



Interactivity And Visual Appeal In Tiktok Live: The Mediating Role Of Perceived Usefulness And Perceived Enjoyment In Fashion Impulse Buying

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ABSTRACT

The rapid growth of live commerce in Indonesia has significantly transformed consumers' online shopping behavior, particularly through TikTok Live. This study examines the effect of interactivity and visual appeal on impulse buying of fashion products in TikTok live streaming, with perceived usefulness and perceived enjoyment as mediating variables. This research employs a quantitative approach using a survey method involving 200 respondents who have previously purchased fashion products through TikTok Live. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that interactivity and visual appeal positively and significantly affect perceived usefulness and perceived enjoyment, which in turn significantly influence impulse buying behavior. Mediation analysis reveals that perceived usefulness and perceived enjoyment partially mediate the relationships between interactivity, visual appeal, and impulse buying. Theoretically, this study contributes by applying the Stimulus–Organism–Response (SOR) framework with dual mediators (cognitive and affective) in the context of TikTok Live commerce, extending impulse buying literature in emerging digital markets. These findings highlight the strategic importance of interactive features and visual presentation in shaping consumer responses in live streaming commerce.

INTRODUCTION

The rapid advancement of digital technology has fundamentally transformed consumer behavior, particularly in the context of online shopping and electronic commerce. Along with the widespread adoption of social media platforms, new forms of digital commerce have emerged, one of which is live commerce. Live commerce integrates real-time video streaming, interactive communication, and instant purchasing features, enabling consumers to engage directly with

sellers while simultaneously evaluating products (Zhou et al., 2017; Wongkitrungrueng et al., 2020). This phenomenon has gained substantial traction in Indonesia, driven by high social media penetration and the increasing popularity of short-video platforms.

Among various platforms, TikTok Live has become one of the most dominant channels for live commerce, particularly in the fashion industry. TikTok Live combines entertainment, social interaction, and commercial transactions within a single environment, allowing sellers to demonstrate products dynamically while responding to consumer inquiries in real time (Chen & Lin, 2021). Fashion products are especially well suited to live streaming because they rely heavily on visual presentation, styling demonstration, and emotional appeal. Consequently, TikTok Live serves as a powerful stimulus capable of shaping consumers' cognitive and emotional responses during the purchasing process.

One prominent behavioral outcome frequently observed in live commerce is impulse buying. Impulse buying refers to spontaneous and unplanned purchasing behavior that occurs without extensive deliberation and is often triggered by emotional arousal and situational cues (Abdelsalam et al., 2020). In live streaming environments, impulse buying is intensified by time-limited promotions, real-time social interaction, and immersive visual displays (Hu & Chaudhry, 2020). Unlike conventional e-commerce, where consumers have sufficient time to evaluate alternatives, live streaming creates a sense of urgency and social presence that accelerates decision-making processes.

Previous studies indicate that two critical environmental stimuli in live commerce are interactivity and visual appeal. Interactivity reflects the degree of two-way communication between sellers and consumers, including responsiveness, real-time feedback, and audience participation (Liu & Shrum, 2002; Sun et al., 2019). High levels of interactivity enhance engagement, reduce uncertainty, and strengthen consumer confidence in purchasing decisions. Meanwhile, visual appeal refers to the aesthetic quality of content presentation, such as product display, lighting, layout, and overall visual design, which can attract attention and shape positive product perceptions (Praveena & Thomas, 2017; Park & Lin, 2020).

From a theoretical perspective, the Stimulus–Organism–Response (SOR) framework provides a robust foundation for understanding consumer behavior in live commerce settings. According to this framework, environmental stimuli influence internal psychological states (organism), which subsequently lead to behavioral responses (Mehrabian & Russell, 1974). In the context of TikTok Live, perceived usefulness and perceived enjoyment represent key internal evaluations reflecting cognitive and affective reactions toward the live streaming experience. Perceived usefulness refers to the extent to which consumers believe that live streaming facilitates effective purchasing decisions, while perceived enjoyment captures the degree of pleasure and fun experienced during the shopping process (Davis, 1989; Praveena & Thomas, 2014; Chen & Lin, 2021).

Although prior research has examined impulse buying in online shopping and social commerce, empirical studies focusing specifically on TikTok Live, particularly in emerging markets such as Indonesia, remain limited. Moreover, many existing studies tend to analyze interactivity and visual appeal as direct predictors of impulse buying, without sufficiently exploring the mediating mechanisms that explain how these stimuli translate into purchasing behavior (Sun et al., 2019; Wongkitrungrueng et al., 2020). Understanding the mediating roles of perceived usefulness and perceived enjoyment is therefore essential to uncover the psychological processes underlying impulse buying in live commerce contexts.

In addition, live commerce introduces a strong social dimension that differentiates it from traditional online shopping environments. The presence of hosts, other viewers, and real-time interaction creates a sense of social presence, which enhances trust, involvement, and perceived authenticity of information (Hu & Chaudhry, 2020). In TikTok Live, interactions between hosts and viewers often resemble face-to-face communication, thereby reducing

psychological distance and increasing consumers' willingness to engage in spontaneous purchases.

The fashion category further amplifies the importance of experiential factors in impulse buying behavior. Fashion consumption is not solely driven by functional needs but is closely associated with self-expression, aesthetics, and emotional gratification. Live streaming enables sellers to demonstrate product usage, styling combinations, and fit visualization in real time, allowing consumers to evaluate products more holistically than through static images or textual descriptions (Park & Lin, 2020). This dynamic presentation strengthens perceived usefulness while simultaneously enhancing enjoyment during the shopping experience.

Another distinctive feature of TikTok Live is its entertainment-oriented nature. Originally designed as a short-video entertainment platform, TikTok retains this characteristic within its commercial features. Consequently, consumers often engage with TikTok Live not only for transactional purposes but also for entertainment and social interaction. This dual motivation creates a shopping environment where enjoyment plays a central role in shaping behavioral outcomes. When consumers experience high enjoyment, they tend to spend more time watching live streams, become emotionally immersed, and are more susceptible to impulse buying (Chen & Lin, 2021). From a managerial perspective, understanding impulse buying in live commerce is increasingly important due to its direct impact on sales performance, particularly in fast-moving categories such as fashion. Live streaming offers marketers opportunities to design strategic stimuli, including limited-time promotions, interactive games, exclusive offers, and visually appealing product presentations. However, without a clear understanding of how these stimuli influence consumers' internal evaluations, such strategies may not be optimally effective.

Despite the growing relevance of live commerce, empirical evidence regarding the mechanisms driving impulse buying in TikTok Live remains fragmented. Many prior studies have focused either on platform features or consumer attitudes without integrating both cognitive and affective mediators within a single analytical framework. By incorporating perceived usefulness and perceived enjoyment as mediating variables, this study provides a more comprehensive explanation of how interactivity and visual appeal translate into impulse buying behavior, in line with the SOR framework. Moreover, research on live commerce in developing economies such as Indonesia is still limited compared to studies conducted in more mature digital markets. Cultural characteristics, consumption patterns, and levels of digital literacy may shape consumer responses to live streaming stimuli differently. Therefore, examining TikTok Live within the Indonesian context offers valuable empirical insights that enrich the global literature on digital consumer behavior.

Accordingly, this study aims to examine the effect of interactivity and visual appeal on impulse buying of fashion products in TikTok Live, with perceived usefulness and perceived enjoyment as mediating variables. By adopting a quantitative approach and employing SEM-PLS analysis, this research seeks to contribute theoretically by extending the application of the SOR framework with dual cognitive-affective mediators in live commerce, while also providing practical insights for fashion sellers and digital marketers in designing more effective live streaming strategies.

LITERATURE REVIEW

Interactivity

Interactivity refers to the degree of two-way communication between users and systems or between sellers and consumers in a digital environment (Liu & Shrum, 2002). In TikTok live streaming, interactivity is reflected in the host's ability to respond to comments, answer questions, and actively engage viewers during live sessions. High levels of interactivity can enhance consumer engagement and strengthen perceptions of control in the online shopping process (Zhou et al., 2017).

Visual Appeal

Visual appeal is defined as the attractiveness of visual elements arising from aesthetic design, layout, and content presentation (Praveena & Thomas, 2017). In live streaming contexts, visual appeal includes product display quality, lighting, background settings, and visual consistency throughout the broadcast. Strong visual appeal can capture consumers' attention and create a professional impression that enhances trust in the product.

Perceived Usefulness

Perceived usefulness refers to the extent to which consumers believe that using a particular system or medium can enhance effectiveness and efficiency in decision-making (Davis, 1989). In the context of TikTok Live, perceived usefulness emerges when consumers perceive that live streaming helps them better understand products and facilitates the purchasing process (Zhou et al., 2017).

Perceived Enjoyment

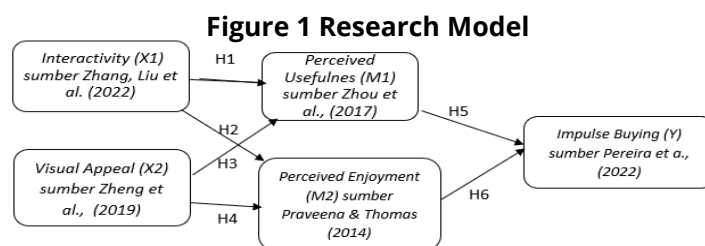
Perceived enjoyment refers to the level of pleasure and comfort experienced by consumers while using a particular technology or medium (Praveena & Thomas, 2014). Interactive and entertaining live streaming can create positive emotional experiences that encourage consumers to remain engaged for longer periods and increase their tendency toward impulse buying.

Impulse Buying

Impulse buying is a purchasing behavior that occurs spontaneously and is driven by emotional urges without extensive rational consideration (Abdelsalam et al., 2020). In TikTok live streaming, impulse buying is often triggered by a combination of real-time interaction, appealing visuals, and an intense entertainment atmosphere.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

Based on the Stimulus–Organism–Response (SOR) theory and previous empirical studies, this research develops a conceptual framework that illustrates the relationships among interactivity, visual appeal, perceived usefulness, perceived enjoyment, and impulse buying.



(Source: Adapted from Joya Damara's Master's Thesis, 2025)

The research hypotheses proposed in this study are as follows:

- **H1:** Interactivity has a positive effect on perceived usefulness. This relationship is expected because interactive communication reduces information asymmetry and enhances consumers' ability to evaluate products efficiently through real-time clarification and feedback.
- **H2:** Interactivity has a positive effect on perceived enjoyment. Real-time interaction fosters emotional engagement and social presence, which are key drivers of enjoyment in live streaming environments by creating a more immersive and participatory shopping experience.

- **H3:** Visual appeal has a positive effect on perceived usefulness.
Visually appealing product presentations improve information processing by making product attributes clearer and easier to evaluate, thereby enhancing consumers' perception of the usefulness of TikTok Live for purchasing decisions.
- **H4:** Visual appeal has a positive effect on perceived enjoyment.
Attractive visual design and aesthetic quality stimulate sensory pleasure and positive emotions, which increase consumers' enjoyment during the shopping process.
- **H5:** Perceived usefulness has a positive effect on impulse buying.
When consumers perceive TikTok Live as useful for making effective and confident purchasing decisions, they are more likely to act quickly and spontaneously, thereby increasing the likelihood of impulse buying.
- **H6:** Perceived enjoyment has a positive effect on impulse buying.
- Enjoyment intensifies emotional arousal and immersion, which can reduce cognitive control and increase consumers' susceptibility to spontaneous and unplanned purchases.

METHODS

This study adopts a quantitative approach with an explanatory research design. Data were collected through a survey using a structured questionnaire administered to TikTok Live users who had previously purchased fashion products through the platform. A total of 200 respondents were selected using a purposive sampling technique, ensuring that participants met the predefined criteria relevant to the research objectives.

All research variables were measured using a five-point Likert scale. Interactivity and visual appeal were specified as independent variables, perceived usefulness and perceived enjoyment as mediating variables, and impulse buying as the dependent variable. Data analysis was conducted using Structural Equation Modeling based on Partial Least Squares (SEM-PLS) with the assistance of SmartPLS 4 software. This method was selected due to its ability to simultaneously examine complex relationships among latent constructs and its suitability for predictive and exploratory research models (Hair et al., 2021).

RESULTS

Respondent Characteristics

The characteristics of respondents provide an overview of the demographic profile of TikTok Live users who participated in this study and serve as an important contextual basis for interpreting the research findings. The results indicate that the majority of respondents were aged between 20 and 25 years, reflecting the dominant age group of active TikTok users, particularly those who frequently engage in live streaming commerce activities. This age group represents young consumers who are highly familiar with digital technology and social media platforms and tend to be more receptive to interactive and visually driven shopping experiences.

In terms of gender distribution, the respondents were predominantly female. This finding is consistent with the characteristics of fashion product consumers, where female users generally exhibit higher engagement levels in online fashion shopping and social commerce platforms. Female consumers are also more likely to be influenced by visual presentation, social interaction, and emotional appeal, which are central features of TikTok Live. The dominance of female respondents strengthens the relevance of this study, as it reflects the primary target market for fashion products in live streaming environments.

Overall, the respondent profile indicates that the sample adequately represents the core segment of TikTok Live users for fashion products. Therefore, the results of this study can be considered relevant and representative for understanding impulse buying behavior in the context of fashion live streaming on TikTok.

Table 1. Descriptive Statistics of Respondents

Respondent Characteristics	n	%
Age		
< 20 years	14	7.00
20–25 years	108	54.00
26–30 years	53	26.50
> 30 years	25	12.50
Total	200	100.00
Gender		
Male	56	28.00
Female	144	72.00
Total	200	100.00
Highest Education Level		
Junior High School or equivalent	3	1.50
Senior High School / Vocational School	87	43.50
Diploma (D1/D2/D3/D4)	13	6.50
Bachelor's Degree (S1)	89	44.50
Postgraduate Degree (S2/S3)	8	4.00
Total	200	100.00
Employment Status		
Student	59	29.50
Private Sector Employee	74	37.00
Civil Servant / Government Employee	15	7.50
Entrepreneur	41	20.50
Unemployed	11	5.50
Total	200	100.00
Frequency of Watching TikTok Live		
Rarely (1–2 times per month)	32	16.00
Occasionally (1–2 times per week)	51	25.50
Frequently (3–5 times per week)	71	35.50
Very frequently (almost every day)	46	23.00
Total	200	100.00
Time Spent Watching TikTok Live per Session		
< 30 minutes	103	51.50
30–60 minutes	63	31.50
1–2 hours	27	13.50
> 2 hours	7	3.50
Total	200	100.00
Preferred Time for Watching Live Streaming		
Morning (06:00–11:00)	3	1.50
Midday (11:00–15:00)	17	8.50
Afternoon (15:00–18:00)	30	15.00
Evening (18:00–24:00)	139	69.50

Respondent Characteristics	n	%
Late night (00:00–05:00)	11	5.50
Total	200	100.00
Monthly Spending on Fashion Products		
< IDR 100,000	15	7.50
IDR 100,000 – IDR 300,000	83	41.50
IDR 300,000 – IDR 500,000	59	29.50
IDR 500,000 – IDR 1,000,000	34	17.00
> IDR 1,000,000	9	4.50
Total	200	100.00

Source: Data Processed, 2026

Measurement Model Evaluation (Outer Model)

The evaluation of the measurement model, or outer model, was conducted to assess the validity and reliability of the constructs used in this study. This step is essential to ensure that the indicators accurately measure the latent variables before proceeding to the structural model analysis. The assessment was carried out by examining indicator loadings, convergent validity, and internal consistency reliability, following the criteria recommended in SEM-PLS literature (Hair et al., 2021). The results show that all indicators associated with the constructs of interactivity, visual appeal, perceived usefulness, perceived enjoyment, and impulse buying have loading factor values above the recommended threshold of 0.70. High loading values indicate that the indicators strongly represent their respective constructs and contribute significantly to explaining the variance of the latent variables. Therefore, all indicators were retained in the model, as none failed to meet the minimum loading requirement.

Convergent validity was further assessed using the Average Variance Extracted (AVE) values. The AVE values for all constructs exceeded the minimum criterion of 0.50, indicating that each construct explains more than half of the variance of its indicators. This result confirms that the measurement model demonstrates adequate convergent validity and that the indicators converge well in measuring the same underlying construct.

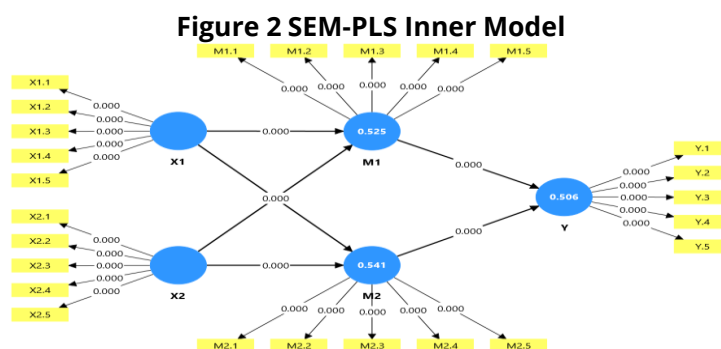
In addition to validity, internal consistency reliability was evaluated using composite reliability values. The composite reliability values for all constructs were above 0.70, which indicates a high level of reliability and consistency among the indicators. Compared to Cronbach's alpha, composite reliability is considered more appropriate for SEM-PLS because it does not assume equal indicator loadings. The results confirm that the measurement instruments used in this study are reliable and suitable for further structural analysis.

Overall, the outer model evaluation confirms that all constructs meet the required criteria for validity and reliability. Consequently, the measurement model is considered robust and appropriate for testing the proposed hypotheses.

Structural Model Evaluation (Inner Model)

After establishing the adequacy of the measurement model, the next step involved evaluating the structural model, or inner model, to examine the relationships among the latent variables. The structural model evaluation focuses on assessing the model's explanatory power and predictive capability, primarily through the coefficient of determination (R-square) values and path coefficient significance. The R-square value for perceived usefulness was 0.525, indicating that interactivity and visual appeal collectively explain 52.5% of the variance in perceived usefulness. This value falls within the moderate explanatory category, suggesting that the independent variables provide a substantial explanation of consumers' cognitive evaluations regarding the usefulness of TikTok Live for fashion shopping.

Similarly, the R-square value for perceived enjoyment was 0.541, which indicates that interactivity and visual appeal explain 54.1% of the variance in perceived enjoyment. This result demonstrates that the model has a strong capability to explain consumers' affective responses to live streaming experiences. The relatively high explanatory power underscores the importance of interactive features and visual presentation in shaping consumers' enjoyment during live commerce activities. For impulse buying, the R-square value was 0.506, indicating that perceived usefulness and perceived enjoyment explain 50.6% of the variance in impulse buying behavior. This value also falls within the moderate category, suggesting that cognitive and emotional evaluations play a significant role in triggering impulsive purchasing decisions in TikTok Live environments. Although other factors may also influence impulse buying, the results confirm that the proposed mediating variables are substantial predictors of this behavior.



Overall, the R-square values demonstrate that the structural model possesses adequate explanatory power and is suitable for hypothesis testing.

Hypothesis Testing Results

Hypothesis testing was conducted by examining the path coefficients, t-statistics, and p-values obtained from the bootstrapping procedure in SEM-PLS. The significance level used in this study was 5%, with a critical t-value of 1.96.

Table 2. Descriptive Hypothesis Testing Results

Hypothesis	Path	Original Sample	Sample Mean	T statistics	P values	Information
H1	X1 → M1	0.481	0.482	9.307	0.000	Accepted
H2	X1 → M2	0.565	0.565	12.238	0.000	Accepted
H3	X2 → M1	0.562	0.562	12.543	0.000	Accepted
H4	X2 → M2	0.495	0.494	10.440	0.000	Accepted
H5	M1 → Y	0.386	0.388	6.880	0.000	Accepted
H6	M2 → Y	0.423	0.423	7.529	0.000	Accepted

Source: Data processing results with SmartPLS 4

The results indicate that all proposed hypotheses are supported. Interactivity was found to have a positive and significant effect on perceived usefulness, indicating that higher levels of real-time interaction enhance consumers' perceptions of the usefulness of TikTok Live for fashion shopping. This finding suggests that responsive communication and active engagement by hosts help consumers obtain relevant information more effectively.

Interactivity also showed a positive and significant effect on perceived enjoyment. This result implies that interactive live streaming not only facilitates information acquisition but also enhances emotional experiences by creating a more engaging and entertaining shopping environment. Visual appeal was found to have a positive and significant effect on perceived

usefulness, indicating that high-quality visual presentation improves consumers' understanding and evaluation of fashion products. Clear visuals, proper lighting, and consistent presentation help consumers assess product attributes more accurately.

Similarly, visual appeal had a positive and significant effect on perceived enjoyment. Aesthetically pleasing live streams increase emotional satisfaction and enjoyment, encouraging consumers to remain engaged and emotionally involved during the shopping process.

Furthermore, perceived usefulness was found to have a positive and significant effect on impulse buying. Consumers who perceive TikTok Live as a useful shopping medium are more likely to make spontaneous purchasing decisions due to increased confidence and reduced uncertainty. Perceived enjoyment also demonstrated a positive and significant effect on impulse buying. When consumers experience enjoyment during live streaming, they are more susceptible to emotional impulses that drive unplanned purchases.

Overall, the hypothesis testing results confirm that all direct relationships proposed in the conceptual model are statistically significant.

Mediation Analysis Results

In addition to examining direct effects, this study also analyzed the mediating roles of perceived usefulness and perceived enjoyment in the relationships between interactivity, visual appeal, and impulse buying. The mediation analysis was conducted using a bootstrapping procedure in SEM-PLS to assess the significance of indirect effects, as presented in.

Table 3. Mediation Test Results

Hypothesis	Path	Original Sample	Sample Mean	T statistics	P values	Information
H7	X1 → M1 → Y	0.186	0.187	5.465	0.000	Accepted
H8	X1 → M2 → Y	0.239	0.239	6.627	0.000	Accepted
H9	X2 → M1 → Y	0.217	0.218	5.747	0.000	Accepted
H10	X2 → M2 → Y	0.209	0.209	5.871	0.000	Accepted

Source: Data processing results with SmartPLS 4

The results show that perceived usefulness significantly mediates the relationship between interactivity and impulse buying, with an indirect effect coefficient of 0.186, a t-statistic of 5.465, and a p-value of 0.000. This finding suggests that higher levels of interactivity enhance consumers' perceptions of usefulness, which in turn increase the likelihood of impulsive purchasing behavior. Thus, interactivity influences impulse buying not only directly but also indirectly through consumers' cognitive evaluations. Similarly, perceived enjoyment was found to significantly mediate the relationship between interactivity and impulse buying, as indicated by an indirect effect coefficient of 0.239, a t-statistic of 6.627, and a p-value of 0.000. This result highlights that emotional experiences play a crucial role in translating interactive stimuli into behavioral responses. Interactivity enhances enjoyment, which subsequently triggers consumers' impulse buying tendencies.

Furthermore, as shown in Table 3 perceived usefulness significantly mediates the relationship between visual appeal and impulse buying, with an indirect effect coefficient of 0.217, a t-statistic of 5.747, and a p-value of 0.000. This finding indicates that visually appealing live streams improve consumers' understanding and confidence in evaluating products, thereby facilitating impulsive purchasing decisions through enhanced cognitive assessments.

In addition, perceived enjoyment was also found to significantly mediate the relationship between visual appeal and impulse buying, with an indirect effect coefficient of 0.209, a t-statistic of 5.871, and a p-value of 0.000. This suggests that visually attractive live streams evoke positive emotions and enjoyment, which increase consumers' susceptibility to impulse buying through affective mechanisms. The presence of significant indirect effects in all mediation paths, while the

corresponding direct effects remain significant, indicates that perceived usefulness and perceived enjoyment function as partial mediators in this model. This result confirms that both cognitive and affective mechanisms operate simultaneously in explaining impulse buying behavior in TikTok Live environments.

Overall, these findings support the Stimulus–Organism–Response (SOR) framework, in which interactivity and visual appeal act as environmental stimuli, perceived usefulness and perceived enjoyment represent consumers' internal states, and impulse buying constitutes the behavioral response

DISCUSSION

In The findings of this study demonstrate that interactivity has a positive and significant effect on both perceived usefulness and perceived enjoyment in the context of TikTok live streaming for fashion products. This result indicates that real-time interaction between hosts and viewers plays a crucial role in shaping consumers' cognitive and affective evaluations of the live shopping experience. When hosts actively respond to comments, answer questions, and engage audiences during live sessions, consumers perceive the platform as more informative and enjoyable. This finding is consistent with Zhou et al. (2017), who argued that real-time interaction enhances consumers' perceived benefits and emotional engagement in social commerce environments.

From a cognitive perspective, interactivity reduces information asymmetry and uncertainty, allowing consumers to obtain product-related information more efficiently. Fashion products often require detailed explanations regarding size, material, fit, and usage, which can be effectively conveyed through interactive communication. As a result, consumers perceive TikTok Live as a useful medium that supports their decision-making process. From an affective perspective, interactive communication fosters a sense of social presence and emotional connection, making the shopping experience more engaging and enjoyable. This dual cognitive–affective effect highlights the strategic importance of interactivity in live commerce platforms.

In addition to interactivity, visual appeal was also found to have a positive and significant influence on perceived usefulness and perceived enjoyment. This finding reinforces the role of visual aesthetics as a key stimulus in live streaming environments. Visual appeal, reflected through product presentation quality, lighting, background design, and visual consistency, enhances consumers' ability to evaluate fashion products accurately. Clear and appealing visuals allow consumers to better understand product attributes, which strengthens perceived usefulness. This result aligns with Praveena and Thomas (2017), who emphasized that aesthetic quality contributes to both functional and emotional evaluations in digital media usage.

Moreover, visual appeal significantly enhances perceived enjoyment by creating an aesthetically pleasing and entertaining shopping atmosphere. TikTok Live is inherently a visual and entertainment-driven platform, where consumers are accustomed to engaging with visually stimulating content. When live streams are visually attractive, consumers are more likely to experience pleasure, excitement, and emotional satisfaction. These emotional responses encourage longer viewing durations and deeper engagement, which ultimately influence purchasing behavior. Therefore, visual appeal not only serves as a functional cue but also acts as an emotional trigger in live commerce. The results further reveal that perceived usefulness has a positive and significant effect on impulse buying. This finding suggests that consumers who perceive TikTok Live as a useful shopping tool are more likely to engage in spontaneous purchasing behavior. When consumers believe that live streaming helps them obtain accurate information and reduces uncertainty, they tend to feel more confident in making quick purchasing decisions. This confidence lowers cognitive resistance and increases the likelihood of impulse buying, particularly in fast-paced and time-limited live streaming environments. The

result is consistent with Abdelsalam et al. (2020), who found that perceived usefulness plays a critical role in shaping impulsive behavior in online shopping contexts.

Similarly, perceived enjoyment was found to have a significant positive effect on impulse buying. This finding highlights the importance of emotional and hedonic factors in driving impulsive purchasing decisions. Enjoyable shopping experiences tend to reduce consumers' self-control and increase emotional arousal, which are key psychological conditions underlying impulse buying behavior. In TikTok Live, entertainment elements such as engaging hosts, interactive communication, and visually appealing content create a pleasurable experience that encourages consumers to make unplanned purchases. This result supports prior studies emphasizing that enjoyment is a strong predictor of impulse buying in digital and experiential shopping environments. Taken together, the significant effects of perceived usefulness and perceived enjoyment on impulse buying confirm that both cognitive and affective evaluations play essential roles in shaping impulsive purchasing behavior. Consumers do not rely solely on rational considerations or emotional impulses; rather, impulse buying emerges from the interaction between perceived benefits and emotional gratification. This finding underscores the importance of integrating cognitive and affective perspectives when examining consumer behavior in live commerce settings. Importantly, the overall findings of this study provide strong empirical support for the Stimulus–Organism–Response (SOR) framework in the context of TikTok live commerce. Interactivity and visual appeal function as environmental stimuli that influence consumers' internal states, represented by perceived usefulness and perceived enjoyment. These internal states, in turn, drive behavioral responses in the form of impulse buying. The confirmation of this mechanism suggests that the SOR framework remains highly relevant for explaining consumer behavior in emerging digital commerce formats.

Compared to traditional e-commerce, live streaming commerce amplifies the effects of stimuli due to its real-time, interactive, and immersive nature. The immediacy of interaction and the richness of visual presentation create a dynamic environment that intensifies consumers' cognitive and emotional responses. As a result, impulse buying behavior becomes more pronounced in live streaming settings than in conventional online shopping platforms. This insight contributes to the growing literature on social commerce by highlighting the unique characteristics of live streaming as a hybrid of entertainment and commerce.

From a managerial perspective, the findings suggest that fashion sellers and digital marketers should strategically design live streaming content that maximizes interactivity and visual appeal. Investing in host training to improve communication skills, responsiveness, and audience engagement can enhance consumers' perceptions of usefulness and enjoyment. Additionally, improving visual presentation through proper lighting, professional layouts, and consistent visual themes can strengthen both functional understanding and emotional appeal. By simultaneously addressing cognitive and affective factors, sellers can effectively stimulate impulse buying behavior and improve sales performance.

In summary, this study demonstrates that interactivity and visual appeal are critical determinants of perceived usefulness and perceived enjoyment, which subsequently drive impulse buying in TikTok live streaming for fashion products. The integration of cognitive and emotional mechanisms provides a comprehensive explanation of impulsive purchasing behavior in live commerce environments. These findings not only extend the application of the SOR framework but also offer valuable insights for practitioners seeking to optimize live streaming strategies in the rapidly evolving digital marketplace.

CONCLUSION

This study concludes that interactivity and visual appeal function as critical environmental stimuli that shape impulse buying behavior in TikTok live streaming for fashion products through consumers' cognitive and affective evaluations. The empirical findings confirm

that interactivity enhances perceived usefulness and perceived enjoyment by facilitating real-time information exchange and fostering social presence, while visual appeal strengthens these internal evaluations through aesthetic quality and effective product presentation.

Furthermore, perceived usefulness and perceived enjoyment are found to significantly influence impulse buying behavior, indicating that impulsive purchasing in live commerce emerges from the interaction between rational assessment and emotional response. These results reinforce the central premise of the Stimulus–Organism–Response (SOR) framework, demonstrating that environmental cues in live streaming environments influence internal psychological states, which subsequently lead to behavioral responses. By incorporating both cognitive and affective mediators, this study extends the application of the SOR framework to the context of social commerce and live streaming platforms.

The findings contribute theoretically by providing a more comprehensive explanation of impulse buying behavior in live commerce, highlighting the simultaneous roles of functional value and hedonic experience. Rather than viewing impulse buying as solely emotion-driven, this study demonstrates that perceived usefulness and perceived enjoyment jointly explain how consumers respond to interactive and visually rich shopping environments. Overall, this research enriches the literature on digital consumer behavior by clarifying the underlying mechanisms through which live streaming features influence impulsive purchasing decisions in contemporary social commerce settings.

LIMITATION

Despite its contributions, this study has several limitations. First, the use of a cross-sectional design restricts the ability to capture the dynamic nature of impulse buying behavior in live commerce, which may change as consumers gain experience and familiarity with interactive streaming environments. From a theoretical perspective, this limitation constrains the ability to fully examine the Stimulus–Organism–Response (SOR) framework as a dynamic process, as the model is tested only at a single point in time rather than across evolving consumer–platform interactions.

Second, this study focuses solely on fashion products within the TikTok Live platform, which may limit the generalizability of the findings. Fashion products are highly experiential and visually driven, potentially strengthening the effects of interactivity and visual appeal identified in this research. Future studies are encouraged to adopt longitudinal or experimental designs to better capture behavioral changes and causal mechanisms within the SOR framework. Additionally, incorporating variables such as trust, perceived risk, or social influence could provide a more nuanced theoretical explanation of impulse buying behavior. Expanding the research context to other product categories and live commerce platforms would further enhance the robustness of theoretical development and offer broader managerial insights for digital commerce strategies.

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