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# The Role of Influencers in Live Streaming E-Commerce: Influencer Trust, Attachment, and Consumer Purchase Intention

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**Abstract:** Live streaming e-commerce has emerged as a novel online marketing model. Drawing upon influencer marketing theory, this study examines the mechanisms through which influencers (live streamers) promote consumers' purchase intention in the context of live streaming e-commerce. A sample of 449 valid questionnaires was utilized to test the proposed theoretical framework. The empirical research findings reveal that customer experience significantly and positively impacts both influencer trust and influencer attachment. Furthermore, trust and attachment established with live streamers are identified as two effective mechanisms influencing consumer decision-making. Notably, influencer attachment exhibits a stronger influence on consumer purchase intention compared to influencer trust. By comparing the effects of Taobao and Douyin live streamers on stimulating consumption and purchase intention, the study demonstrates that live streamers play a crucial mediating role between customer experience and consumer purchase intention. Specifically, the results indicate that consumer purchase intention influenced by top Taobao streamers is stronger than that of Douyin streamers, whereas influencer attachment for Taobao streamers is relatively weaker than that for Douyin streamers. These findings provide theoretical and managerial implications for platforms and live streamers seeking to stimulate robust purchase intentions among consumers by fostering attachment relationships. The establishment of an emotional connection between the live streamer and the audience proves particularly valuable in increasing purchase intention. This research contributes to the understanding of the underlying mechanisms driving consumer behavior in the context of live streaming e-commerce. It emphasizes the significance of customer experience, influencer trust, and influencer attachment as key drivers of consumer purchase intention. The findings offer valuable insights for platforms and live streamers to optimize their strategies and enrich user data labels in order to enhance consumer engagement and stimulate purchase intentions. Ultimately, this research contributes to the advancement of the live streaming e-commerce field, strengthens the application of data elements in live streaming e-commerce marketing, and guides effective decision-making by industry practitioners.

**Keywords:** live streaming e-commerce; influencer marketing; customer experience; consumer purchase intention; influencer trust; influencer attachment; data elements

## 1. Introduction

Online interactive shopping services [1–5], specifically live streaming e-commerce, have emerged as a rapidly growing trend with widespread popularity worldwide [6–9]. Initially perceived as similar to traditional TV shopping [2,8], live streaming e-commerce has evolved with the advent of network platforms to align more closely with contemporary consumer behavior [10,11], particularly the utilization of mobile Internet and user profile [12,13]. This shift has significantly expanded the consumer base, propelling the rapid development of live streaming e-commerce [14,15]. The scale of live streaming e-commerce in China is remarkable. According to the latest research report by the China Internet

Network Information Center (CNNIC) as of June 2021, the number of Chinese netizens has reached a staggering 1.011 billion. Notably, live streaming e-commerce users comprise 384 million, accounting for 38% of the total Internet users [16–18]. In analyzing the existing live streaming e-commerce market, we have identified key platforms that excel in this domain. Short video sites such as Douyin, Kuaishou, and TikTok (the US version of Douyin) naturally possess a rich pool of commercial live streamers [16,19,20]. Social networking sites, including Xiaohongshu (a lifestyle platform), WeChat, Facebook, and Instagram, offer extensive dissemination capabilities [21–24]. Additionally, e-commerce platforms like Taobao, Shopee, and Lazada have capitalized on their large consumer base and application of data elements to foster the growth of top-tier commercial live streamers [25].

Platforms of various types can leverage the advantages of live streaming e-commerce. However, it remains crucial to ascertain the primary factor influencing consumers' purchasing decisions within this domain. Specifically, does the appeal of commercial live streamers themselves hold greater significance, or are consumers primarily motivated by website qualities such as the credibility demonstrated by these live streamers? These research inquiries fall under the purview of influencer marketing [26–29]. The concept of influencer marketing was first introduced by Brown and Hayes, who posited that social media acts as a new influential third party capable of significantly shaping customer purchasing decisions [28,30]. With the proliferation of social networking platforms, influencer marketing has experienced rapid growth. These platforms possess extensive reach and instantaneous communication abilities, enabling enterprises to deliver marketing messages through influencers on social media [31].

Social media influencers are individuals or organizations that leverage social media platforms to cultivate a distinct self-image, thereby attracting a substantial user following [32]. Within the realm of live e-commerce, the live streamers themselves serve as exemplary social media influencers. Numerous subsequent studies have examined the viability of social media influencers (SMIs) as an effective marketing strategy for enhancing consumer purchasing decisions and brand recognition through their influential presence [22,29,33]. Presently, influencer marketing on social media has emerged as a highly efficient marketing tool [34], particularly within the context of live e-commerce. This is primarily due to the fact that consumers are afforded a pre-experience of products through influencers (live streamers) prior to making a purchase. When consumers' actual product experience aligns with the pre-experience conveyed by the live streamers, feelings of trust and identification with the influencer are established. Consequently, this leads to positive consumer intentions and consumption behaviors, thus exemplifying one of the underlying mechanisms of influencer marketing [35,36].

In the realm of live e-commerce research, influencer marketing investigates how live streamers can exert influence on consumers to enhance marketing performance. Firstly, regarding the impact of influencers on audiences, live streamers have been found to significantly increase continuous viewing intention among live viewers [37], reduce the psychological distance [38], enhance interactive engagement [39], and stimulate purchase intentions [22]. Secondly, in terms of the influencing factors related to influencers, it has been established that the attractiveness of the live streamers themselves significantly affects the purchase intention of live streaming viewers. Factors such as professionalism and reliability [40,41], and popularity [14,42,43], among others, have been shown to have a substantial influence. Additionally, the advantages and characteristics of the website itself are also key factors that contribute to increased consumer purchase intention. These factors include interactivity, visibility, and entertainment value [41,44–46]. Extensive literature supports the significant impact of these website features on consumer purchase intention, reinforcing the marketing performance of influencer marketing [47–50]. Thirdly, in exploring the mechanisms through which influencers influence consumer decision-making, it has been established that establishing a trust or identification relationship with consumers [51–53] and demonstrating the value of live streaming platforms [54,55] trigger a

positive attitude among consumers. This serves as the primary mechanism driving the effectiveness of influencer marketing.

In general, this study posits that live streaming marketing falls within the purview of influencer marketing, relying on the influence of the live streamer. The live streamer serves a dual role: firstly, representing the reliability of the goods on the live streaming e-commerce platform, and secondly, embodying their own persona and expressing personal emotions to exert a significant impact on consumer decision-making. Building upon this premise, the study aims to explore and address the following three issues: (1) Do consumers develop a sense of attachment to the live streamer in live streaming e-commerce? (2) Does this attachment to the live streamer contribute to improved marketing performance? (3) In the function mechanism of influencer marketing, which factor carries greater influence on consumers: the platform or the live streamer themselves, both represented by the live streamer?

The objective of this research is to provide more effective influencer marketing strategies for live e-commerce to promote consumer engagement. The research content of this paper unfolds as follows. Firstly, the research is centered around e-commerce activities as the application scenario. Thus, the research aims to examine whether the influencer (the live streamer) can enhance consumer purchase intention [56,57]. Secondly, the focus of this study lies in how influencers can effectively communicate marketing information. Consequently, the customer experience is considered representative of the conveyed marketing information. Lastly, existing explanations of the three mechanisms of trust, identification, and website value primarily concentrate on consumers' acceptance of the website information provided by the influencer, neglecting the influence of emotional factors stemming from the influencer–consumer relationship, such as attachment, attention, companionship, and other emotional connections [55,58,59]. Therefore, this study selects two mechanisms, namely, trust and attachment, for comparative analysis, aiming to provide a deeper understanding of influencer marketing in the domain of live e-commerce.

## 2. Literature Review and Hypotheses

### 2.1. Customer Experience and Consumer Purchase Intention

In light of the widespread adoption of e-commerce, a substantial body of literature has focused on the concept of customer experience, particularly in the realm of online customer experience [60–62]. Within this literature, various definitions of customer experience have been put forth. Some studies define customer experience based on whether customers have engaged in a shopping activity [63,64]. Conversely, others argue that customer experience encompasses the range of feelings elicited from the interaction between consumers and enterprises [45]. The latter perspective predominantly divides customer experience into sensory experience [39], cognitive experience, and emotional experience [63]. Scholars can select the appropriate research perspective based on their specific research objectives. The significance of customer experience in the context of e-commerce cannot be overstated. It plays a vital role in shaping consumer behavior [65], loyalty, and overall satisfaction. Therefore, researchers have endeavored to delve into the multifaceted nature of customer experience, examining the different dimensions and facets that contribute to a comprehensive understanding of this phenomenon. By exploring the sensory, cognitive, and emotional aspects of customer experience, scholars can gain valuable insights into the factors that influence consumer perceptions, preferences, and decision-making processes in the online marketplace.

Moreover, the dynamic nature of customer experience necessitates a holistic approach that encompasses both pre-purchase and post-purchase stages. The customer journey from browsing and selection to the actual usage and after-sales service contributes to the overall customer experience. By comprehensively studying these different stages, researchers can uncover critical touchpoints and moments of truth that shape customers' overall satisfaction and loyalty. A large number of empirical studies have shown that customer experience can significantly affect consumer purchase intention and even improve repeated purchase

intention [7,49], which not only exists in traditional e-commerce [61], but also has been verified in social e-commerce [66–68]. Attributing attractiveness and likability significantly predicts favorable attitudes towards the influencer, as well as positively impacting word-of-mouth promotion and purchase intentions [69,70].

Live streaming e-commerce is also social e-commerce, so we can make the assumption: the customer experience in live streaming e-commerce can significantly positively impact consumer purchase intention. In addition, this study considers that the division dimension of customer experience by Chen and Yang [20] is more in line with the experience concerns of Chinese consumers. Therefore, this study divides customer experience into three dimensions referring to the above-mentioned research: website convenience, website relationship service, and customer cost. This article puts forward the following assumption:

**H1:** *Customer experience has significant positive effects on consumer purchase intention.*

### 2.2. Mediating Effect of Trust between Customer Experience and Consumer Purchase Intention

Marketing theory asserts that trust is the consumer's perception of the reliability and credibility of a salesperson or company. To gauge this perception, customer experience measurement serves as a valuable tool, providing a genuine reflection of the content and extent of consumers' perceptions. Consequently, it can be argued that a positive customer experience plays a crucial role in enhancing customers' perception of a company's value, while simultaneously alleviating their concerns regarding consumption uncertainty. By accumulating positive experiences, a trust relationship between consumers and enterprises can be fostered [7,49].

The lack of trust has consistently been identified as a critical impediment to consumer behavior [46,71]. Extensive literature has confirmed that trust plays a pivotal role in promoting interactions between buyers and sellers [72], enhancing customer loyalty [48,73] and customer participation [74], and subsequently increasing consumer purchase intention [75]. Empirical research has also highlighted the mediating role of trust in e-commerce between customer experience and consumer purchase intention. It is reasonable to posit that a similar trust mechanism exists in the domain of live streaming e-commerce, wherein customers willingly accept the authenticity and reliability of products and services offered by streamers based on their positive customer experiences. This, in turn, significantly influences their purchase intention.

Overall, trust serves as a fundamental component in shaping consumer behavior and purchase decisions. Building trust through positive customer experiences contributes to consumers' willingness to engage with streamers, accept the authenticity of their offerings, and perceive the value associated with live streaming e-commerce. As such, trust serves as a catalyst for driving consumer purchase intention in this dynamic and rapidly evolving marketplace. This article proposes the following assumptions:

**H2:** *Customer experience has significant positive effects on influencer trust.*

**H3:** *Influencer trust has significant positive effects on consumer purchase intention.*

**H4:** *Influencer trust plays a mediating role between customer experience and consumer purchase intention.*

### 2.3. Mediating Effect of Attachment between Customer Experience and Consumer Purchase Intention

Attachment theory, originating from psychology, primarily elucidates the profound emotional bond between parents and children [76,77]. This theory posits that such attachment influences subsequent interpersonal relationships among children. In the realm of marketing, Schultz was the first to apply attachment theory from psychology to the field of consumer behavior [71,73,78,79], expanding its scope to encompass the connection between individuals and objects. Research has demonstrated that consumers can develop

an emotional attachment to the products or objects they consume [80]. In particular, brand attachment [73] leverages a strong emotional bond between consumers and brands, thereby driving consumption behavior. Brand, as a symbolic representation of corporate image, serves as a quality assurance mechanism to a certain extent. It also mitigates perceived risks for consumers [48]. Thus, when customers have positive experiences with products and services, they are more likely to form brand attachments. This article acknowledges the attachment role of live streamers, likening it to brand attachment. Similar to brand consumption, when viewers willingly engage with live streaming content, the exceptional customer experience delivered by the streamer can foster an emotional relationship between the consumer and the streamer. By considering the attachment perspective, we can understand that the emotional connection between consumers and streamers influences their purchase intentions and behaviors. Just as consumers develop brand attachments based on positive experiences, they are similarly inclined to develop attachments to live streamers who provide exceptional customer experiences. This emotional connection contributes to consumers' willingness to engage with the streamer's content and influences their consumption decisions.

The utilization of the brand attachment mechanism in marketing has proven to be successful. Attachment, as a parasocial relationship, can effectively influence consumer attitudes, establish a one-way connection [66,81], and reduce marketing costs. Once an attachment relationship is formed, consumers tend to remain loyal to the brand they are attached to. This phenomenon can be observed in the idol industry, where idols cultivate a devoted following of fans who exhibit unwavering support and loyalty [82,83]. However, the viewers in the context of live streaming e-commerce differ from traditional fan groups. They tend to be more rational and prioritize the evaluation of goods and services. Nonetheless, as viewers accumulate positive customer experiences with a live streamer, they develop an emotional attachment to the streamer, similar to brand attachment. Making consumption decisions solely based on rationality becomes challenging in this scenario. Many consumers develop a habit of following specific live streamers for their live e-commerce shopping, and the presence of a live streamer attachment can exert a significant influence. Attachment serves as a mediating variable between customer experience and consumer purchase intention [21].

Attachment theory sheds light on the emotional aspects of consumer behavior. Recognizing the attachment role of streamers is akin to acknowledging brand attachment, where positive customer experiences drive emotional connections and influence consumer purchase intentions. By exploring the attachment dynamics between consumers and streamers, we gain valuable insights into the mechanisms underlying consumer behavior in the context of live streaming e-commerce. It is important to recognize that even in the context of live streaming e-commerce, where consumers prioritize product evaluation, emotional factors play a crucial role in their decision-making process. The attachment formed between consumers and live streamers acts as a bridge, connecting positive customer experiences with a strong inclination toward making purchase decisions. This attachment mechanism complements the rational evaluation of goods and services, ultimately shaping consumer behavior in live streaming e-commerce. By exploring the interplay between attachment, customer experience, and consumer purchase intention, we gain a deeper understanding of the underlying mechanisms driving consumer behavior in the live streaming e-commerce industry. Recognizing the significance of attachment allows marketers to leverage emotional connections to enhance consumer engagement [84], foster brand loyalty, and optimize marketing strategies in this rapidly growing field. Therefore, we propose the following hypotheses:

**H5:** *Customer experience has significant positive effects on influencer attachment.*

**H6:** *Influencer attachment has significant positive effects on consumer purchase intention.*

**H7:** *Influencer attachment plays a mediating role between customer experience and consumer purchase intention.*

*2.4. Research Framework*

This study presents a comprehensive mechanism model that explores the relationships between customer experience, live streamer trust, live streamer attachment, and consumer purchase intention. The model illustrates how customer experience directly influences consumer purchase intention, as well as its indirect impact through the mediating factors of live streamer trust and live streamer attachment. The research model is visually depicted in Figure 1, providing a clear representation of the proposed relationships and their interconnections.
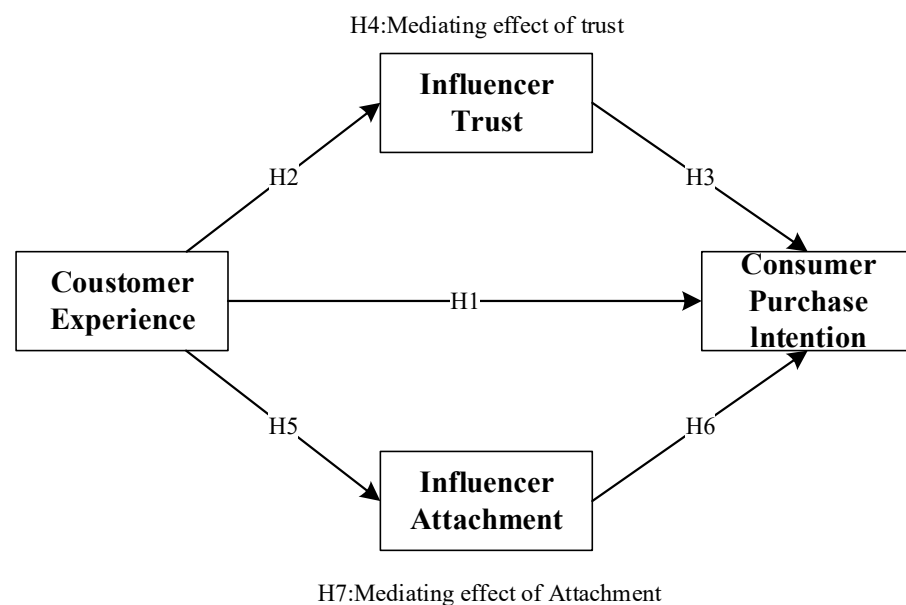


**Figure 1.** Research model.

Customer experience plays a pivotal role in shaping consumer behavior in the context of live streaming e-commerce. A positive customer experience can directly influence consumer purchase intention, as consumers are more likely to be inclined towards making purchases when they have had satisfying experiences with the products or services offered. This direct impact highlights the importance of optimizing customer experiences to drive consumer engagement and increase purchase intentions.

Moreover, customer experience also exerts an indirect influence on consumer purchase intention through the mediating factors of live streamer trust and live streamer attachment. When consumers have positive experiences with a live streamer, it enhances their trust in the streamer's authenticity, credibility, and reliability. This trust, in turn, fosters a stronger attachment to the live streamer, as consumers develop an emotional connection and affinity towards the streamer. Consequently, this attachment positively influences their purchase intention, as consumers are more likely to be influenced and motivated by live streamers they trust and feel attached to.

By incorporating these interrelated factors into the mechanism model, this study provides a comprehensive framework for understanding the complex dynamics between customer experience, live streamer trust, live streamer attachment, and consumer purchase intention in the context of live streaming e-commerce. The model serves as a valuable tool for researchers and marketers to analyze and optimize the factors that drive consumer behavior, enabling them to develop effective strategies to enhance consumer engagement and maximize marketing performance.

### 3. Methodology

The questionnaire scale utilized in this study draws upon well-established measurement tools from previous literature, with adaptations made to account for the unique characteristics of live streaming e-commerce. Specifically, the customer experience scale is primarily based on the work of Chen and Yang [20]. Their framework divides customer experience into three dimensions: website convenience, website relationship service, and customer cost, each consisting of four measurement items. The trust scale builds upon the research conducted by Ma L. et al. [7] and Wongkitrungrueng [43], incorporating four measurement items. The attachment scale draws from the studies of Mael and Ashforth [85] and Ball and Tasaki [78], focusing on character brand attachment and encompassing six measurement items. The consumer purchase intention scale refers to the relevant scales [7,20], encompassing a total of seven measurement items. All items are rated on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

To collect data, we employed the services of an online research company, which facilitated the issuance and collection of 261 valid questionnaires. These 261 questionnaires are a pre-survey to ensure the reliability and validity of the scales employed in the subsequent formal study. The collected data underwent two stages of analysis: exploratory factor analysis and confirmatory factor analysis. Through this process, it was discovered that the aggregate validity of the website convenience and website relationship service components within the customer experience scale was below the recommended threshold of 0.5. Additionally, the discriminant validity between these two components and the trust component did not meet the required standards. Consequently, these two components were removed from the analysis. The revised model, focusing on the customer cost dimension, successfully passed the confirmatory factor analysis [86]. It is important to note that the limitations of the customer experience scale may stem from its origination in the context of cross-border e-commerce research. As such, its application to the study of live streaming e-commerce may not entirely capture the specific nuances we aim to examine.

The enhanced pre-survey was distributed through both a network research company and offline acquaintance networks from December 2021 to February 2022. A total of 775 questionnaires were distributed, with 449 valid questionnaires ultimately being recovered, resulting in an effective recovery rate of 58%. To ensure the relevance of the study, the research was limited to individuals who had prior experience in live online shopping. This selection criterion allows for a focused examination of the potential impact of live streamers on consumer decision-making, as it specifically considers individuals who actively engage with live streamers while making online purchases.

Given that our sample was obtained through a payment-based approach, it was aligned with the research design and objectives of this study to deliberately target consumers with a direct live shopping experience. To ensure congruence with the understanding context of Chinese consumers, we employed descriptors for live shopping frequency such as "weekly live shopping", "monthly live shopping", and "annual live shopping". These correspond respectively to the common foreign terms "frequent", "regular", and "infrequent". The results indicated that 61.9% of respondents engage in monthly live shopping, 34.3% engage in weekly live shopping, and 3.8% engage in annual live shopping. These outcomes closely align with the envisioned research scenario targeting habitual live shopping consumers. In terms of the platforms used, 91.3% of the respondents used Taobao Live, while 88.9% used Douyin. Notably, three live streamers emerged as the most popular choices among viewers: Li Jiaqi (Taobao Live) accounted for 76.2% of the viewers, followed by Weiya (Taobao Live) at 48.8%, and Luo Yonghao (Douyin) at 35%. The gender distribution of the respondents leaned slightly towards males, with a ratio of 6:4, which deviates slightly from the gender ratio reported by the China Internet Information Center. Furthermore, 85.5% of the respondents fell within the age range of 20 to 40, and 63.5% reported a monthly disposable income exceeding 4000 RMB. By targeting this specific group of live stream viewers who actively engage in online shopping, the study aims to

shed light on the influence of live streamers on consumer behavior in the live streaming e-commerce context.

We employed a stratified sampling approach, utilizing educational levels as the stratifying characteristic based on the "2020 Consumer Research Report on Live Streaming E-commerce" released by the China Consumers Association. The reported proportions of respondents with junior college or lower, bachelor's, and master's degrees or above were 14.1%, 83.3%, and 2.6%, respectively. In our survey, these proportions were 12.3%, 81.3%, and 6.4%, indicating close alignment and a reasonable representation of the actual scenario. However, as a self-selection (volunteer) sampling method was employed, we acknowledge the potential challenges of low response rates and diminished questionnaire quality. To mitigate the issue of low response rates, we utilized a compensatory approach. Furthermore, during the questionnaire completion process, we employed strategies such as reverse questions, synonymous questions, and open-ended questions to effectively identify and filter out low-quality responses. This diligent approach ensured the maintenance of questionnaire quality. The characteristics and preferences of the survey respondents provide valuable insights into the consumer demographics involved in this phenomenon, allowing for a more comprehensive understanding of the dynamics at play in the live streaming e-commerce landscape.

## 4. Results

### 4.1. Reliability and Validity Analyses

The empirical analysis of this study was conducted using SPSS 22 and Amos 21. To ensure the reliability and validity of the measurement model, certain measurement items were removed due to their factor loading being less than 0.6. After this adjustment, the measurement model successfully passed the reliability and validity tests. The goodness-of-fit of the data to the measurement model was confirmed through parameter values, as indicated in Tables 1 and 2.

**Table 1.** Test results of reliability and validity (N = 449).

| Construct | Item | Factor Loading | Cronbach's Alpha | Composite Reliability (*CR*) | Convergence Validity (*AVE*) |
|---|---|---|---|---|---|
| **Customer Experience (CE)** | CE1 | 0.742 | 0.765 | 0.766 | 0.621 |
| | CE2 | 0.835 | | | |
| **Influencer Trust (TR)** | TR1 | 0.642 | 0.724 | 0.737 | 0.483 |
| | TR2 | 0.696 | | | |
| | TR3 | 0.743 | | | |
| **Influencer Attachment (AT)** | AT1 | 0.739 | 0.839 | 0.841 | 0.516 |
| | AT2 | 0.735 | | | |
| | AT3 | 0.746 | | | |
| | AT4 | 0.739 | | | |
| | AT5 | 0.637 | | | |
| **Customer Purchase Intention (CPI)** | IN1 | 0.676 | 0.776 | 0.785 | 0.55 |
| | IN2 | 0.775 | | | |
| | IN3 | 0.768 | | | |

**Table 2.** Distinguishing validity test of model.

| Construct | CE | TR | AT | CPI |
|---|---|---|---|---|
| **CE** | **0.788** | | | |
| **TR** | 0.661 | **0.695** | | |
| **AT** | 0.446 | 0.583 | **0.718** | |
| **CPI** | 0.452 | 0.563 | 0.589 | **0.742** |

Note: The bold font on the diagonal is the square of AVE.

All measurement items in the model exhibited factor loadings greater than 0.6, indicating a strong relationship between the constructs and their respective measurement items. The Cronbach's alpha value and the composite reliability (CR) value of all constructs exceeded 0.7, demonstrating good internal consistency. Additionally, the average variance extracted (AVE) value of all components exceeded 0.5, confirming the convergent validity of the scale. It is worth noting that the AVE value of the construct 'Trust' was 0.483, slightly below the recommended range of 0.45–0.5. However, considering the satisfactory CR value and other indicators, including model fit indicators, we made the decision to retain the construct 'Trust' in our analysis [87].

The model fitting degree of the measurement model is verified well through a confirmatory factor analysis (CFA) as follows: $\chi^2 = 178$, $\chi^2/df = 2.51$, GFI (Goodness-of-Fit Index) = 0.94, AGFI (Adjusted Goodness-of-Fit Index) = 0.908, CFI (Comparative Fit Index) = 0.952, NFI (Normed Fit Index) = 0.931, RMSEA (Root Mean Square Error of Approximation) = 0.067, and TLI (Tucker–Lewis Index) = 0.937. All the fit indices of the model were larger than the recommended value (see Table 3), which means a good fitness [88].

**Table 3.** Fit indices for CFA.

| Fitting Index | $\chi^2/df$ | GFI | AGFI | CFI | NFI | RMSEA | TLI |
|---|---|---|---|---|---|---|---|
| Recommended criteria | <3 | >0.90 | >0.80 | >0.90 | >0.90 | <0.08 | >0.90 |
| Actual value | 2.51 | 0.94 | 0.908 | 0.952 | 0.931 | 0.067 | 0.937 |

### 4.2. Model Hypothesis Testing

#### 4.2.1. Path Coefficient Test

Based on the results presented in Table 4, we observed that the Z value for H1 was 1.961, which exceeded the critical value of 1.96. As a result, the corresponding *p*-value was expected to be approximately equal to, but less than, 0.05. Consequently, hypothesis H1 was accepted, indicating a significant relationship. Similarly, the *p*-value tests for H2, H3, H5, and H6 yielded significant results as well, leading to the acceptance of these hypotheses [89].

**Table 4.** Path coefficient test.

| Hypothesis | Path | *Unstd.* | *S.E.* | *Z-Value* | *Sig.* | *Std.* | Results |
|---|---|---|---|---|---|---|---|
| H1 | CE→CPI | 0.100 | 0.051 | 1.961 | 0.05 | 0.103 | Approved |
| H2 | CE→TR | 0.566 | 0.030 | 18.684 | *** | 0.661 | Approved |
| H3 | TR→CPI | 0.320 | 0.056 | 5.708 | *** | 0.281 | Approved |
| H5 | CE→AT | 0.516 | 0.049 | 10.551 | *** | 0.446 | Approved |
| H6 | AT→CPI | 0.336 | 0.035 | 9.673 | *** | 0.399 | Approved |

Note: *** $p < 0.001$.

Given the significant outcomes of the aforementioned hypothesis tests, we can confidently proceed to examine the mediating effect of streamer trust and streamer attachment using the bootstrap method. This statistical technique allows for a robust assessment of the mediation effects, considering the high level of statistical significance observed in the previous tests. By employing the bootstrap method, we can further explore and quantify the mediating role of streamer trust and streamer attachment in the context of our research.

#### 4.2.2. Mediation Test

To test the significance of the mediation effect of live streamer trust and live streamer attachment, we employed the Bootstrapping technique, extracting 1000 samples at a confidence level of 95%. MacKinnon et al. have established that the non-parametric Bootstrap method is the most suitable for bias correction [90]. Therefore, this study exclusively reports the confidence interval (CI) of the bias-corrected estimates. By employing Boot-

strapping and considering the bias-corrected estimates, this study provides robust evidence regarding the mediating effects of trust and attachment. The significant findings support the importance of these factors in the relationship between customer experience and purchase intention.

Based on the results presented in Table 5, we observed that the total effect, direct effect, and indirect effect in each mediating path were statistically significant. Additionally, the confidence intervals obtained using the Percentile method at the 95% confidence level did not include zero, indicating the significance of the mediating effect. Notably, the mediating effect was consistent with the direct effect. These findings support the acceptance of hypotheses H4 and H7, revealing that trust and attachment partially mediate the relationship between customer experience and purchase intention. Further analysis of the influence of customer experience on purchase intention revealed that the mediating effect of trust accounted for 39.9% (0.181/0.454), while the mediating effect of attachment accounted for 38.1% (0.173/0.454). This suggests that customer experience impacts consumer purchase intention through the dual pathways of live streamer trust and live streamer attachment.

**Table 5.** Trust and attachment mediation effect of customer cost on purchase intention.

| Path Relationship | | Point Estimate | Product of Coefficient | | Bootstrapping 1000 Times Bias-Corrected 95% CI | | |
|---|---|---|---|---|---|---|---|
| | | | *SE* | *Z* | *Lower* | *Upper* | *p* |
| **Mediating effect, Direct effect, and Total effect test** | | | | | | | |
| TRIE | CE→TR→CPI | 0.181 | 0.048 | 3.771 | 0.093 | 0.278 | 0.001 |
| ATIE | CE→AT→CPI | 0.173 | 0.031 | 5.581 | 0.116 | 0.239 | 0.002 |
| DE | CE→CPI | 0.1 | 0.051 | 1.961 | 0.005 | 0.195 | 0.050 |
| TIE | Total indirect effect | 0.354 | 0.045 | 7.867 | 0.273 | 0.453 | 0.001 |
| TE | Total effect | 0.454 | 0.048 | 9.458 | 0.366 | 0.559 | 0.002 |
| **Comparison of mediating effects** | | | | | | | |
| TRATdiff | TR VS. AT | 0.008 | 0.066 | 0.121 | −0.133 | 0.124 | 0.926 |
| **Proportion of intermediary effect** | | | | | | | |
| P1 | TRIE/TIE | 0.511 | 0.095 | 5.379 | 0.294 | 0.669 | 0.002 |
| P2 | ATIE/TIE | 0.489 | 0.095 | 5.147 | 0.331 | 0.706 | 0.002 |
| P3 | TIE/TE | 0.779 | 0.114 | 6.833 | 0.595 | 1.034 | 0.001 |

### 4.2.3. Non-Parametric Test

Taobao and Douyin, as the leading live-streaming e-commerce platforms in China, possess distinct resource advantages and corporate development strategies. This dual selection was motivated by the intention to avoid any potential bias stemming from a singular choice. Taobao was chosen to represent the largest-scale live streaming commerce enterprise, renowned for its exemplary corporate reputation. Conversely, Douyin boasts the highest count of influencers among Chinese live streaming commerce platforms, primarily due to its robust influencer training mechanisms and the strong magnetic pull influencers have on consumers. This juxtaposition between the two platforms facilitates the verification of whether the mechanisms of trust or attachment, as channeled through the hosts, play a more significant role in augmenting consumer purchase intentions. These platforms are home to renowned live streamers such as Li Jiaqi and Luo Yonghao, who enjoy significant exposure and support from their respective platforms. Given the priority given to top live streamers by the platforms, a large portion of live viewers are directed towards online shopping through three primary avenues: watching Li Jiaqi on the Taobao platform for online shopping, watching Luo Yonghao on the Douyin platform for online shopping, or engaging in live streaming on both platforms while making online purchases. This distribution of viewer preferences is reflected in our data collection process.

In order to analyze the variations in consumer purchase intention, live streamer attachment, and live streamer trust among different consumer groups, we categorize individuals' characteristics into three distinct groups: those solely focused on Li Jiaqi,

those solely focused on Luo Yonghao, and those who follow both streamers. To assess the differences between these groups, we employ the Kruskal–Wallis test. The results of this analysis can be found in Table 6, providing insights into the variations observed among these consumer groups in terms of consumer purchase intention, live streamer attachment, and live streamer trust.

**Table 6.** The Results of Non-Parametric Test Analysis.

| | Li 0, Luo 1, Both 2 Median (P25, P75) | | | Kruskal–Wallis Test (H) | $p$ |
|---|---|---|---|---|---|
| | **0.0 (n = 215)** | **1.0 (n = 30)** | **2.0 (n = 127)** | | |
| **Customer Purchase Intention** | 5.667 (5.0, 6.0) | 5.500 (4.3, 6.3) | 6.000 (5.3, 6.3) | 10.446 | 0.005 ** |
| **Influencer Attachment** | 4.600 (3.6, 5.4) | 4.900 (4.2, 6.0) | 5.000 (4.0, 5.8) | 10.511 | 0.005 ** |
| **Influencer Trust** | 5.667 (5.0, 6.0) | 5.667 (5.3, 6.3) | 5.667 (5.0, 6.3) | 2.455 | 0.293 |

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.

The analysis of the three consumer groups reveals that there are no significant differences in the trust placed in live streamers ($p = 0.293 > 0.05$). This suggests that the products offered by streamers from different platforms do not generate discernible variations in consumer trust. However, notable distinctions are observed among the three groups in terms of purchase intention ($p = 0.005 < 0.01$) and live streamer attachment ($p = 0.005 < 0.01$). Further examination of the medians indicates that the group focused on both platforms exhibits significantly higher levels of purchase intention and live streamer attachment compared to the other two groups. This finding implies that individuals who follow both platforms tend to develop a stronger emotional connection with the live streamers.

Furthermore, the study reveals that consumer purchase intention influenced by Taobao live streamers is stronger than that influenced by Douyin live streamers ($5.667 > 5.5$). Conversely, the level of streamer attachment towards Taobao live streamers is weaker than that towards Douyin live streamers ($4.6 < 4.9$). This finding may deviate from our initial assumptions regarding the personal characteristics of the two live streamers and their respective consumer groups. However, it aligns well with the distinct commercial positioning of Taobao and Douyin. It suggests that each live streaming e-commerce platform possesses unique features and specific differences, even though their product offerings may tend to be homogeneous.

## 5. Discussion and Conclusions

This study explores the influence mechanism of live streamers in the context of live streaming e-commerce. Using a structural equation model, we have examined the relationships among customer experience, consumer purchase intention, live streamer trust, and live streamer attachment. Additionally, we have empirically tested the mediating roles of live streamer trust and live streamer attachment between customer experience and consumer purchase intention.

### 5.1. Customer Experience Significantly Impacts Live Streamer Trust and Attachment

Our analysis of the path relationship test results reveals that customer experience has a significant impact on both live streamer trust and live streamer attachment. Furthermore, both live streamer trust and live streamer attachment significantly and positively influence consumer purchase intention. The degree of influence analysis indicates that customer experience has a stronger effect on live streamer trust compared to live streamer attachment ($0.566 > 0.516$). Moreover, the influence of live streamer attachment on consumer purchase intention is slightly higher than that of live streamer trust ($0.336 > 0.32$). These findings suggest that a positive customer experience provided by a live streamer can establish trust or attachment with consumers, thereby effectively enhancing consumer purchase intention.

Interestingly, even though a better customer experience tends to foster stronger trust in the live streamer, attachment has a greater impact on stimulating consumer purchase

intention. Compared to the perception of platform reliability, the emotional connection established between the live streamer and consumers proves more influential in increasing purchase intention. This conclusion deviates from previous influencer marketing research, shedding light on the personal attachment consumers have toward live streamers in the live streaming e-commerce context.

### 5.2. The Trust and Attachment of the Live Streamer Affect Consumer Decision-Making

Our analysis of the mediation effect test results demonstrates that both live streamer trust and live streamer attachment play significant roles in influencing consumer decision-making. The mediating effects of trust and attachment on the relationship between customer experience and consumer purchase intention account for approximately 40%. This indicates that, in addition to establishing the platform's reliability, live streamers can stimulate strong purchase intentions among viewers by fostering an attachment relationship. Traditionally, attachment mechanisms have been primarily employed in brand marketing within influencer marketing research. However, our research on live streamer attachment suggests that live streaming e-commerce may have entered an era of live streamer branding. The process of creating attachment between consumers and brands is also observed between consumers and live streamers. Additionally, the relatively similar mediating effect values of these two mechanisms emphasize the importance of live streamers' affinity, alongside their expressive abilities. Particularly, the emotional attraction of the live streamer should be highly valued.

The total indirect effect accounts for 78% of the total utility, indicating that the well-known image of a live streamer has become representative of the streamer themselves. If a consumer trusts and is attached to a live streamer, they are about 78% more likely to believe in the reliability of the products promoted by that streamer. This finding is instructive for the innovation of marketing models for live streaming platforms. It underscores the significance of having influential live streamers as a necessary condition for building a well-known streamer. Such well-known streamers can help platforms stimulate consumption. However, this poses a challenge for traditional enterprises engaged in brand marketing, as the conclusion suggests that utilizing the platform and its streamers can improve consumer purchase intention, potentially resulting in significant platform bargaining power. These conclusions address the other two research objectives. Live streamer attachment serves as a mediating factor between customer experience and purchase intention, ultimately enhancing marketing performance. Nonetheless, based on the statistical test value of 'TRATdiff' in Table 5, no significant difference is observed between 'Trust' and 'Attachment'. Thus, the platform or emotions represented by the live streamer cannot solely explain their greater influence on consumer purchase intention.

### 5.3. Fans of Live Streaming E-Commerce Shopping

Through non-parametric tests, we have identified that among consumers who follow different live streaming e-commerce platforms, there is no significant difference in live streamer trust. However, significant differences exist in terms of live streamer attachment and consumer purchase intention. Consumers who can be referred to as "fans of live streaming e-commerce shopping" exhibit stronger attachment to the live streamer and a higher purchase intention inspired by them, compared to consumers who solely follow streamers on one platform.

These fans and the live streamers they follow represent a highly valuable group that live streaming e-commerce platforms should aim to attract and engage. Taobao's top live streamer, Li, demonstrates a significantly higher effectiveness in stimulating consumption and purchase intention compared to Douyin's top live streamer, Luo. However, Luo's ability to evoke attachment emotions in consumers surpasses that of Li. These characteristics align with the strategic goals of each platform. For instance, Taobao emphasizes sales as its corporate objective, while Douyin focuses on user flow as its stage goal. The distinct traits exhibited by each live streamer reflect the clear market positioning of their

respective platforms, highlighting the unique competitive advantage of each company. This finding holds important reference significance for other companies seeking to enter the live streaming e-commerce space, particularly those aiming to penetrate international markets.

In conclusion, this study provides insights into the influence mechanism of live streamers in live streaming e-commerce. The findings underscore the importance of customer experience, live streamer trust, and live streamer attachment in shaping consumer purchase intention. Live streamers play a significant role in influencing consumer decision-making, and their attachment mechanism contributes to marketing performance. The study also reveals the presence of fans of live streaming e-commerce shopping, emphasizing their strong attachment and high purchase intention. These findings have implications for marketing strategies and platform positioning in the live streaming e-commerce industry.

## 6. Implications, Limitations, and Future Research

### 6.1. Theoretical Implications

Our research contributes to the understanding of the influencer marketing mechanism by highlighting the role of emotional stimulation and attachment in addition to trust and identification mechanisms. Unlike traditional influencer marketing, which focuses on consumer recognition of platform information, our study emphasizes the emotional connection between the influencer and consumers, rather than the platform itself. This sheds light on the unique influence of live streamers as influencers who represent themselves and evoke emotional connections. Comparing the trust and attachment mechanisms, we find that live streamers have a significant impact on consumers through emotional connections, in addition to their role as sales representatives for the platform.

Furthermore, our study extends the application of brand attachment theory, data elementalization and platform ecology theory by examining streamer attachment in the context of live streaming e-commerce. We propose that streamer attachment is formed through the accumulation of customer experience, interactive processes, persuasive functions, and changes in consumer attitudes. This aligns with the operations of live streamers in attracting live viewers. By applying brand attachment theory to the study of live streamer attachment mechanisms, we demonstrate that positive customer experiences can help live streamers establish attachment relationships with consumers, thereby stimulating purchase intention. Our research not only illustrates the existence of the live streamer attachment mechanism in live e-commerce but also expands the application field of brand attachment theory.

### 6.2. Managerial Implication

Our research provides valuable insights for platform companies in the live streaming e-commerce industry. Firstly, platforms should identify and promote live streamer branding. Live streamers are often perceived as mere marketing tools, overshadowed by the platform's scale, products, and service guarantees. However, our findings emphasize the significant mediating role of live streamers in marketing activities. They can promote goods and services while establishing emotional relationships with consumers, indicating a growing trend of live streamer branding. Platforms should pay attention to this development and identify live streamers with strong expressive abilities who can effectively demonstrate the platform's advantages and establish a reliable image. Moreover, platforms should select friendly live streamers and even provide training courses to enhance their ability to resonate with consumers through speech, facial expressions, body movements, and more. Platform companies in live streaming e-commerce must also identify their positioning and strategic goals. Depending on their goals, platforms can find or cultivate live streamers who align with their unique characteristics. Live streamers who can stimulate purchase intention or evoke attachment emotions are valuable assets. Their presence can differentiate the platform and influence consumers' decisions to purchase on the platform.

Secondly, we recommend exploring the application of digital technology and data elements in marketing. It is also essential to recognize the impact of data elements in digital

platform. With the rapid development and application of digital technology, data have become a new factor of production. Although AI live streamers with 3D images and human-like voices exist in the field of live e-commerce, they have not yet gained significant popularity. Our research suggests that AI live streamers struggle to establish emotional connections with consumers. However, advancements in information technology, such as neural network learning technology, could potentially enhance the emotional expression capabilities of AI live streamers. Further research should focus on leveraging digital technology and data applications to improve emotional connections in AI-driven live streamers.

Finally, for individuals working in the live streamer industry, we emphasize the importance of platform quality. The quality of the platform significantly influences the mediating role of live streamers. Therefore, live streamer practitioners should choose platforms that offer quality assurance. A live streamer's role goes beyond promoting platforms, products, and services; they also need to establish emotional relationships with consumers. Live streamers who can evoke genuine emotions are more likely to attract and retain consumers, ultimately building their own brand value. It is crucial for live streamer practitioners to identify their target consumer groups and develop a personal style that resonates with consumers, rather than solely acting as salespeople.

*6.3. Limitations and Future Research*

Our study has certain limitations that warrant future research. Firstly, the division dimensions of sensory experience, emotional experience, thinking experience, action experience, and association experience used in our customer experience scale showed poor reliability and validity. This may be because these dimensions were initially derived from research on traditional e-commerce consumers, and live streaming e-commerce consumers differ significantly. Future studies should aim to further refine the scale and provide a more accurate measurement of emotional relationships in the live e-commerce context.

Additionally, we recommend expanding future research to include marketing ethics theory. While live streamer marketing enhances marketing performance, it also brings negative effects such as advertising fraud and malicious competition. Understanding the influencing factors and mechanisms of live streamers in marketing ethics is an important but less explored social issue that merits further investigation.

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