The Impact Factors of TikTok Live Shopping Features on Consumer Purchase Intentions: Evidence from China

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Abstract. Drawing upon the Stimulus-Organism-Response (SOR) theory, this investigation delineates TikTok (Douyin) live shopping's attributes into visual appeal, professionalism, price competitiveness, and sense of presence. A theoretical model is developed to scrutinize these attributes' impact on consumer purchase intentions and to elucidate the underlying mechanisms influencing consumers' predispositions and perceived immediacy in purchasing contexts. The study employs questionnaires and utilizes SPSS26.0 and AMOS22.0 for statistical analysis and hypothesis testing, aiming to refine marketing strategies for live-streaming entities, platforms, and vendors to boost consumption and revenue generation.

Keywords: TikTok Live shopping; SOR theory; Approach-oriented consumption; Avoidance-oriented consumption

1   INTRODUCTION

TikTok Live shopping endeavors to forge memorable experiences for consumers by constructing immersive virtual environments, addressing diverse consumer demands, offering distinct consumption experiences, and fostering purchasing activities. Existing research has mainly analyzed consumers' various purchasing intentions from the perspectives of the environment, characteristics, participation level, and perceived value of live shopping. However, there are limited studies on the characteristics of live shopping on self-media platforms and the relationship between these characteristics and consumers' different purchasing intentions. Anchored in the Stimulus-Organism-Response (SOR) framework, this paper develops a research model to empirically assess the influence of TikTok live shopping attributes on consumers' purchase intentions. We aim to enhance live shopping planning and marketing strategies across live shopping platforms and for merchants.

2   LITERATURE

2.1   TikTok live shopping features

As a frontrunner in the short video domain, TikTok distinguishes itself from traditional e-commerce platforms by integrating unique advantages to establish a robust "content + live streaming" ecosystem that amalgamates diverse content forms. This article identifies the following characteristics of TikTok live shopping. Firstly, TikTok live streaming platforms have visual appeal. The technical affordance of the TikTok platform lays the foundation for driving consumer behavior, with algorithmic recommendation technology making the visual appeal of live content particularly valuable. Secondly, TikTok's live-streaming rooms are characterized by their professionalism and ambiance. The live rooms' relaxed music and lively atmosphere provide consumers with relaxed entertainment, while the streamers' professional introduction skills help facilitate further consumer actions.

Furthermore, TikTok live shopping combines a palpable sense of immediacy with competitive pricing. Live streaming venues can be selected at the source of the goods, enhancing authenticity. Not only does this create the illusion of being present for consumers, but it also reduces costs significantly by directly supplying goods from the source. Combining previous research and comprehensive analysis of the characteristics of TikTok live shopping, this article concludes that visual appeal, professionalism, price competitiveness, and sense of presence influence consumer purchase intentions.

2.2   Consumers' purchase intention

The study of purchase intention is an essential theoretical category in consumer behavior research, resulting from the combined effect of consumers' attitudes towards products or brands and external factors, and can predict consumer purchasing behavior. Through a literature review, it was found that researchers often explore the factors that influence purchase intention. Many factors influence consumer purchase intention, such as algorithm recommendation technology, streamer selection, and marketing strategies employed by businesses.

Jacoby [1] (2002) believes that consumer behavior is caused by external stimuli that trigger psychological changes in consumers. Individuals exhibit emotional or cognitive to external stimuli, which manifest as approach or avoidance behaviors. Confronted with information overload or incomplete information, consumers may delay or decline purchase decisions to reduce the risk of making mistakes, which tends toward avoidance of consumption. Conversely, they may enhance their purchase intention and approach consumption behaviors. Therefore, this article, building on previous research, categorizes consumers' purchase intentions into approach-oriented and avoidance-oriented purchase intentions.

2.3   Stimulus-Organism-Response (SOR) theory

The SOR model originated from cognitive psychology and evolved from the Stimulus-Response (SR) model[2]. Later, this model was widely applied to research the relationship between "consumer environment-purchase intention-consumer behavior" to illustrate the mediating role of consumer emotions and cognition between the environment and consumption. Yang[3] proposed three primary emotional states (PAD) as individual responses to any environment. He believed that all emotional responses to the atmosphere under organic conditions could be divided into three independent states: pleasure v.s. Displeasure, arousal v.s. Non-arousal and dominance v.s. Submissiveness.

Based on the SOR model, Pan and Li[4] (2023) established a research hypothesis model for the willingness of individual consumers' consumption behavior and found that product display, personalized product offerings, advertising, and discounts play a pivotal role in shaping consumer behavioral intentions. Previous studies have shown that the SOR theory can be applied to studying consumer purchase intentions. This study extends its applicability to TikTok live shopping. This article regards the characteristics of TikTok live shopping as external stimuli. It investigates how these features stimulate consumers to generate emotional or cognitive responses, thereby generating an approach or avoidance of consumption intentions.

3   MODEL CONSTRUCTION AND RESEARCH HYPOTHESES

This paper builds a research model based on the SOR theory to investigate the impact of TikTok live shopping features on consumer purchase intentions. The research model is illustrated in Figure 1.
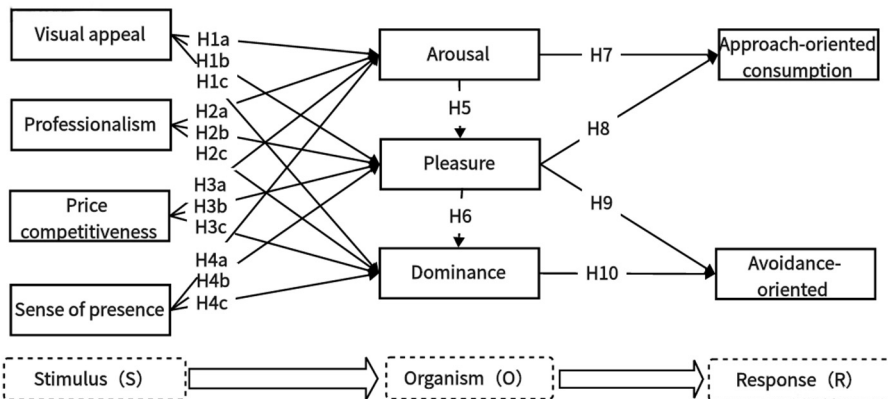

Fig. 1. Research Model

3.1   The impact of TikTok live shopping features

Visual appeal in live streaming encompasses atmospheric elements that captivate viewers, such as technological enhancements for a more affluent audience experience, strategic scene layout, and the creation of atmosphere by streamers and staff. The meticulous setting and product presentation in the live-streaming scene can stimulate consumers' senses and evoke pleasant associations, making consumers feel joyful and attracting them to stay in the live broadcast room for a long time to browse products, thus generating the desire to purchase. The streamers in the live streaming room generally have good appearance and skills or are adept at using visual and auditory methods to attract consumers' attention, enhancing consumers' interest and attention to the relevant brands and products and stimulating their desire to purchase. Therefore, the following hypotheses are proposed:

H1a. Visual attractiveness significantly and positively influences arousal perception.

H1b. Visual attractiveness significantly and positively influences pleasure perception.

H1c. Visual attractiveness significantly and positively influences dominance perception.

In TikTok live streaming, as shopping guides, the more familiar streamers are with the products, and the more professional advice they provide, the more likely they are to help consumers quickly understand the products and stimulate their purchase intentions. Huang [5](2021) believes that streamers are opinion leaders during live-streaming and can positively influence viewers' purchase intentions by evoking their emotions. Therefore, this paper proposes the following hypotheses:

H2a. Professionalism significantly and positively influences arousal perception.

H2b. Professionalism significantly and positively influences pleasure perception.

H2c. Professionalism significantly and positively influences dominance perception.

Price promotions significantly influence both traditional offline and online shopping behaviors. Pan [6](2021) suggests consumers' price perceptions profoundly affect their purchase intentions and purchasing behavior. Promotions related to prices, such as discounts and cashback offers, can effectively stimulate consumers' purchase intentions. Han [7](2021) found a positive relationship between the stimulation of promotional activities and user purchase intentions. Based on these findings, the following hypotheses are proposed:

H3a. Price competitiveness significantly and positively influences arousal perception.

H3b. Price competitiveness significantly and positively influences pleasure perception.

H3c. Price competitiveness significantly and positively influences dominance perception.

The one-shot live broadcast format and real-time online communication in TikTok shopping live rooms are more conducive to fostering trust and interaction between streamers and consumers, as well as between consumers themselves, reducing the time cost of searching for products and creating a sense of remote and social presence for

consumers. Jiang and Wang [8](2022) believe that a sense of presence can evoke pleasant emotions in consumers, thereby increasing purchase intentions. Chen [9](2018) believes that social presence influences consumers' online consumption behavior through the mediating effects of immersive experiences and perceived benefits. Therefore, the following hypotheses are proposed:

H4a. Sense of presence significantly and positively influences arousal perception.

H4b. Sense of presence significantly and positively influences pleasure perception.

H4c. Sense of presence significantly and positively influences dominance perception.

3.2   Emotions and Cognitive

Emotion, an individual's temporary and intense emotional response and behavioral interpretation to present stimuli, encompasses pleasure, arousal, and dominance. Liu and Li[10] (2006) indicate that arousal is closely related to pleasure, and high arousal levels positively affect pleasure. In the online shopping environment, Koo & Lee[11] show that individual arousal positively affects pleasure emotion, and consumers' arousal emotions stimulate pleasure emotion, significantly influencing consumers' pleasure emotion [12]. Therefore, the following hypothesis is proposed:

H5. Arousal perception significantly and positively influences pleasure perception.

Dominance refers to an individual's state of control over others or situations, indicating the degree of control and influence individuals have over others and the external environment. Sun[13] believes that confirms that pleasure significantly influences consumers' purchase intentions. Grounded in the theory of perceived value, Yang[14] asserts that perceived usefulness, sociality, entertainment, and perceived risk significantly influence consumer shopping behavior. Consequently, this insight leads us to propose the following hypothesis:

H6. Pleasure perception significantly and positively influences dominance perception.

The PAD emotion theory's arousal and pleasure dimensions can explain much of the variability in avoidance behavior[15]. Numerous studies have shown that consumers' purchase intentions and behavior are influenced by consumption emotions such as pleasure and arousal. Therefore, the following hypotheses are proposed:

H7. Arousal significantly and positively influences approach-oriented consumption.

H8. Pleasure significantly and positively influences approach-oriented consumption.

Avoidance-oriented consumption is a consciously proactive psychological behavior of consumers, characterized by consciously reducing consumption motivation or even no longer forming consumption needs. Research on Uncertainty avoidance examines individuals' perceived threat levels due to ambiguity, shedding light on their tolerance for uncertainty and ambiguity in unclear situations or issues, which influences their consumption behaviors.[16](Hofstede, 1984). The influence of dominance emotion on avoidance behavior is relatively weak[17] (Robert & John, 1982). Therefore, the following hypotheses are proposed:

H9. Pleasure significantly and negatively influences avoidance-oriented consumption.

H10. Dominance significantly and negatively influences avoidance-oriented consumption.

4 RESEARCH DESIGN

4.1 Measurement

This study collected data through a survey divided into three parts. The questionnaire included basic descriptions, providing explanations related to TikTok live shopping, approach-oriented purchasing, and avoidance-oriented purchasing. It also included inquiries about the respondents' basic information, including their name, age, level of education, and experience with online shopping. The items in the questionnaire were measured using a Likert 5-point scale, ranging from 1 to 5, representing "completely disagree" to "completely agree."

4.2 Data collection

For this study, TikTok live shopping users were selected for a survey. An online questionnaire was developed via the Wenjuanxing platform. Out of 500 distributed questionnaires, 436 were successfully retrieved. After removing questionnaires with completely identical responses and those completed in less than one minute, 375 valid questionnaires remained, resulting in an effective response rate of 86.0%. The results indicated that most TikTok live shopping users were women, accounting for 59.5%. The age group most represented was 25 to 30, accounting for 27.2%.

The majority of the survey respondents held a bachelor's degree, representing 49.1% of the education level. Regarding occupation, the majority were civil servants or worked in government agencies, accounting for 36.0%. Among those who had used TikTok live shopping in the past week, the proportion was the highest, at 35.2%, indicating that consumers had clear memories and could complete the questionnaire accurately.

4.3 Reliability and validity

The study employed the model fit indices to evaluate the fit between the theoretical model and the data. As shown in Table 1, CMIN/DF = 1.418 and RMSEA = 0.033 meet the recommended values for model parsimony fit; the GFI value and CFI value are 0.923 and 0.978, respectively[18], both meeting the recommended values for incremental fit. Overall, the model fit indices of this study are basically in line with the recommended values, indicating a good model fit.

Table 1. Model Fit Data analysis was performed using SPSS, where standardized loadings exceeded 0.7, indicating that the observed variables effectively explained the latent variables. Reliability analysis revealed an overall Cronbach's α of 0.874, suggesting good internal consistency and stability. Factor analysis was deemed suitable with a KMO value of 0.923, indicating strong correlations among variables. The

Cronbach's α and composite reliability (CR) of each latent variable exceeded 0.7, indicating good internal consistency and reliability.

Validity testing assesses the questionnaire's effectiveness and is divided into convergent and discriminant validity. Convergent validity was assessed using the average variance extracted (AVE), with AVE values > 0.5 indicating good convergent validity. The AVE values for each variable exceeded 0.5. Discriminant validity was measured by comparing the square roots of the AVEs with the inter-variable correlations. The diagonal values represent the square roots of the AVEs, while the off-diagonal values represent the correlations. The square roots of the AVEs for each latent variable exceeded the correlations, indicating good discriminant validity in the sample.
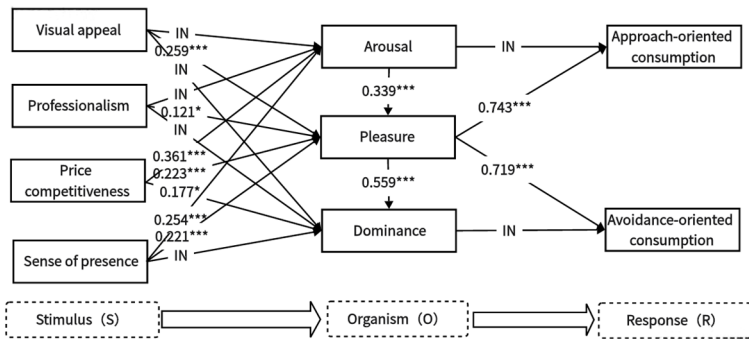

Fig. 2. The Test of Research Model

Notes: * indicates significance at the 0.05 level; ** indicates significance at the 0.01 level; *** indicates significance at the 0.001 level; IN indicates insignificance.

5   RESULTS

As shown in Figure 2 and Table 5, H1a, H1c, H2a, H2c, H4c, H7, H9, and H10 were not supported, while the remaining hypotheses were supported.

5.1   The influence of characteristics in TikTok live shopping

Visual appeal significantly affects pleasure, with unclear effects on arousal and dominance. When consumers use TikTok to watch live shopping broadcasts, they are easily attracted by various aspects such as the scene setting, the charisma of the streamers, and the duration and frequency of the broadcasts. Consumers can only lock onto target products based on the streamer's trial. They may find it challenging to develop interest and dominant emotions towards a specific product in a short time amidst the vast array of live videos.

Professionalism significantly affects pleasure, with unclear effects on arousal and dominance. Unlike traditional offline shopping markets, streamers in live broadcasts can engage the audience more actively, fostering a vibrant and enjoyable environment.

They meet consumers' diverse needs with personalized services, thus bringing consumers a sense of pleasure. However, with the prevalence of live broadcast e-commerce, consumers are accustomed to it, and the popularity of streamers may not significantly reduce consumers' rational evaluation of product risks and values.

Price competitiveness significantly affects arousal, pleasure, and dominance. In TikTok live shopping, merchants offer different discounts based on the popularity and number of streamers' fans, with lower prices in the live rooms of more famous streamers, providing better value for money. If similar products have a price advantage, consumers will be very interested, generating a feeling of pleasure and, ultimately, a willingness to purchase.

The sense of presence significantly affects arousal and pleasure, with unclear effects on dominance. In TikTok live rooms, the product presentation is more genuine and multidimensional, enhancing authenticity; Real-time interaction in the comments, combined with group dynamics and mimicry, as well as the intense activity of bullet comments and "team" battles, enrich the viewing experience, making them curious and psychologically pleased to focus on the live broadcast products. However, this sense of presence focuses more on consumers' external perceptual experiences and cannot directly control their purchase intentions.

5.2   The impact of emotions and cognition

Consumer arousal significantly affects pleasure, but arousal does not significantly affect approach-oriented consumption. Louis's AIDCA formula includes Attention, Interest, Desire, Conviction, and Action, indicating that the process from consumers' attention to a product to their purchase behavior is complex and intricate. While consumers may be interested in a particular product, they may not necessarily have the intention to purchase it.

Pleasure significantly impacts dominance, approach-oriented consumption, and avoidance-oriented consumption. In reality, even if consumers are actively engaged in the live room, feeling relaxed and relieved, they will still consider some basic questions, such as whether they need the product, practical, and whether it offers good value for money. After evaluating these factors, they will react with varying purchasing intentions.

Dominance emotions do not significantly affect avoidance-oriented consumption. The transition from dominant emotions to the generation of purchasing intentions is influenced by multiple factors, such as consumers' preferences. It needs for the product, their economic status, the quality of the product and after-sales service, and the level of trust and support towards the streamers. Thus, discussing dominant emotions' influence on purchasing intentions and behavior does not yield significant results.

6   CONCLUSION AND LIMITATION

6.1   Conclusion

In terms of theoretical implications, this study confirms the significant impact of the visual appeal, professionalism, price competitiveness, and sense of presence in TikTok live shopping on consumers' emotional cognition and purchase intentions. This enriches the research content of TikTok live shopping and expands the application scope of the SOR theory, thus laying a foundation for further research on TikTok live shopping.

In terms of practical implications, visual attraction, professionalism, price discounts, and sense of presence have different degrees of influence on the shopping situation in the broadcast room. Merchants and the live broadcast team should consider these factors comprehensively to improve the shopping experience in the broadcast room, promote consumption, and boost revenue.

6.2   Limitations and Future Work

This study still has some limitations: (1) The characteristics of TikTok live shopping will influence consumers' purchase intentions. The mediating and moderating factors can be further expanded and explored. (2) The characteristics of TikTok live shopping will affect consumers' emotional and cognitive responses. The influencing mechanisms and the existence of mediating variables, moderating variables, etc., can be further studied in the future.

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