcast room, which can make consumers feel left behind by community trends (social anxiety).

5. Impulsive Buying

Spending without prior purchase intent or deep cognitive analysis is known as impulsive buying (Rook, 1987; Stern, 1962). This spontaneous behavior stems from the presence of instinctive emotional stimuli that affect consumers' emotions when they see product displays or directly experience the shopping environment (Beatty & Ferrell, 1998).

In the live streaming shopping ecosystem, impulsive buying happens very quickly because it is supported by a combination of interactive digital interfaces, aggressive sales promotion tactics, and a dynamic social atmosphere (Xu et al., 2020). Unlike traditional e-commerce, where consumers actively browse product

catalogs based on rational needs, live streaming presents a shoppertainment flow that triggers affective responses. Real-time visual exposure to the streamer, a sense of urgency caused by scarcity strategies such as flash sales and limited stock, and the influence of social anxiety such as Fear of Missing Out (FoMO) collectively reduce rational cognitive consideration (cognitive overload) and lead to spontaneous purchase decisions (Abrar et al., 2021; Zhang et al., 2020).

Lee and Chen (2021) found that consumers in live streaming environments are more likely to experience impulsive buying urges because of product presentations and the streamer's prompts in a relatively short period of time. Li et al. (2022) also found that the social presence of the broadcaster/streamer can influence impulsive buying both directly and through consumers' emotional states of pleasure and arousal. Meanwhile, recent research on Shopee Live shows that social presence, promotional information, and product scarcity are relevant stimuli in shaping consumers' psychological states, which then influence impulsive buying urges.

To measure and analyze the impulsive buying variable systematically in the context of live streaming shopping, this variable can be developed into four main dimensions (Rook & Fisher, 1995; Beatty & Ferrell, 1998):

- a. Spontaneity: The sudden emergence of a buying urge without planning, prior discussion, or a special budget allocation before watching the live stream.
- b. Emotional Intensity (Emotional / Affective Urge): The strength of the emotional urge felt by consumers, such as feeling happy, excited, or pressured to own the product immediately while it is being streamed.
- c. Disregard of Cognitive Consideration (Disregard of Consequences): Consumers' tendency to set aside rational evaluation, such as analysis of product function, price considerations, long-term financial impact, or other urgent needs.
- d. Time-based Compulsivity in Execution (Unplanned Speed of Purchase): The speed of the time interval between the first appearance of the urge and the act of pressing the transaction button (checkout) on the digital platform.

METHODOLOGY

This study uses a quantitative approach with a causal associative method. The quantitative approach is used to test hypotheses through the measurement of numerical variables and statistical analysis. Causal associative research aims to analyze causal relationships among the independent variables (Stimulus: Streamer Characteristics, Social Interaction, and Promotion), the mediating variables (Organism: Perceived Enjoyment, FoMO), and the dependent variable (Response: Impulsive Buying Behavior).

The population used consists of all consumers, especially millennials (born between 1981 and 1996), in the city of Banjarmasin, as well as active users of the TikTok/Shopee platforms who have made transactions through the live-streaming shopping feature within the last 3 months. Because the size of this digital consumer population is unlimited (an infinite/unknown population), the

exact population size cannot be determined with certainty, so this study uses a sampling technique of Non-Probability Sampling with a Purposive Sampling method, resulting in 100 respondents who were willing to participate in the study.

Data analysis was conducted using the PLS-SEM (Partial Least Squares - Structural Equation Modeling) method with the help of SmartPLS software. The PLS-SEM analysis stages include two main evaluation stages (Hair et al., 2017), namely evaluating the measurement model (outer model), then evaluating the structural model.

RESULT

1. Research Respondents

Based on the data, there were 100 respondents. Demographically, based on gender, current age, highest level of education, and primary occupation, it was found that:

- a. By gender, the study respondents were predominantly female, with 62 people (62%), while male respondents totaled 38 people (38%). This composition shows that women were the more dominant respondent group in the study on live streaming shopping and impulsive buying behavior.
- b. By age, 58 respondents (58%) were 30–35 years old, while 42 respondents (42%) were 36–45 years old. Thus, most respondents came from the younger millennial group. This composition shows that the study included representation from two millennial age groups, providing an overview of impulsive buying behavior among millennial consumers across different age ranges.
- c. In terms of highest level of education, the majority of respondents had a bachelor's degree (S1), namely 63 people (63%). Next were respondents with a diploma education, totaling 16 people (16%), high school/vocational high school/equivalent at 12 people (12%), and postgraduate education at 9 people (9%). The dominance of S1 graduates shows that most respondents had a relatively high level of formal education.
- d. Based on primary occupation, the largest number of respondents worked as private-sector employees/state-owned enterprise employees, totaling 45 people (45%). Next, 22 people (22%) were self-employed/entrepreneurs, 14 people (14%) were civil servants, 12 people (12%) were housewives, and 7 people (7%) were professionals/others. This condition shows that most respondents were individuals with work activities and relatively stable income, especially private-sector employees/state-owned enterprise employees.

2. Partial Least Squares Structural Equation Modeling (PLS-SEM) Analysis

Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis was used to examine the relationships between streamer characteristics, interaction and promotion, perceived enjoyment, and fear of missing out on impulsive buying. Based on the results of data processing using PLS-SEM, the research model obtained is shown in the following figure:

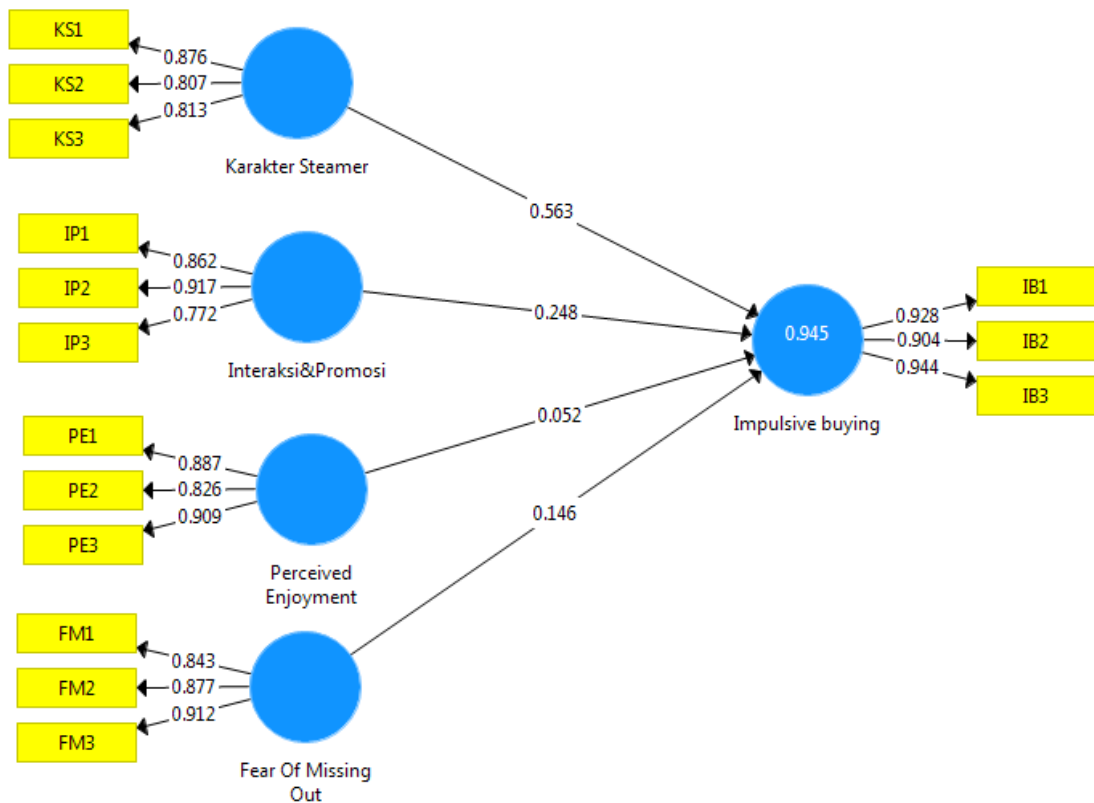


Figure 1: Results of Partial Least Square Structural Equation Modeling (PLS-SEM) Analysis

a. Measurement Model Evaluation (Outer Model)

The measurement model was evaluated by examining the outer loading values of each indicator. Outer loading values that are closer to 1 indicate that an indicator is increasingly able to reflect the construct being measured. In general, an outer loading value of ≥ 0.70 indicates that an indicator meets the criteria for convergent validity. As shown in the figure:

- 1) Streamer Character (SC): This variable is measured through three indicators. Indicator KS1 is the most dominant reflection, with a loading factor of 0.876, followed by KS3 (0.813) and KS2 (0.807). This shows that the dimension represented by KS1 makes the strongest contribution to forming the Streamer Character variable.
- 2) Interaction & Promotion (IP): There are three measuring indicators for this variable. Indicator IP2 recorded the highest loading value at 0.917, meaning that IP2 is the primary manifestation of this variable, followed by indicators IP1 (0.862) and IP3 (0.772).

- 3) Perceived Enjoyment (PE): This variable is reflected very strongly by indicator PE3, with a loading value of 0.909. The two other supporting indicators, PE1 (0.887) and PE2 (0.826), also show a high contribution in measuring viewers' enjoyment.
- 4) Fear of Missing Out (FM): All three FoMO indicators show very high indicator reliability. Indicator FM3 contributes the most, with a loading value of 0.912, followed by FM2 (0.877) and FM1 (0.843).
- 5) Impulsive Buying (IB): As the dependent variable, Impulsive Buying is accurately reflected by indicator IB3, which has the highest loading value of 0.944, followed by IB1 (0.928) and IB2 (0.904). The high loading factor values of these three indicators indicate that the instrument is suitable for measuring spontaneous buying behavior.

b. Structural Model Evaluation (Inner Model)

The structural model is evaluated by examining the path coefficient values and the coefficient of determination (R^2) values.

1) Path Coefficient Values

Based on the analysis results, the following path coefficient values were obtained:

Table 1. Path Coefficient Values

Variable Relationship	Path Coefficient	P-Value	Direction Of effect
Streamer Characteristics → Impulsive Buying	0,563	0,000	Positive
Interaction & Promotion → Impulsive Buying	0,248	0,031	Positive
Perceived Enjoyment → Impulsive Buying	0,052	0,044	Positive
Fear of Missing Out → Impulsive Buying	0,146	0,037	Positive

- ✓ The streamer's characteristics are the strongest and most dominant driver of impulsive buying decisions. A path coefficient of 0.563 shows that the higher the streamer's quality, expertise, reliability, and appeal, the higher consumers' impulsive buying behavior will be. A p-value of 0.000 (< 0.05) confirms that this effect is highly significant.
- ✓ Two-way interaction and sales promotion also have the potential to trigger impulsive buying, with the second-strongest influence. A value of 0.248 indicates a positive relationship, where appealing promotions (discounts, flash sales) and responsive interaction can significantly increase consumers' spontaneous purchases (p-value $0.031 < 0.05$).
- ✓ The perception of enjoyment or entertainment while watching the broadcast has a positive and significant effect on impulsive buying (p-value $0.044 < 0.05$). Although it has the smallest influence compared with

the other variables (coefficient 0.052), an enjoyable viewing atmosphere still consistently encourages consumers' positive emotions to shop without planning.

- ✓ The fear of missing out on offers or trends has a positive and significant effect on impulsive buying ($p\text{-value } 0.037 < 0.05$). A coefficient of 0.146 shows that the greater consumers' anxiety or disappointment at missing limited offers in live streaming, the stronger their urge to make an immediate impulsive purchase.

3) Coefficient of Determination (R^2)

Based on the testing results for the dependent construct, an R^2 value of 0.945 was obtained for the Impulsive Buying variable. This indicates that the research model has a very strong predictive ability (substantial). Substantively, a value of 0.945 means that 94.5% of the variance in Impulsive Buying can be explained jointly (simultaneously) by the Streamer Characteristics, Interaction & Promotion, Perceived Enjoyment, and Fear of Missing Out variables. Meanwhile, the remaining 5.5% is explained by other variables or factors outside the structural model examined.

DISCUSSION

1. The Influence of Streamer Characteristics on Impulsive Buying

The research results show that the Streamer Characteristics variable has a positive and significant effect on Impulsive Buying ($\beta=0.563$, $p=0.000$). This finding indicates that Streamer Characteristics are the most dominant factor in triggering consumers' impulsive purchasing decisions while watching live-stream shopping.

Theoretically, this result is in line with the Source Credibility Model and the Source Attractiveness Model (Ohanian, 1990; Hovland et al., 1953), in which the expertise, trustworthiness, and attractiveness of the information source determine the effectiveness of persuasive communication. Streamers who have deep product knowledge, an engaging personality, and a communicative delivery style are able to build strong parasocial interaction with viewers (Chen & Lin, 2018). This psychological bond reduces consumers' perceived risk toward the product, making the urge to make a transaction much more spontaneous. This study supports the findings of Gong et al. (2022) and Wongkitrungrueng and Assarut (2020), who stated that a streamer's quality and appeal are directly proportional to increased audience impulse buying behavior.

2. The Influence of Interaction & Promotion on Impulsive Buying

The analysis results prove that Interaction & Promotion have a positive and significant effect on Impulsive Buying ($\beta=0.248$, $p=0.031$). Dynamic promotional offers accompanied by responsive two-way communication effectively encourage unplanned purchasing urges.

This finding reinforces the Stimulus-Organism-Response (S-O-R) framework from Mehrabian and Russell (1974). In this model, aggressive promotions (such as exclusive live discounts, flash sales, and free-shipping vouchers) as well as real-time interaction act as external stimuli (Stimulus) that trigger emotional arousal and perceptions of economic value in consumers (Organism). This emotional state suppresses consumers' rational consideration

process, which then leads to an immediate checkout action (Response). These results are consistent with the studies by Xu et al. (2020) and Sun et al. (2019), which found that the combination of easy interaction and price promotion incentives is the main stimulus behind impulsive buying on social commerce platforms.

3. The Effect of Fear of Missing Out (FOMO) on Impulsive Buying

The Fear of Missing Out (FOMO) variable was proven to have a positive and significant effect on Impulsive Buying ($\beta=0.146$, $p=0.037$). This indicates that viewers' psychological anxiety about missing attractive offers or falling behind community trends substantially increases the urge to make instant purchases. Conceptually, this finding is supported by Scarcity Theory (Cialdini, 2009) and the FOMO motivation theory of Przybylski et al. (2013). When streamers integrate elements of scarcity – such as displaying dwindling stock quantities or a flash sale countdown timer – consumers feel a sense of time pressure. The fear of losing out on economic gains creates an emotional burden that pushes consumers to immediately complete a purchase before the opportunity disappears. This study aligns with the findings of Abrar et al. (2021) and Zhang et al. (2020), which confirm that FOMO plays an important role as an emotional catalyst that accelerates impulse buying behavior in live streaming shopping environments.

4. The Effect of Perceived Enjoyment on Impulsive Buying

The test results show that Perceived Enjoyment has a positive and significant effect on Impulsive Buying ($\beta=0.052$, $p=0.044$). Although its influence is the smallest compared with the other variables, the sense of entertainment and intrinsic satisfaction gained from watching a live broadcast still provides a real push toward spontaneous shopping behavior.

The theoretical basis for this finding refers to the Hedonic Motivation System Adoption Model (HMSAM) by Lowry et al. (2013) and the concept of Hedonic Value (Davis et al., 1992). A live-streaming environment packaged as shoppertainment (shopping-based entertainment) stimulates a positive mood. When consumers feel happy, relaxed, and enjoy the broadcast content, they tend to set aside rational self-control and become more open to making impulse purchases. This finding supports the research results of Chen and Lin (2018) and Wongkitrungrueng and Assarut (2020), which state that an enjoyable shopping experience consistently encourages consumers' affective response to buy products outside their original plan.

CONCLUSIONS AND RECOMMENDATIONS

Based on the data analysis, this study concludes that streamer characteristics, interaction and promotion, fear of missing out (FOMO), and perceived enjoyment simultaneously have a positive and significant effect on consumers' impulsive buying in the live streaming shopping ecosystem. Streamer characteristics proved to be the most dominant driver ($\beta=0.563$; $p=0.000$), followed by interaction and promotion ($\beta=0.248$; $p=0.031$), FOMO ($\beta=0.146$; $p=0.037$), and perceived enjoyment ($\beta=0.052$; $p=0.044$). These findings indicate that the higher the streamer's credibility, the more active the interaction and the more attractive the promotional tactics, the greater consumers' anxiety about missing limited offers, and the higher the level of enjoyment while watching the stream, the greater consumers' tendency to make instant, unplanned purchasing decisions.

Based on these findings, the practical recommendations are directed at e-commerce industry players to prioritize the selection and intensive training of streamers, given that streamer characteristics are the main driver of impulsive buying. Marketers also need to design dynamic interactive promotional strategies, such as time-limited flash sales and exclusive live vouchers, to trigger FOMO-based urgency without neglecting the entertainment element (shoppertainment) in order to maintain viewer comfort. Meanwhile, for future research, it is recommended to expand the variables studied to include more complex digital ecosystem features – such as gamification or real-time reviews – and to test differences in impulsive buying behavior across generational groups or different product categories (high-involvement vs. low-involvement)

FURTHER STUDY

For future study, it is recommended to expand the study variables by including current digital ecosystem elements, such as interactive live streaming features (for example, virtual gifts and gamification) as well as the credibility of product reviews (consumer reviews). In addition, future researchers should also broaden the sample scope across different product categories—especially by comparing high-involvement and low-involvement products—and examine differences in impulsive buying patterns across demographic groups, such as comparing Generation Z and Millennials, in order to produce a more comprehensive picture of consumer behavior.

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