

Understanding the Effects of Intrinsic and Extrinsic Cues on Consumers' Emotional Trust in Live Streaming E-Commerce

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ABSTRACT

Although various cues are practically used by consumers as the references to build their trust in live streamers, which cues are used and how these cues affect consumers' trust have not been well explored in prior studies. Thus, drawing upon the cue theory, this study identifies three key cues and classifies them into intrinsic cues (i.e., streamer stance) and extrinsic cues which can be further categorized into high- and low-scope cues (i.e., streamer popularity and word-of-mouth (WOM) valence) respectively, and investigates their main and interaction effects on consumers' emotional trust. A 2 (famous vs. unfamous streamers) * 2 (positive vs. negative WOM) * 2 (consumer vs. merchant stance) scenario-based survey was conducted, and the results suggest that (1) emotional trust is higher for famous streamers than for unfamous streamers, for positive WOM than for negative WOM, and for consumer stance than for merchant stance; (2) WOM valence has a greater impact on emotional trust when streamer is famous vs. unfamous; and (3) streamer stance has a stronger impact on emotional trust when WOM valence and streamer popularity is inconsistent vs. consistent. Finally, theoretical contributions and practical implications are discussed.

Keywords: Live streaming e-commerce, streamer stance, streamer popularity, word-of-mouth valence, cue theory, trust.

INTRODUCTION

In recent years, live streaming e-commerce (LSC) has become a popular form of online shopping (Li et al., 2021). Compared to traditional e-commerce, LSC is characterized by authenticity, visualization, and interactivity (Hu & Chaudhry, 2020). In LSC, streamers provide consumers with product demonstrations, product trials, and real-time interaction services to promote product selling (Hu & Chaudhry, 2020). As the competition grows fiercer, building trust is a crucial element for the success of a live streamer (Lu et al., 2016). Consumers who trust a streamer will be certain that the streamer will recommend the right products with good quality for them and tend to purchase (Li et al., 2021). Given the emotional and experiential nature of live streaming e-commerce, it is particularly important to study consumers' emotional states (Wu et al., 2023). Emotional trust in streamer is a form of trust attitude, that refers to an individual's emotional reactions of security and comfort associated with reliance on a seller (Wu et al., 2023). It emphasizes consumers' further emotional identification with streamers and their recommendation based on emotional resonance (Wu et al., 2023), further influencing consumers' word-of-mouth (J. Chen et al., 2023), purchase intention (Wu et al., 2023), etc. Due to the complex environment of LSC, consumers often rely on multiple cues to reduce uncertainty when making purchasing decisions (Ma, 2021), and these cues may influence their emotional trust in the live streamers. Therefore, it is meaningful to study the influence of multiple cues on consumers' building of emotional trust.

As the only performer in LSC, streamers play the crucial role in determining engagement of consumers (Guo et al., 2022). Streamers in LSC can be categorized into fixed-brand streamers and third-party streamers. Fixed-brand streamers are usually the merchants themselves or employees who have been hired by the merchants. However, third-party streamers are usually some online influencers who are independent of merchants (Chen & Yang, 2023; M. Zhang et al., 2022). Third-party streamers are not employed by the specific merchant, therefore, the products involved in live streaming conducted by third-party streamers often come from multi-brands and different merchants. Compared to the fixed-brand streamers on behalf of merchants, third-party streamers play the *dual roles* of consumers (i.e., product experiencers) and merchants (i.e., product sellers). On the one hand, third-party streamers experience products as consumers and choose the valuable products to recommend in live streaming (Jiang et al., 2022). On the other hand, as representatives of merchants, they strive to attract consumers to purchase products in live streaming to gain benefits (Sun et al., 2019). Taking into account the unique identity of third-party streamers, this study focuses on third-party streamers.

When consumers are watching the live streaming room, apart from interacting with the streamer, there are also many environmental cues that will help consumers make judgments. Among them, streamer popularity and word-of-mouth of products

may be regarded as the critical cues guiding consumers' decision-making, which are largely attracting researchers' attention (Guo et al., 2022; Qiu et al., 2023). Specifically, the popularity of the streamer can enhance the credibility of information and consumers' perception of reputation (Jin & Phua, 2014; Lou et al., 2022), also serving as an important cue to influence consumers (Qiu et al., 2023). The higher a streamer's popularity is, the more likely the streamer is to influence consumers (Li et al., 2024). The word-of-mouth valence of products (WOM valence) plays a pivotal role throughout the entire consumer decision-making process, may be also regarded as a critical cue guiding consumers' attitudes towards the product and the streamer (Guo et al., 2022). Consumers may experience different emotions when exposed to streamers with different popularity or product word-of-mouth of different valence (Herrando et al., 2022; Yang et al., 2023), which may further affect their emotional trust in streamers. However, although existing studies have explored the impact of the above cues on consumers' attitude and engagement, these studies majorly focus on the *extrinsic cues* which are peripheral and easy to evaluate such as streamer popularity and WOM valence but ignore the role of *intrinsic cues* which are core and call for deep cognitive elaboration, e.g., streamer stance discussed in this study.

Due to the dual-role nature of third-party streamers, they may deliver verbal and non-verbal interactions with audiences reflecting their identity orientations (Andries et al., 2023). In this study, we define the streamers' identity orientations expressed during live streaming as streamer stance. Stance is interactional in nature, which is public, and is perceivable, interpretable, and available for inspection by others (Englebretson, 2007). Stance may influence attitudes and identity construction or affect interpersonal relationships (Andries et al., 2023). In the context of LSC, streamer stance is classified into two types namely consumer stance and merchant stance, where consumer stance reflects the extent to which streamers consider the interests of consumers, while merchant stance captures the degree to which streamers take the interests of merchants into account. Streamer stance may influence consumers' perceptions of the streamers' images and their attitudes towards the streamers. A previous study related to offline shopping has found that consumer-oriented salespeople are more likely to gain consumers' trust (Raza et al., 2023). Streamer stance as an important intrinsic cue will jointly influence consumers' emotional trust along with extrinsic cues including streamer popularity and WOM valence. However, the role of streamer stance as well as the joint effects of both intrinsic and extrinsic cues in consumers' trust building has not been well understood yet. Thus, the research questions that this study aims to address are:

RQ1: Will streamer stance influence consumers' emotional trust?

RQ2: How intrinsic cues (e.g., streamer stance) and extrinsic cues (e.g., streamer popularity and WOM valence) work jointly in trust building?

Drawing upon the cue theory, this study identifies streamer stance as the key intrinsic cue and further categorize extrinsic cues into high-scope and low-scope cues, i.e., streamer popularity and WOM valence respectively. Besides considering the main effects of extrinsic cues and intrinsic cues, this study also takes the interaction effect of the two extrinsic cues and the interaction effects of extrinsic and intrinsic cues into account.

This study provides several significant contributions to the existing literature on LSC. First, to the best of our knowledge, our study is the first to empirically investigate the impacts of streamer stance in the context of LSC, which provides a novel perspective on understanding streamer's roles in live streaming. Furthermore, this study deepens our understanding of cue theory by extending it to the context of LSC. We explore the roles of extrinsic and intrinsic cues influence consumers' emotional trust in LSC. Finally, we identify the two-way and three-way interaction effect between streamer stance, streamer popularity, and WOM valence, which uncovers the intricate impact mechanisms of different types of cues. In sum, this study provides several valuable insights for marketing and communication strategies in live streaming e-commerce.

THEORETICAL BACKGROUND

Streamer Popularity and WOM Valence

In live streaming e-commerce, consumers evaluate multiple cues to reduce uncertainty and risk due to information asymmetry (Ma, 2021). Among them, streamer popularity and word-of-mouth (WOM) valence are regarded as the two key cues related to consumers' trust building.

With the boom of online live streaming and social media, many online influencers have emerged as third-party streamers, playing a key role in live streaming e-commerce (Chen & Yang, 2023; M. Zhang et al., 2022). Streamers range from nano-level with hundreds of followers to mega-status with millions (Janssen et al., 2022). Their popularity, reflected in fan count, is an important factor in their influence and success in live streaming e-commerce (Ladhari et al., 2020). Guo et al. (2022) found that streamer popularity is influenced by factors like attractiveness, competence, and communication style, mediated by consumers perceived hedonic and utilitarian values. Moreover, streamer popularity is positively related to consumers' purchase intention (Jin & Phua, 2014; Ladhari et al., 2020) and watching behavior (Guo et al., 2022). Streamers can even mitigate negative impacts of interactions with their popularity (Kang et al., 2021). High popularity benefits not just consumers but also manufacturers seeking to boost sales (Wang & Guo, 2023). However, popularity alone doesn't guarantee success. Even streamers with lower popularity can achieve higher sales if their fan base is of high quality (H. Chen et al., 2023).

Present-day consumers no longer blindly believe in streamers but rather refer to feedback from other consumers in LSC (Li et al., 2024). Electronic word of mouth (e-WOM) refers to positive or negative statements about a product or company made by

potential, current, or former consumers and shared widely through the Internet (Ismagilova et al., 2020). The word-of-mouth of a product can be categorized into positive (praise for the product) and negative (criticize the product) based on valence (Akbari et al., 2022; Li & Wang, 2013). Existing studies have demonstrated the usefulness and credibility of word-of-mouth valence of products, and further explored the impact of WOM valence on consumers' intention to continue using, purchase and recommend (Jeong & Koo, 2015; Purnawirawan et al., 2015; Talwar et al., 2021; Yin et al., 2016). Word-of-mouth of products runs through the entire consumer judgment process as an important cue. Its valence has an important impact on consumers' attitudes (Akbari et al., 2022).

Although streamer popularity and WOM valence have received significant academic attention, the roles of these two cues from different sources have largely been studied separately. Moreover, Some studies believe that streamer popularity and WOM valence affect the consumer's attitude (Li et al., 2024; Purnawirawan et al., 2015), but few studies have explored the respective and interactive effects of two cues on consumers' emotional trust in live streaming e-commerce. Therefore, this study builds on existing literature to explore the role of streamer popularity and word-of-mouth valence on emotional trust.

Streamer Stance

Stance is a public act by a social actor, achieved dialogically through overt communicative means (language, gesture, and other symbolic forms), through which social actors simultaneously evaluate objects, position subjects (themselves and others), and align with other subjects, with respect to any salient dimension of the sociocultural field (Du Bois, 2007). Stance can be regarded as an index of identity (Kiesling, 2022). During the live streaming, the streamer continuously interacts with consumers and defines their own identities and roles by exhibiting his/her personal stance. Exhibiting a consumer stance or a merchant stance means that the streamer communicates with consumers as a representative of either the consumers or the merchants. The expression of streamer stance may affect the extent to which streamers can gain recognition and support from consumers, enabling them to achieve their goals more effectively.

Currently, research on stance is not very systematic and clear. Scholars from various research directions have conducted multi-dimensional and multi-level discussions on stance from their respective perspectives, mainly focusing on the field of linguistics (Andries et al., 2023; Heritage, 2012; Kiesling, 2022). There are also a few studies on organizational stance, such as the role of social advocacy stance (Zhou & Dong, 2022) and organizational stance in public crises (Jeong, 2015). However, the stance has not yet been introduced into the field of live streaming e-commerce.

Some researchers have explored the concept of orientation, which is similar to stance (Goldman et al., 2021; Habel et al., 2021; Leung et al., 2022). These studies focus on the salespeople who are employees of enterprises and affiliated with merchants (Gazzoli et al., 2022; Valenzuela et al., 2014), and customer orientation is defined as a set of selling behaviors for achieving long-term customer satisfaction (Saxe & Weitz, 1982). It emphasizes more on how salespeople can satisfy consumers' needs through their service behaviors (Brown et al., 2002). However, in our research context, we focus on the third-party streamers who are often independent of both merchants and consumers, and may play dual roles during live streaming (S. Zhang et al., 2022). In this situation, streamers may demonstrate their identity orientations either from the interests of consumers or merchants through social interactions with consumers, and the stance expressions may further affect consumers' attitude. Regarding streamer stance as one of the important cues which support consumers' emotional trust, cue theory is taken as the theoretical foundation of this study.

Cue Theory

Cues refer to information that consumers can directly observe (Dekimpe et al., 1997). There are a variety of theories associated with the role of cues in consumer behaviors including cue utilization theory, cue diagnosticity theory, and cue consistency theory. Specifically, cue utilization theory (CUT) suggests that under conditions of information asymmetry, consumers use certain cues as tools to judge the value and quality of products (Cox, 1962). Olson and Jacoby (1972) classified cues into intrinsic cues and extrinsic cues. Intrinsic cues refer to the inherent characteristics of the product itself, which do not change with extrinsic factors and are not controlled by extrinsic influences. Extrinsic cues refer to attributes related to the product but are not part of the product itself. Cue diagnosticity theory (CDT) is built on the foundation of CUT. According to CDT, the extent to which a cue is used to evaluate product quality depends on its perceived diagnosticity (Richardson et al., 1994; Slovic & Lichtenstein, 1971). Diagnosticity refers to the perceived reliability of a cue in discriminating between alternative categorizations (or interpretations). The higher the diagnosticity of a cue, the easier it is for consumers to use it to evaluate product quality (Dick et al., 1990). Purohit and Srivastava (2001) divided cues into high-scope cues and low-scope cues. High-scope cues are generally established over time, and are more credible and reliable. Compared to low-scope cues, high-scope cues possess higher diagnosticity. The validity of low-scope cues can be easily and quickly changed, resulting in lower diagnosticity (Hoch & Deighton, 1989; Purohit & Srivastava, 2001). Anderson (1981) proposed the cue consistency theory (CCT), which suggests that consumers tend to integrate multiple cues they obtain for evaluation, rather than relying on a single cue. When cues align, their impact on evaluation is amplified. When cues conflict, negative cues often prevails, carrying greater diagnosticity weight than positive cues (Maheswaran & Chaiken, 1991).

Cue theory has been widely applied in psychology, marketing and e-commerce research (Busey et al., 2000; Hanoch & Vitouch, 2004; Koschate-Fischer et al., 2012). Cues in e-commerce can be divided into three categories. The first category of cues is aimed at marketers, such as professionalism (Ma, 2021) and interactivity (Zheng et al., 2023). The second category of cues

focuses on the product itself, such as product reviews (Chi et al., 2021; Yang et al., 2020) and third-party certifications (Karimov & Brengman, 2011). The third category of cues pertains to the platform, including platform quality (Ma, 2021) and marketing activities (Mishra et al., 2020). In LSC, consumers will make judgments by combining multiple cues from interactions with streamers and other channels. Streamer stance reflects their identity orientations and inherent cognitions (Du Bois, 2007), serving as direct and personal information to consumers. It carries significant reference value and can be regarded as an intrinsic cue. Due to the uncertainty and risk of online transactions, streamer popularity and product WOM are considered as important environmental cues, influencing consumers' judgments (Jeong & Koo, 2015; Lou et al., 2022; Purnawirawan et al., 2015; Yang et al., 2023). Consumers need to search for these factors independently, thus they can be considered as extrinsic cues. Furthermore, streamer popularity is established over time and cannot be easily changed. It possesses a high degree of diagnosticity and can be considered as a high-scope cue. WOM valence can be manipulated by merchants (Wang et al., 2022) and is relatively unstable, therefore it is considered as a low-scope cue.

Studies have utilized cue theory to explore the effects of multiple cues of online marketing on consumers' decision-making, such as attitudes toward private label marketing (Mishra et al., 2020), purchase intention (Kakaria et al., 2023), and perceived product quality (Wang et al., 2016). However, cue theory has not been applied to the study of consumers' emotional trust. Moreover, previous studies have not reached consistent conclusions on the interaction between high-scope and low-scope cues. Hu et al. (2010) conducted a study on third-party certification marks and found that when privacy assurances, security assurances, and assurances of transaction integrity are presented simultaneously, their respective effects on consumer' initial trust weaken rather than strengthen each other. Utz et al. (2012) found that when cues are consistent, they do not combine in an additive manner. Instead, cues that are difficult to manipulate and have strong reliability tend to dominate. It is evident that the impact of multiple cues on consumers still requires further research. To fill the gaps in existing research, this study explores the role of the complex interaction between streamer popularity, word-of-mouth of products, and streamer stance, and how these three cues jointly influence consumer' emotional trust. It should be noted that these cues have different valences, such as positive or negative. Therefore, when multiple cues interact with each other, the consistency of cue valences may vary. The "consistent" mentioned later means that when two or three cues interact, the valence directions of the cues are the same. This can be either a combination of multiple positive - valence cues or a combination of multiple negative - valence cues. However, "inconsistent" refers to the situation where, when multiple cues interact, the valence directions of the cues are conflicting. For example, one cue has a positive valence while another cue has a negative valence.

RESEARCH MODEL AND HYPOTHESIS

Extrinsic Cues and Interaction Hypotheses

Trust is the most challenging factor for e-commerce streamers (Wu et al., 2023). Live streaming e-commerce integrates emotions and experiences. In this special business model, emotional interaction between streamers and consumers plays a crucial role. Therefore, emotional trust towards the streamer is a key focus of research (Wu et al., 2023). In live streaming e-commerce, there are also multiple factors that can influence emotional trust (J. Chen et al., 2023; Li et al., 2024; Wu et al., 2023).

Streamer popularity refers to the extent of recognition and understanding that e-commerce streamers receive from the consumers (Li et al., 2024). It is also an important cue that influences consumers' choices. In LSC, even if two physical products are absolutely the same, they can be perceived as being largely different when they are sold by sellers with distinct popularity levels (Wang et al., 2016). Famous third-party streamers are often online influencers and celebrities (Chen & Yang, 2023; Wei & Xi, 2023). Their popularity, status, and influence give them stronger bargaining power, credibility, and mastery of resources, reducing risks for consumers (Li et al., 2024). Moreover, famous streamers bring about an emotional value perception among consumers (Li et al., 2024). Consumers perceive less risk and greater reliability and security when communicating with famous streamers compared to unfamous streamers, thus generating emotional trust more easily (Wongkitrungrueng & Assarut, 2020; Wu et al., 2023). Therefore, we propose the following hypothesis:

H1. Consumers will perceive higher emotional trust when streamer is famous than unfamous.

In this study, the word-of-mouth valence of product (WOM valence) is defined as consumers' positive or negative reviews of a product during live streaming (Ismagilova et al., 2020; Li & Wang, 2013). Word-of-mouth of products is usually based on the personal experience and satisfaction of other consumers (Ismagilova et al., 2020), containing consumers' emotional response (Verkijika & De Wet, 2019). The emotions embedded in word-of-mouth can be transmitted to other consumers through emotional contagion (Herrando et al., 2022). When consumers receive satisfaction and recognition from other consumers regarding the products recommended by a streamer, this positive word-of-mouth confirms that the streamer can help consumers pick good products and reduce risk (Jacobsen, 2018). Positive WOM delivers consumers' positive feelings about the streamer identification, which helps to strengthen consumers' emotional trust (Li et al., 2024). Therefore, we propose the following hypothesis:

H2. Consumers will perceive higher emotional trust when WOM valence is positive than negative.

Streamer popularity and WOM valence are both important extrinsic cues that jointly influence consumers in LSC. Purohit and Srivastava (2001) found that positive high-scope cues can strengthen the diagnosticity of low-scope cues, while negative high-scope cues can weaken the diagnosticity of low-scope cues. There are also studies that have confirmed that high reputation, as a high-scope cue, can enhance the role of low-scope cues (e.g., product warranty, presentation, perceived quality) (Akdeniz et al.,

2013; Purohit & Srivastava, 2001; Wang et al., 2016). According to the cue diagnosticity theory (Purohit & Srivastava, 2001), word-of-mouth of products is more likely to be recognized by consumers which appears in the live streaming room of famous streamers. Famous streamers tend to have more resources and voice (Li et al., 2024). Their popularity helps to confirm the authenticity of word-of-mouth effectiveness, making it easier for consumers to develop an emotional identity of reliability and security for streamers, building emotional trust (Wu et al., 2023). Therefore, we propose the following hypothesis:

H3. Streamer popularity can moderate the relationship between WOM valence and emotional trust, such that when streamer is famous (vs. unfamous), WOM valence has a greater impact on emotional trust.

Intrinsic Cue and Interaction Hypotheses

Streamer stance is an important intrinsic cue delivering streamers identity orientations (Andries et al., 2023). When streamers adopt consumer stance and communicate with consumers as their representative, consumers may perceive them as having the ability to put themselves into others' shoes and comprehend the situations of others (Raza et al., 2023). Moreover, consumer stance reflects the extent to which streamers consider the interests of consumers. This similarity in identity and interests strengthens the emotional connection between consumers and streamers (Li et al., 2024), making it easier to generate emotional trust (J. Chen et al., 2023). When streamers adopt merchant stance, they tend to align themselves with the brand merchant, with the ultimate goal of promoting sales (S. Zhang et al., 2022). If the streamer is perceived as a merchant, rather than an opinion leader (close to consumer), consumers may hold a negative attitude towards the streamer (Park & Lin, 2020; S. Zhang et al., 2022). Different identifications make it relatively difficult to establish emotional trust. Therefore, we propose the following hypothesis:

H4. Consumers will perceive higher emotional trust when streamer stance is consumer stance than merchant stance.

There is an interaction between extrinsic and intrinsic cues. According to prospect theory, consumers are highly sensitive to losses and hold an aversive attitude towards them (Kai-Ineman & Tversky, 1979). The popularity of a streamer often represents credibility and reputation (Jin & Phua, 2014; Lou et al., 2022). Purchasing products from unfamous streamers often faces greater risks than famous streamers. Compared to positive WOM, negative WOM poses a greater risk (Yin et al., 2016). Therefore, consumers are more sensitive to streamers with low popularity and negative WOM and need to rely further on intrinsic cues for judgment. In such situations, it is even more important for the streamer to adopt a consumer stance. When consumers perceive that the streamer has a similar identity tendency, they tend to develop a positive emotion of being valued and understood (Raza et al., 2023). This positive emotion not only mitigates the negative impact of negative extrinsic cues on consumers, but also further solidifies the emotional connection between consumers and streamers, forming deep emotional trust (J. Chen et al., 2023; Li et al., 2024). Therefore, we propose the following hypotheses:

H5. Streamer popularity can moderate the relationship between streamer stance and emotional trust, such that when streamer is unfamous (vs. famous), streamer stance has a greater impact on emotional trust.

H6. WOM valence can moderate the relationship between streamer stance and emotional trust, such that when WOM is negative (vs. positive), streamer stance has a greater impact on emotional trust.

The Three-way Interaction Hypothesis

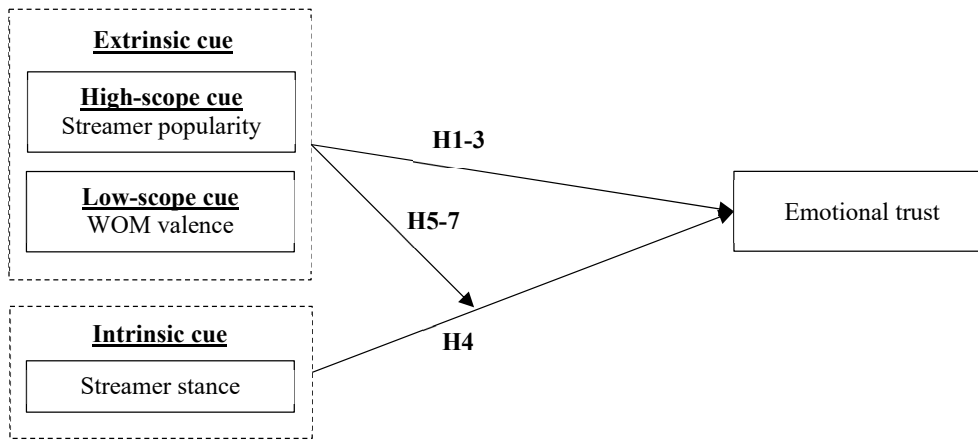
Emotional trust is a crucial factor in the consumer decision-making process. It is not merely based on logic and factual trust, but rather rooted in the deep emotional connection and resonance between consumers and streamers (Wu et al., 2023). Faced with this complex emotional judgment, consumers often evaluate based on multiple cues to build emotional trust (Ma, 2021). In LSC, streamer popularity is an extrinsic high-scope cue and WOM valence of products is an extrinsic low-scope cue. Streamer stance as an intrinsic cue will influence consumers' emotional trust along with two extrinsic cues.

When WOM valence is negative, consumers tend to rely on the streamer popularity to further evaluate in order to avoid risks (Kai-Ineman & Tversky, 1979). According to CDT (Purohit & Srivastava, 2001) and CCT (Anderson, 1981), when the streamer is unfamous, the presence of both negative high-scope and low-scope cues that are consistent with each other reinforces consumers' affirmation of the negative information (Maheswaran & Chaiken, 1991), making them less sensitive to intrinsic cues. When the streamer is famous, if the high-scope cue is positive while the low-scope cue is negative, resulting in inconsistency, negative cues tend to have a dominant influence (Maheswaran & Chaiken, 1991). In such cases, consumers will further consider intrinsic cues in order to mitigate risks. It is even more crucial for the streamer to adopt a consumer stance, strengthening consumers' trust. By providing positive intrinsic cues, the streamer can help reduce consumers' doubts arising from the inconsistency between cues.

When WOM valence is positive, consumers tend to further consider the streamer popularity in search of confirmation and assurance. If the streamer is famous and both cues are consistent, with the positive high-scope cue enhancing the positivity of the low-scope cue (Akdeniz et al., 2013), consumers will increase their trust in the streamer and will not need to focus more on intrinsic cues. If the streamer is unfamous and the two extrinsic cues are inconsistent, consumers will doubt the authenticity of the low-scope cue and rely on intrinsic cues for further judgment (Kai-Ineman & Tversky, 1979). The streamer should adopt a consumer stance to convince consumers of streamer's ability to empathize and think from the consumers' perspective. This approach can help alleviate concerns about inconsistencies in extrinsic cues and reduce negative impact on emotional trust. In

summary, when the two extrinsic cues (e.g., WOM valence and streamer popularity) are inconsistent, consumers tend to focus more on intrinsic cues in search of reliability and safety. At this point, streamer stance will have a more significant impact on consumers' emotional trust as a crucial intrinsic cue. Therefore, we propose the following hypothesis:

H7. When WOM valence and streamer popularity is inconsistent (e.g., WOM valence is negative while streamer is famous, or WOM valence is positive while streamer is unfamous), streamer stance has a stronger impact on emotional trust.



Source: This study.

Figure 1: Research model.

RESEARCH METHODOLOGY

Research Design

To examine the proposed hypotheses, we conducted a scenario-based survey with 2 (streamer stance: consumer stance vs. merchant stance) \times 2 (streamer popularity: famous vs. unfamous) \times 2 (WOM valence: positive vs. negative) between-subject factorial design. Previous research has figured out that scenario-based survey can yield valid and truthful perceptions of respondents in the specified scenarios than the general survey (Slovic et al., 2007; Wu et al., 2020), so this method was used in this study.

Scenario Design

Based on real live streaming e-commerce scenarios, this study designed a scenario in which a third-party streamer promoted tissue products during the live streaming. The scenario included the screenshots of the streamer's personal information page, the live streaming interface, and the product introduction scripts. Eight scenarios reflected the differences in streamer stance, streamer popularity, and WOM valence, while other information remained consistent (see Appendix A).

Firstly, based on the definition of stance (Du Bois, 2007; Kiesling, 2022), streamer stance was manipulated by using different expressions. Specifically, for consumer stance, statements expressing representation of consumers, such as "I'm just like all of you, an ordinary consumer" and "we consumers" were embedded into the streamer's scripts. For merchant stance, statements expressing representation of the brand merchant, such as "I collaborate closely with our brand merchant team" and "we merchant" were embedded into the streamer's scripts. Secondly, following Guo et al. (2022), we manipulated streamer popularity in the following way. In the streamer's introduction scripts, we used words like "famous" and "at the forefront of live streamers" to describe famous streamers, while "unfamous" and "at the tail end of live streamers" to describe unfamous streamers. Additionally, we displayed the number of followers and popularity levels on the streamer's profile page and live streaming interface to further distinguish between famous and unfamous streamers. Thirdly, WOM valence was manipulated by using different descriptions about the quality of the products (Yin et al., 2016). In the cases of positive and negative WOM, words like "quite good" and "quite poor" were respectively embedded into the chat messages displayed on the live streaming interfaces, and emphasized through textual annotations.

Construct Measure

Emotional trust in the research model was measured using items adapted from Komiak and Benbasat (2006) with slight modifications to fit the live streaming e-commerce context. All items were rated on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Table 1 presents the construct and its corresponding items.

Table 1: Construct and items.

Construct	Items
Emotional trust (Komiak & Benbasat, 2006)	ET1: I feel secure about relying on this streamer for my decision.
	ET2: I feel comfortable about relying on this streamer for my decision.
	ET3: I feel content about relying on this streamer for my decision

Source: This study.

Data Collection

Data were collected through an online survey in January 2024 in China. A professional survey company (<https://www.wjx.cn>) helped to collect the data. The scenario-based survey included three stages. Firstly, we asked respondents about whether they had participated in live streaming e-commerce and only the respondents with such experience were regarded as eligible. After that, some demographical questions were asked. Secondly, respondents were randomly assigned to one of the eight scenarios. In each scenario, respondents were asked to imagine that due to their daily needs, they clicked into a live streaming room by chance and found the streamer introducing a type of tissue paper. Respondents were then required to consider whether or not they would purchase this tissue paper in that live streaming room. The subsequently displayed live streaming interface and the streamer's introduction scripts differed in terms of the streamer stance, streamer popularity, and WOM valence. Thirdly, the respondents were asked to read the assigned materials carefully and then answer the questions that followed. After excluding responses that were too fast, failed to pass the attention check questions and manipulation checks, we obtained 441 valid responses. Among them, 38.10% were male and 61.90% were female. Over 45.80% of respondents aged between 31 and 40, and 82.54% had a bachelor's degree. Moreover, respondents who had more than one year's live streaming e-commerce watching experience accounted for 88.66%. Most respondents reported that they purchased through live streaming platforms 1-3 times a month.

DATA ANALYSIS AND RESULTS

Manipulation Check

First, for the manipulation check of streamer stance, respondents were asked to answer the question, "Do you believe that the streamer served as a representative of the consumer/merchant during this live streaming?" (1 = strongly disagree to 7 = strongly agree). The results showed that there was a significant difference between the consumer stance and the merchant stance ($M_{\text{consumer}} = 5.88$, $M_{\text{merchant}} = 1.99$; $t = -47.959$, $p < 0.001$). Second, for the manipulation check of streamer popularity, respondents were asked the question, "Is this streamer famous?" (1 = strongly disagree to 7 = strongly agree). There was a significant difference between famous streamers and unfamous streamers ($M_{\text{famous}} = 6.20$, $M_{\text{unfamous}} = 1.96$; $t = -75.363$, $p < 0.001$). Third, for the manipulation check of WOM valence, respondents were asked to answer the question, "Do you believe that other consumers' evaluations of the tissue paper being promoted by the streamer are positive/negative?" (1 = strongly disagree to 7 = strongly agree). There was a significant difference between positive and negative WOM ($M_{\text{positive}} = 5.93$, $M_{\text{negative}} = 2.02$; $t = -58.319$, $p < 0.001$). Thus, the manipulations of the three independent variables were successful.

Measurement Model

The measurement model was examined to assess emotional trust's reliability and convergent validity. The reliability of a construct can be assessed by composite reliability (CR) and average variance extracted (AVE). Specifically, a CR value greater than 0.7 is often deemed acceptable (Fornell & Larcker, 1981). The CR and AVE value for the construct were both greater than 0.9, exceeding the suggested thresholds of 0.7 and 0.5, respectively (Fornell & Larcker, 1981). Convergent validity can be assessed by checking whether the item loadings of their respective constructs are sufficiently high (Fornell & Larcker, 1981). All the item loadings were higher than 0.9, above the benchmark value of 0.7. Thus, convergent validity was considered satisfactory.

Hypothesis Testing

Three-way ANOVA was conducted using SPSS. As shown in Tables 2 and 3, in terms of the main effects, the results revealed a significant effect of streamer popularity ($F(1, 433) = 6.89$, $p < 0.01$). Emotional trust was higher for famous streamer ($M_{\text{famous}} = 4.19$) than for unfamous streamer ($M_{\text{unfamous}} = 3.88$), supporting H1. The results revealed a significant effect of WOM valence ($F(1, 433) = 197.44$, $p < 0.001$). Emotional trust was higher for positive WOM ($M_{\text{positive}} = 4.92$) than for negative WOM ($M_{\text{negative}} = 3.16$), supporting H2. The results also revealed a significant effect of streamer stance ($F(1, 433) = 63.27$, $p < 0.001$). Emotional trust was higher for consumer stance ($M_{\text{consumer}} = 4.53$) than for merchant stance ($M_{\text{merchant}} = 3.53$), supporting H4.

Table 2: Descriptive statistics of emotional trust.

Streamer stance	Streamer popularity	WOM valence	N	Mean	SD
Consumer stance	Famous	Positive	55	5.60	0.77
		Negative	51	3.84	1.62
	Unfamous	Positive	56	5.34	0.93
		Negative	59	3.35	1.41
Merchant stance	Famous	Positive	54	4.83	1.13
		Negative	57	2.54	1.19
	Unfamous	Positive	53	3.86	1.70
		Negative	56	2.98	1.34

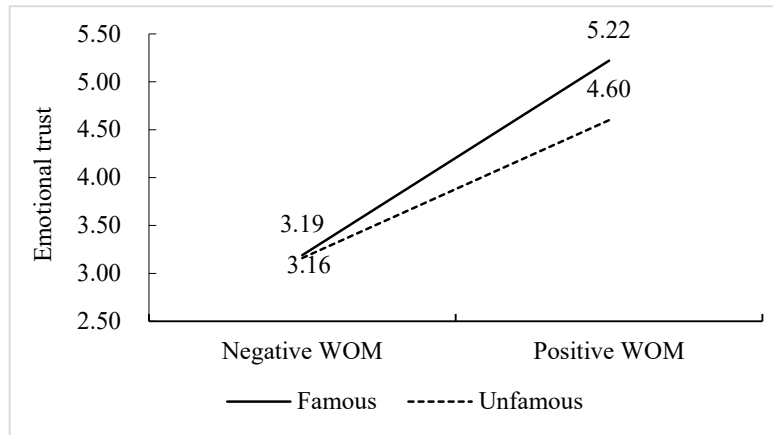
Source: This study.

Table 3: ANOVA results of emotional trust.

	F	p-value
Streamer stance	63.27	0.000
Streamer popularity	6.89	0.009
WOM valence	197.44	0.000
Streamer stance \times Streamer popularity	0.19	0.664
Streamer stance \times WOM valence	1.34	0.247
Streamer popularity \times WOM valence	5.66	0.018
Streamer stance \times Streamer popularity \times WOM valence	11.04	0.001

Source: This study.

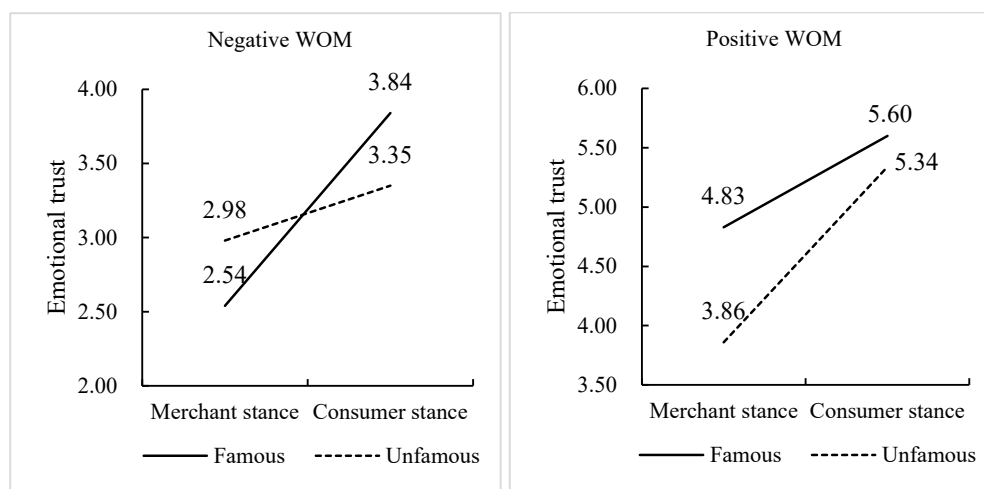
As shown in Table 3, there was no significance two-way interaction effect between streamer stance and streamer popularity on emotional trust ($F(1, 433) = 0.19$, n.s.), rejecting H5. There was also no significance two-way interaction effect between streamer stance and WOM valence ($F(1, 433) = 1.34$, n.s.), rejecting H6. However, as shown in Table 3 and Figure 2, a two-way interaction effect of streamer popularity and WOM valence was significant for emotional trust ($F(1, 433) = 5.66$, $p < 0.05$). The simple effect results indicated WOM valence had a stronger impact on emotional trust for famous streamer ($M_{\text{positive}} = 5.22$ vs. $M_{\text{negative}} = 3.19$; $F(1, 433) = 132.86$, $p < 0.001$) than unfamous streamer ($M_{\text{positive}} = 4.60$ vs. $M_{\text{negative}} = 3.16$; $F(1, 433) = 69.23$, $p < 0.001$), supporting H3.



Source: This study.

Figure 2: The two-way interaction effect on emotional trust.

Moreover, significant three-way interaction effects between streamer stance, streamer popularity and WOM valence on emotional trust ($F(1, 433) = 11.04$, $p < 0.01$) were found. As shown in Figure 3, when WOM valence was negative, the stance of a famous streamer ($M_{\text{consumer}} = 3.84$ vs. $M_{\text{merchant}} = 2.54$; $F(1, 433) = 27.23$, $p < 0.001$) had a greater impact on emotional trust than that of an unfamous streamer ($M_{\text{consumer}} = 3.35$ vs. $M_{\text{merchant}} = 2.98$; $F(1, 433) = 2.41$, n.s.). When WOM valence was positive, the stance of a unfamous streamer ($M_{\text{consumer}} = 5.34$ vs. $M_{\text{merchant}} = 3.86$; $F(1, 433) = 35.63$, $p < 0.001$) had a greater impact on emotional trust than that of an famous streamer ($M_{\text{consumer}} = 5.60$ vs. $M_{\text{merchant}} = 4.83$; $F(1, 433) = 9.60$, $p < 0.01$). H7 was supported.



Source: This study.

Figure 3: The three-way interaction effect on emotional trust.

DISCUSSION AND IMPLICATIONS

Theoretical Implications

The theoretical implications of this study are threefold. First, based on the dual-role nature of third-party streamers, this study explores the impacts of streamer stance on consumers' emotional trust, which has not been examined in prior studies. Current research on live streaming e-commerce mainly focuses on the role of streamer characteristics (Kang et al., 2021; Liu & Sun, 2023), live streaming roles (S. Zhang et al., 2022), and streamer-product matching (Park & Lin, 2020; Yang et al., 2023) but pays little attention to the expressions of streamers (e.g., stance) during the live streaming process. Streamer stance also plays a crucial role in live streaming e-commerce. When streamers are more inclined to consumer stance, the similarity of their identities and interests is more likely to trigger consumers' emotional trust (J. Chen et al., 2023; Li et al., 2024). If streamers lean toward merchant stance, the detachment of identity makes it relatively difficult to build emotional trust (Park & Lin, 2020; S. Zhang et al., 2022). Although the expression of stance is important, previous studies have overlooked this point. Thus, we incorporate streamer stance as a key element into the research on live streaming e-commerce, enriching the research scope of live streaming e-commerce.

Second, drawing upon cue theory, this study identifies steamer popularity and WOM valence as two important extrinsic cues that influence consumers' emotional trust. This study reveals how extrinsic cues play a role in live streaming e-commerce, but unlike previous studies which consider the impact of a single cue on consumers (Kang et al., 2021; Talwar et al., 2021), this study considered both streamer popularity and WOM valence which are from different sources. Famous streamers tend to have greater credibility and less risk, and are more likely to elicit emotional trust from consumers (Wongkitrungrueng & Assarut, 2020; Wu et al., 2023), confirming that streamers with greater popularity usually lead to a larger influence. Consumers will perceive higher emotional trust when WOM valence is positive than negative. Furthermore, this study categorizes extrinsic cues into high-scope cues and low-scope cues and explored their interaction on consumers. The study found that streamer popularity can moderate the relationship between WOM valence and emotional trust. The above findings enrich the role of streamer popularity and word-of-mouth valence of products in live streaming e-commerce, filling the gaps in existing research.

Third, this study explores the impact of the interaction of multiple cues on consumers in live streaming e-commerce. This study identifies multiple cues related to emotional trust in the live streaming context, and classifies these cues by distinguishing the intrinsic and extrinsic cues. Based on the cue consistency theory, this study reveals that the impact of streamer stance will be more significant when the extrinsic cues are inconsistent (e.g., WOM is negative while the streamer is famous, or when WOM is positive while the streamer is unfamous). In summary, this study establishes a foundation for applying cue theory to live streaming e-commerce researches, and provides a more comprehensive understanding of how multiple cues affect consumers' emotional trust in live streaming e-commerce.

Practical Implications

This study has several important implications for practice. First, our research results indicate that the choice of streamer stance in live streaming e-commerce holds significant importance. Live streamers should adopt a consumer-oriented perspective and actively understand consumers' needs and expectations. They should maintain transparency in product information and services, safeguard consumers' rights and interests, and ensure that consumers genuinely perceive the sincerity of streamers. By establishing an effective consumer feedback mechanism, streamers can make consumers feel that their opinions are being heard and that streamers value their interests to gain consumers' trust.

Second, our research results indicate that streamers with high popularity can influence consumers positively. Streamers can provide both utilitarian and hedonic value to consumers by improving their professionalism and the entertainment of their live

content in order to increase streamer popularity and signal trustworthiness to consumers (Guo et al., 2022). Moreover, only products with positive word-of-mouth can get positive user feedback. Therefore, they should actively collect and manage word-of-mouth of products through social media, user reviews and other channels to ensure the accuracy and positivity of word-of-mouth information. Streamers with more popularity should pay more attention to product quality when choosing products to promote.

Third, our research results indicate that when the valence of product WOM and streamer popularity are inconsistent, the streamer stance has a more significant impact on consumers. Streamers can regularly analyze data such as product WOM, streamer popularity, and consumer feedback to develop more targeted marketing strategies and adjust the stances and communication approaches, aiming to maximize marketing effectiveness. At the same time, streamers should enhance their professional literacy by understanding how to effectively communicate product information, establish interactive relationships with consumers, and handle negative feedback, in order to better address various service failures and salvage potential consumer losses.

Limitations and Future Research

This study still has several limitations which can be addressed in future research. First, according to our survey results, most respondents have rich experience in watching or purchasing products through live streaming e-commerce. Therefore, their reactions to the streamer stance may differ from those who are unfamiliar with live streaming e-commerce. Thus, whether these findings can be applied to other populations needs to be examined in future research. Second, the sample was limited to Chinese consumers who hold the collectivism culture and stress on interpersonal communication and empathy, whether the findings can be generalized to other cultures still calls for further investigations. Third, this study presents the manipulation of streamer stance through textual and visual representations in a static format. However, live streaming e-commerce involves dynamic interactions, thus, future research may adopt video stimuli in the experiments to explore the comprehensive impact of multi-modal stance expressions on consumers.

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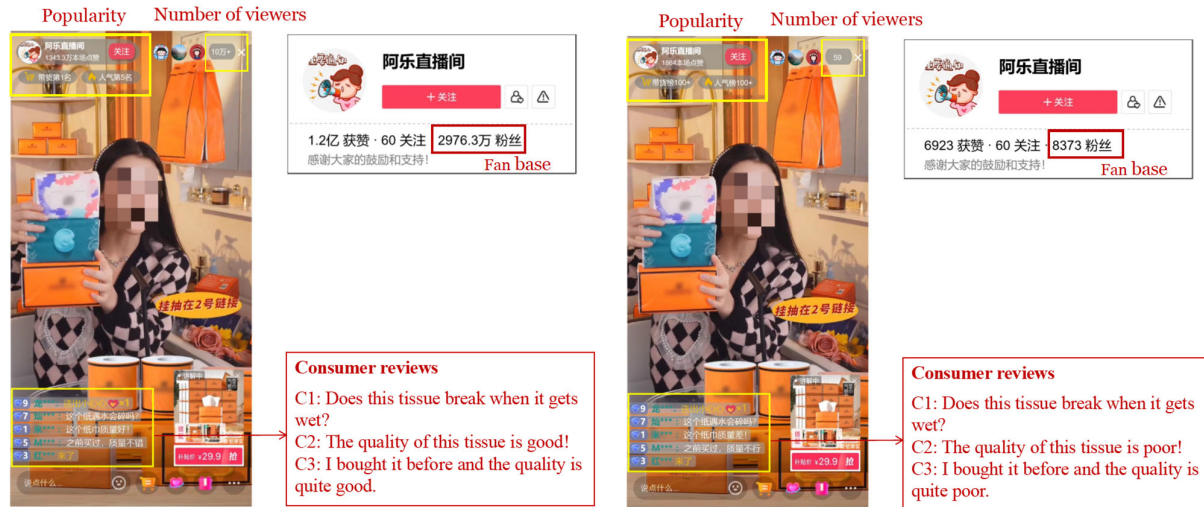
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APPENDIX A: Scenario Design



Source: This study.
Figure A: Scenario design.