

The Mediating Effect of Emotion on Consumer Purchase Behavior in E-commerce Live Streaming Based on the S-O-R Model

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ABSTRACT

In the era of Media 3.0, brands and merchants are increasingly utilizing e-commerce live streaming as a key strategy for engaging consumers in an interactive and immersive digital environment. One critical factor in this engagement is the emotional transmission to consumers, which plays a pivotal role in influencing their participation and purchasing behavior. E-commerce live streaming presents a unique blend of real-time communication, social interaction, and commercial transactions, making it essential to understand the underlying psychological mechanisms at play. This study, grounded in the Stimulus-Organism-Response (S-O-R) model, investigates how emotional responses, triggered by stimuli such as product presentation, anchor credibility, and peer feedback, mediate the relationship between the live-streaming environment and consumer purchasing decisions. By examining the impact of both positive and negative emotions, this research aims to uncover the emotional pathways that drive consumer engagement and purchase intentions in the live streaming context. The findings not only contribute to the theoretical understanding of emotional mediation in digital commerce but also provide practical insights for enhancing live-stream marketing strategies to optimize consumer behavior outcomes.

KEYWORDS

S-O-R model; E-commerce live streaming; Emotion; Mediation effect

1. INTRODUCTION

With the rapid iteration of information technology in the Media 3.0 era, brands and merchants are leveraging e-commerce live streaming as a new communication and consumption model characterized by social virality, digital interaction, and ecological operations. E-commerce live streaming has emerged as a highly efficient commercial format, offering significant advantages such as low operational costs and high conversion rates, combining live broadcasting with e-commerce to form a deeply interactive and immersive consumer experience [1-2].

According to the "2023 Report on the Current Status and Development Trends of China's E-commerce Live Streaming Industry" [3], the market size for e-commerce live streaming in China reached 3.4879 trillion yuan in 2022, marking a nearly 178-fold increase from 19.64 billion yuan in 2017. This rapid growth underscores the widespread adoption and integration of live streaming into e-commerce. As the digital environment evolves, merchants are increasingly drawn to this format, utilizing professional content production, multifunctional platforms, and embodied communication modes to create unique consumer experiences [4].

In e-commerce live streaming, consumers engage through interactive media landscapes involving real-time broadcasts, information exchange, and community collaboration, all of which contribute to

the shopping process. As "live streaming + e-commerce" knowledge proliferates, scholars have increasingly focused on understanding the impact of live streaming on consumer behavior. On one hand, the technological affordances of e-commerce live streaming environments, such as physical, informational, and interactive features, have been identified as key influencers of consumer purchase behavior [5]. These features help translate perceived value into engagement and purchasing actions. On the other hand, researchers have highlighted the role of emotional engagement in the live streaming environment. Consumers experience heightened emotional involvement, driven by the immersive nature of the virtual space, which significantly influences their participation and purchase intention [6].

Despite the growing body of literature examining various factors influencing behavior in e-commerce live streaming environments, there remains a gap in research exploring the role of emotional mobilization and communicative interactivity in consumer purchase behavior. Furthermore, existing studies often limit the scope of emotion assessments to narrow dimensions, leaving room for more comprehensive measurements [7].

2. LITERATURE REVIEW

The Stimulus-Organism-Response (S-O-R) model, originally developed by Mehrabian and Russell, has been extensively utilized in understanding consumer behavior, particularly in dynamic and interactive environments such as e-commerce live streaming [8]. This model posits that external stimuli, which may include environmental or marketing cues, affect consumers' internal psychological states, ultimately leading to observable behavioral responses. In the context of e-commerce live streaming, stimuli can be conceptualized as various features of the live streaming environment—ranging from product presentations to interactions between live stream anchors and viewers, and the comments or reactions from peers. These stimuli evoke emotional responses within consumers, such as excitement, trust, or curiosity, which in turn influence their purchasing behavior. The S-O-R model thus provides a useful framework for analyzing how the live streaming experience shapes consumer emotions (the organism) and subsequently affects their decision to engage with a product or make a purchase (the response).

Recent studies have emphasized that stimuli in e-commerce live streaming are multi-faceted and can be categorized into physical, social, and informational dimensions. Physical stimuli encompass the product-related aspects such as its visual appeal and the manner in which it is showcased during the live stream, while social stimuli involve the interactions between viewers and streamers, including real-time comments, likes, and shares. Informational stimuli include detailed product descriptions, promotional offers, and real-time price adjustments presented during the live broadcast. Research indicates that these factors significantly impact consumers' internal emotional and cognitive responses. For instance, the credibility and performance of the live streamer (anchor) have been shown to strongly affect consumer trust and perceived product value, which directly correlates with heightened purchase intentions [9]. Similarly, real-time peer comments often serve as a form of social validation, reinforcing consumers' confidence in their purchasing decisions.

Within the organism component of the S-O-R model, emotional and cognitive responses are critical in translating stimuli into consumer behavior. Emotions such as excitement, trust, and joy have been identified as key mediators that link live-streaming stimuli to behavioral outcomes. Positive emotional engagement with the streamer and the product has been shown to enhance consumer loyalty and increase both immediate purchasing behavior and long-term engagement. Conversely, negative emotions, such as frustration or distrust, may deter consumers from completing a purchase [10]. Beyond emotional responses, cognitive evaluations, including perceived product quality, fairness of pricing, and trustworthiness of the live streamer, also play a significant role in shaping consumer behavior. Dual-process theories suggest that consumers' cognitive assessments work

alongside emotional responses to influence their final purchasing decisions, thus emphasizing the complex interplay between emotions and cognition in e-commerce live streaming [11].

The behavioral response, as outlined in the S-O-R model, encompasses both purchase intentions and the actual purchasing actions of consumers. Research has demonstrated that the immediacy and urgency created by real-time interactions, flash sales, and limited-time offers in live streaming environments often drive quicker purchasing decisions, further reinforcing the impact of emotional and cognitive stimuli [12]. Moreover, the interactive nature of live streaming fosters a sense of community and real-time participation, which not only increases consumer engagement during the broadcast but also influences post-streaming behaviors, such as repeat visits or continued brand loyalty. The application of the S-O-R model in e-commerce live streaming settings has helped scholars explain the complex mechanisms through which both direct and indirect stimuli—ranging from product promotions to emotional contagion within live-streaming communities—shape consumer behavior. Studies have provided empirical evidence supporting the model's effectiveness in explaining how consumers react to the immersive and interactive features of live streaming commerce [13]. These studies suggest that real-time interactions, combined with emotional engagement, can significantly enhance consumer purchase intention, particularly when positive emotions are involved.

The S-O-R model serves as a robust theoretical framework for understanding consumer behavior in the fast-evolving domain of e-commerce live streaming. As the format continues to grow in popularity, driven by its ability to blend entertainment with real-time commercial transactions, further exploration of how emotional and cognitive factors interact in this setting remains critical for both academic research and practical marketing applications.

3. RESEARCH METHODOLOGY

This study employs a qualitative research methodology to explore the mediating role of emotions in consumer purchasing behavior within the context of e-commerce live streaming, based on the Stimulus-Organism-Response (S-O-R) model. Qualitative research is particularly suitable for this study as it allows for an in-depth understanding of consumer experiences, emotional responses, and decision-making processes within the live streaming environment. The research adopts a phenomenological approach, focusing on capturing the lived experiences of consumers and their emotional engagement during live-streaming events. This method is chosen because it provides rich insights into the subjective nature of consumer emotions and their role in shaping purchasing decisions.

3.1. Data Collection

The primary data for this study is collected through semi-structured interviews with participants who have actively engaged in e-commerce live streaming and have made purchases during such events. The participants are selected using purposive sampling to ensure that they have significant experience in live-streaming e-commerce, enabling them to provide relevant and detailed information on their emotional and behavioral responses. The interviews are conducted with 20 participants who have substantial experience with live-stream shopping, ensuring their insights are relevant and reflective of real-world consumer behavior in this context. This sample includes individuals from a broad range of demographic backgrounds, covering various age groups, income levels, and shopping habits to capture diverse perspectives. The age range of participants spans from 18 to 50 years old, ensuring representation from younger, tech-savvy consumers as well as more mature shoppers.

Among the participants, several are experts in fields such as digital marketing, e-commerce, and consumer psychology, providing deeper insights into the mechanisms driving purchasing decisions in live streaming environments. The group also includes frequent shoppers with varying income

levels, ranging from those with modest spending capacity to high-income individuals with significant purchasing power. This demographic diversity allows the study to examine how different consumer segments respond emotionally to stimuli such as live stream promotions, product presentations, and interactions with live stream hosts.

Each interview lasts approximately 45-60 minutes and is guided by open-ended questions designed to elicit participants' experiences and emotions related to their live-streaming shopping behavior. Questions focus on the stimuli encountered during the live-streaming session, such as product presentations, interactions with live stream anchors, peer comments, and promotional offers, as well as the emotional and cognitive reactions that followed. The interviews also probe participants' decision-making processes, exploring how their emotions, such as excitement, trust, or uncertainty, influenced their intention to purchase or abstain from buying. All interviews are recorded and transcribed verbatim to ensure accuracy in data analysis.

3.2. Data Analysis

Thematic analysis is used to analyze the qualitative data collected from the interviews. This method involves identifying, analyzing, and reporting patterns (themes) within the data. Following Braun and Clarke's guidelines for thematic analysis, the research follows six key steps: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and writing the report [14]. This iterative process allows for the identification of recurring themes related to stimuli in the live streaming environment, the emotional responses they evoke, and their influence on consumer behavior.

The analysis begins with a thorough reading of the interview transcripts to become familiar with the data. Next, initial coding is conducted to capture key elements related to the stimuli encountered during live streaming sessions and the corresponding emotional and cognitive responses. These codes are then grouped into broader themes, such as emotional engagement, trust in the live streamer, product perception, peer influence, and purchase decisions. The themes are reviewed and refined to ensure they accurately reflect the data and align with the S-O-R framework.

3.3. Trustworthiness and Rigor

To ensure the trustworthiness of the qualitative analysis, this study follows Lincoln and Guba's criteria for rigor, including credibility, transferability, dependability, and confirmability [15]. Credibility is achieved through prolonged engagement with the participants and member checking, where participants are given the opportunity to review and validate the accuracy of their interview transcripts. Transferability is addressed by providing detailed descriptions of the participants' experiences and contextual factors, allowing other researchers to assess the applicability of the findings to different contexts. Dependability is ensured by maintaining a comprehensive audit trail of the research process, including detailed records of data collection, coding, and analysis procedures. Finally, confirmability is established by ensuring that the findings are grounded in the data, with direct quotes from participants used to support key themes.

3.4. Result

This qualitative study, employing semi-structured interviews and thematic analysis, offers valuable insights into the mediating role of emotions in consumer purchasing behavior within the e-commerce live streaming environment. Through in-depth interviews, it becomes evident that live streaming stimuli—such as the presence and performance of live stream anchors, promotional offers, and product presentations—trigger strong emotional responses that significantly influence consumer decision-making. Participants consistently reported that the credibility and charisma of the anchor,

combined with real-time promotions and social interactions, created an emotionally engaging atmosphere that heightened their excitement and trust, thereby encouraging them to make purchases.

The findings reveal that emotions such as excitement, trust, and urgency are critical in translating stimuli into purchasing actions. For instance, many participants indicated that limited-time offers and flash sales presented by the anchor amplified their sense of urgency and excitement, leading them to make impulsive buying decisions. Additionally, the interpersonal connection established between the anchor and the audience fostered a sense of trust and authenticity, further reinforcing participants' confidence in their purchasing choices. The interactive nature of live streaming, including real-time feedback from peers through comments and likes, also played a key role in amplifying emotional responses, creating a sense of social validation that encouraged participants to act on their purchase intentions.

This study highlights the importance of emotional mobilization in e-commerce live streaming, demonstrating that consumers' emotional experiences are deeply intertwined with the stimuli presented in live-streaming sessions. These emotional drivers, whether positive or negative, shape consumer perceptions of products and influence their buying behaviors. By evoking positive emotional states, live streaming can foster a sense of immediacy, excitement, and trust that ultimately converts viewers into buyers.

The practical implications for merchants and marketers are clear: to optimize live streaming strategies, it is crucial to focus on emotionally engaging content that resonates with consumers. Streamers should be trained to build emotional connections with their audience, while product promotions and interactive features should be designed to evoke excitement and trust. This study enriches the growing body of research on e-commerce live streaming by providing a deeper understanding of the emotional mechanisms at play, and it underscores the need for marketers to strategically harness emotional engagement to drive consumer behavior in this highly competitive digital marketplace.

4. CONCLUSION

In conclusion, this study explores the mediating role of emotions in influencing consumer behavior within the context of e-commerce live streaming. By applying the Stimulus-Organism-Response (S-O-R) model, this research delves into how external stimuli—such as product displays, anchor interactions, and peer comments—shape consumers' internal emotional states and ultimately lead to purchasing decisions. The findings reveal that emotional engagement plays a pivotal role in driving consumer behavior, as the immersive and interactive nature of live streaming fosters strong emotional connections between consumers and both the products and the streamers.

This study underscores the importance of emotional mobilization in enhancing consumer engagement during live streaming sessions. The technological affordances of e-commerce live streaming, such as real-time interaction and social validation from peer comments, act as key stimuli that influence consumer emotions and perceptions. By triggering positive emotions such as excitement, trust, and enjoyment, live streaming can lead to higher levels of consumer involvement and increased purchase intentions.

The practical implications of these findings are significant for merchants and marketers. To optimize live streaming strategies, it is essential to focus on creating an emotionally engaging environment that encourages active consumer participation. Merchants should leverage the interactive features of live streaming platforms to build trust and excitement, ultimately driving conversion rates. Additionally, careful attention should be paid to the role of live stream anchors in cultivating a positive emotional atmosphere, as their credibility and rapport with viewers can significantly impact consumer decision-making.

This study contributes to the growing body of literature on e-commerce live streaming by offering insights into the complex emotional mechanisms that drive consumer behavior. It highlights the need

for marketers to strategically incorporate emotional engagement into their live streaming approaches, creating a more personalized and immersive shopping experience that resonates with consumers on a deeper emotional level.

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