

# The Driving Factors Analysis of Live Streamers' Characteristics and Perceived Value for Consumer Repurchase Intention on Live Streaming Platforms

Zhaoyang Meng, Fujian Jiangxia University, China

Mengyi Lin, Fujian Jiangxia University, China\*

## ABSTRACT

Consumers' online stickiness and repurchase intention are important issues in the marketing of the global live streaming industry, but there is no clear consensus on its influencing mechanism. Based on the theoretical framework of stimulus-organism-response (SOR), this study validates the research model and hypotheses through structural equation modeling (SEM). The model of influencing factors of live streamers' characteristics (professionalism, credibility, attractiveness, and interactivity) and perceived value of live streaming platforms has been established to testify how they influence the online satisfaction and online trust of global consumers, which further has impact on online stickiness and eventually on repurchase intention. Online trust and online stickiness have a significant impact on consumers' continuous purchase. Among them, the interactivity of live streamers significantly affects online trust, and the perceived context value of live streaming platforms significantly affects online satisfaction.

## KEYWORDS

Live Stream E-Commerce, Live Streamer Characteristics, Online Stickiness, Perceived Value on the Platform, Repurchase Intention

## INTRODUCTION

In recent years, platforms such as TikTok, Meta, YouTube, Instagram, Facebook, Amazon, Shopee and Lazada have gradually introduced the live streaming function to consumers around the global. The emergence and popularity of live-streaming e-commerce have changed the trading form of traditional global e-commerce. Big data analysis forms a recommendation based on interest according to users' preferences. On the platform, e-commerce operators can enter the browsing interface of consumers through interest recommendations, which breaks away from the situation where such interface can only be displayed through consumers' searching. Meanwhile, combined with the real-time interactivity of live streaming, live streamers and live streaming rooms can form active recommendations through their labels, which can effectively deliver sales-promoting information to the audience, enhance the

DOI: 10.4018/JOEUC.323187

\*Corresponding Author

This article published as an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

targeting function of live streaming, and improve the success rate of achieving sales goals. So far, live streaming has been a business profit earning model of influencers' economy. Composed of four elements—live streaming platforms, live streamers, live stream products, and live stream audience—live stream shopping, different from traditional online shopping, which requires item searching, can convey more timely, complete, accurate, and efficient information than conventional online shopping. Featuring multi-subject real-time interaction, live stream shopping provides consumers with rich, convenient, and three-dimensional products and related clues (Li, et al., 2021), reconstructs the trust mechanism between companies and users, and shortens the time for users to make decisions.

Live streaming e-commerce has rapidly developed into a mature economic module in the industry in terms of personnel, technology, platform, and operation mode. The competition among platforms and the private traffic of live streamers are also more intense. In addition to users' preferences on live streaming platforms, due to the opportunity of "face-to-face" communication with live streamers, their information sources characteristics such as appearance, personality, and professionalism are likely to have a potential impact on consumers' emotion, cognition, and behavior (Liu et al., 2020). Especially in the era of influencers' marketing as a mainstream of economics, the influencers' effect will dramatically enhance the impact on marketing.

In the past, many scholars have had helpful discussions on live-streaming marketing from different aspects. For live streaming e-commerce, current studies are mostly from the perspectives of concept, connotation, characteristics, mechanism, effect, and characteristics of live streamers (Liu, & Shi, 2020), such as understanding the role of trust in live streaming e-commerce from the perspective of social technology (Zhang et al., 2021), and discussing the crisis of trust in live streaming shopping (Li & Zhou, 2020). In addition, Zeng & Huang (2021) took persuasion theory as the primary perspective and discussed the audience's purchase intention with the perceived interactivity of persuasion subject (popularity, professionalism, attractiveness), persuasion information, and persuasion situation. Liu, et al., (2020) discussed the influence of influencers' live streaming on consumers' purchase intention and its mechanism. Based on the Stimulus-Organism-Response (SOR) theory, some scholars explored the effective mechanism of the atmosphere characteristics of social e-commerce platforms on consumers' intention of continuous purchase (Huang, Xiao & Jin, 2020). Social e-commerce platforms integrate the advantages of e-commerce platforms, social platforms, live streamers' personal and commodity display platforms. Due to the continuous interaction of many factors, comprehensive research and analysis on live-streaming platforms have not yet been conducted. However, traditional e-commerce has formed the operation basis of interest. One of the critical opportunities to promote the sustainable development of live stream e-commerce is to reconstruct the influencing factors that affect consumers' online stickiness and repurchase in a way that better reflects the characteristics of the platform and its marketers and make full use of the positive impact of these factors.

Based on the analysis above, this study focuses on theoretical and empirical analysis, employs the Stimulus-Organism-Response (SOR) model, refers to the two dimensions of live streamers' characteristics and live streaming e-commerce platforms as the front-end variables of stimulation, consumers' online trust and online satisfaction as the mediating variables of organism, consumers' online stickiness and repurchase intention as the rear-end variables of response, and focuses on the e-commerce platform promoting transactions through live streaming. Considering consumers among the live stream audience as research objects, data from the questionnaire survey were investigated to figure out the continuous influencing factors of consumers' purchase on live streaming platforms, explore the influencing factors of live streamers' characteristics and live streaming platforms on consumers' online stickiness, and repurchase intention in live streaming e-commerce, so as to deeply study how live streamers' characteristics and live streaming platforms stimulate consumers' online stickiness and provide valuable and attractive scenarios and contents according to consumer demands. This then forms a theoretical model of live streamers and the perceived value of live streaming platforms. The results of this study can provide marketing ideas and suggestions for live streaming shopping, help stakeholders to scientifically carry out relevant activities, promote the service of live

streamers and live streaming platforms, increase consumers' repurchase intention, and boost the development of a new digital economy.

This study contains the following parts. First, the research dimension is certified in combination with previous studies and research. Second, the research hypotheses are put forward. The third part is a questionnaire based on studies and research in the past in which consumers were recruited online to fill out questionnaires, which was then collected as data. The fourth part analyzes the data of the third part of the questionnaire survey and verifies the research hypotheses. The fifth part summarizes the research findings, discussions and conclusions, and recommendations for future research are explored in the final part.

## **THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES**

### **Stimulus-Organism-Response**

Stimulus-Organism-Response (SOR) is a new theoretical model of consumer behavior proposed by environmental psychologists Mehrabian and Russell based on the "stimulus-response" theory of Watson, the founder of behaviorist psychology (Chen, Wang, & Zhang, 2021). The model contains three key elements, namely "stimulus-organism-response," which has been widely used in related research on online consumption behavior patterns in recent years (Liu, 2022). Stimulus (S) is the external environmental factors of the organism. In contrast, organism (O) is a transforming psychological mechanism for users to internalize stimulus into information, and response (R) represents appropriate reactive behavior of users to the information content of external stimulation (Mehrabian & Russell, 1974). In the scenario of live streaming e-commerce, consumers are to some extent affected by some "stimulus" factors in the process of live streaming, such as live streamers' professional knowledge of the products or services they sell, accurate and reliable delivery of the information of products or services, their personal appearance, personality, and the immediate and positive interaction with consumers in live streaming, or consumers' perception of the use of live streaming platforms, including the content recommended to consumers by live streaming platforms through big data, platform usage situation, visual atmosphere, interactive interface, and safe transactions. All of these components will induce trust in the information sources of live streaming platforms from the "organism" (i.e. consumers), changing their emotional or cognitive satisfaction towards online consumption, and finally generating online loyalty and stickiness towards live streamers and live streaming platforms as well as "response" to demands on products or services. Therefore, this study believes that taking the SOR theory as the research framework and expanding it is the theoretical basis for studying the impact of live streamers' characteristics and the perceived value of live streaming platforms in live streaming e-commerce on consumer behavior.

## **RESEARCH HYPOTHESES**

### **Online Stickiness and Repurchase Intention**

User stickiness measures a website's ability to attract and retain users' attention and more durable visits (Davenport, 2000). Lin (2007) defined stickiness as the time customers spend on an e-commerce website, including one-time visits or revisits. The frequency and duration of users' revisits are essential indicators of stickiness. Therefore, online stickiness, focusing on the revisits and continuous behavior of users, refers to the ability of a website to attract users to extend their stay, browse the website deeply, and revisit it frequently. Commercial monetization has become the focus of major companies today, and cultivating website users' persistence is one of the main strategies to increase transaction volume (Zott, Amit, & Donlevy, 2000). Stickiness is found to make significant contributions to e-retailers' bottom lines (Lin et al., 2010). Studies have shown that a user with high stickiness to a preferred website is likely to be converted from a visitor to a real consumer (Venkatesh & Agarwal, 2006), directly

affecting the user's purchase intention (Wang, 2010). Live stream e-commerce has greatly changed how consumers make purchase decisions. The low transfer cost of online transactions determines the low repetition rate of online consumption. Users do not have a strong sense of belonging or loyalty to a specific website as to a brand, but the unique IP attribute of live streamers strengthens user stickiness. Therefore, this study sets the indicator of online stickiness as the duration of stay of the live streamer. The respondent follows and revisits to the live streaming platform used by the live streamer to certify online stickiness generated by the following live streamer and live streaming platform.

Relevant literature has proved that online stickiness has a positive impact on online users' purchase intention. For example, Chen and Tsai (2020) found that online stickiness of brand community positively impacts consumers' repurchase intention, and Liu and Xu (2011) confirmed that online stickiness has a significant positive impact on consumers' repurchase intention. Therefore, the platform of live stream e-commerce needs to gain in-depth insight into the driving factors that cause user stickiness in order to increase the repurchase intention of products. Accordingly, this study proposes the following hypothesis:

**H1:** The online stickiness of consumers on live-streaming platforms positively impacts repurchase intention.

### Online Trust

Trust, one of the main factors that promote purchase (Lăzăroiu et al., 2020), is also considered the core variable associated with customers in the long run (Tirtayani & Sukaatmadja, 2018). Moorman, Deshpande, and Zaltman (1993) defined customer trust as "the intention of a person to have confidence in a transaction partner and consider it reliable." Due to the strong interactivity of live stream e-commerce, it is easier to gain users' trust. Previous research has proved that trust is a key factor for the success of e-commerce. It can increase users' intention to revisit websites (Bomil & Ingoo, 2003) and increase their purchase intention (Pavlou, 2003). The research conducted by Li, Browne and Wetherbe (2006) found that customers will revisit and choose their favorite website and that customers' trust influences these intentions. The higher the consumers' trust in the website, the stronger their purchase intention (Bilal et al., 2021; Leeraphong & Mardjo, 2013). Therefore, consumers' trust is a prerequisite for their online purchasing decisions (Hidayat et al., 2021).

Trust is regarded as the most significant advantage of live streaming, but in practice, live streaming dedicated to promoting trust has repeatedly caused trust crises due to fraud (Li & Zhou, 2020). Previous studies have shown that online trust significantly impacts online consumers' repurchase intention (Xu & Liu, 2011), which is driven by their perceived trust (Zhang et al., 2021). Live streaming technology facilitates more transparent transactions during which live streamers can directly respond to the audience, and the audience can actively participate in and influence live streaming (Hilvert-Bruce et al., 2018), which is critical to building trust. As a result, if the live streaming platform can establish and maintain users' trust in online transactions, perceived risks can be effectively reduced, and consumers' purchase intention enhanced. In addition, trust is also an essential prerequisite for attracting consumers to visit the platform frequently. Based on the analysis above, this study proposes the following hypotheses:

**H2:** The online trust of consumers on live streaming platforms positively impacts online stickiness.

**H3:** The online trust of consumers on live streaming platforms positively impacts repurchase intention.

### Online Satisfaction

Oliver (1980) defined consumers' satisfaction as satisfaction with the cost-effectiveness of purchased goods or services, directly affecting continuous purchase. Liu and Xu (2011) confirmed that consumers' online stickiness is mainly originated from their satisfaction with the website, and online

satisfaction has a significant impact on consumers' repurchase intention, playing an intermediary role in the process where the characteristics of live streaming e-commerce affect consumers' repurchase intention. The features of live streaming platforms and live streamers positively promote consumers' immersive experience and satisfaction (Huang, Deng & Xiao, 2021). In live stream e-commerce, online satisfaction is an evaluation of consumers on the services provided by live streamers and the live streaming platforms, which is a collection of multi-dimensional evaluations: a systematic evaluation mechanism based on the subjective feelings when watching the live streaming, consumers' perception of live streamers' behavior, comfortable interface interaction design, and experience of the transaction process in the live streaming room.

In this study, online satisfaction is an important referential factor in the self-upgrading process of the live streaming platform, and an important means for it to accumulate users and expand the boundaries of users' cognition. As the live streaming platform, it is necessary to take online satisfaction as a key factor for self-verification. Accordingly, this study proposes the following hypotheses:

- H4:** The online satisfaction of consumers on live streaming platforms positively impacts online stickiness.  
**H5:** The online satisfaction of consumers on live-streaming platforms positively impacts repurchase intention.

### Live Streamers' Characteristics

E-commerce live streamers refer to the online sales groups that introduce and try products through live streaming, providing consumers with product demonstrations and promoting online purchases (Xie et al., 2019). Past research has found that the live streamer's personal charm and interactivity can positively affect users' purchase decisions by enriching their emotional experience (Li et al., 2018). Wongkitrungrueng et al. (2020) concluded that the social characteristics of e-commerce live streamers will significantly affect consumers' trust and recognition of sellers, which further affects consumers' repurchase intention. Liu et al. (2020) used NVIVO 10 to summarize the characteristics of the information source of live streamers, including credibility, professionalism, interactivity, and attractiveness, and verified that they affect purchase intention through the consumers' perceived value. The personality characteristics of live streamers is an essential factor to attract audience, especially during live streaming shopping where live streamers themselves are not the spokesperson of the companies or products. Rather, they play the role of "endorsers," "advertisement publisher," or "advertisers." Once the live streamer has a personal brand effect, a high degree of brand attachment can give consumers a more satisfactory experience, a positive evaluation of the brand, and even increase consumer behavior commitment. The live streamer has become the opinion leader in live stream e-commerce and has influenced the sales of the goods it sells with personalized brand effect. Therefore, in this study:

1. Live streamers' credibility refers to whether consumers believe that the live streamers they follow are honest and fair. In live stream e-commerce, consumers can enjoy more intuitive and interesting shopping experiences while obtaining more comprehensive and diversified product information. As a result, consumers suffering from information overload are increasingly valuing reliable sources of information (Luo et al., 2021).
2. Live streamers' professionalism refers to their understanding in the field of the products they sell (Zeng & Huang, 2021). Usually, consumers have a higher sense of trust in the professional live streamer who has extensive experience introducing products. Live streamers' professionalism represents their ability to recommend products based on their knowledge and experience (Yuan, Kim, & Kim, 2016). Fang(2014) showed that suggestions from members with higher expertise on social shopping platforms are more useful and valuable. In the same way, this study believes that more professional live streamers are more likely to arouse positive emotions of the

audience towards themselves and the live-streaming contents. Through professional capabilities, e-commerce live streamers can establish fan trust, thereby shortening consumers' decision-making time, achieving a higher product conversion rate, and promoting the development of live stream e-commerce (CITICS, 2019).

3. Live streamers' interactivity is a psychological state that users experience in online interaction. It is the atmosphere users create through the network to perceive mutual influence and interaction (Floh, 2013). As a unique feature of live-stream e-commerce, interactivity can bring an immersive and engaging shopping experience, resulting in more intimate relationships (Wohn & Guo, 2018). Moreover, interactivity will also have a significant positive correlation with the purchase intention of the online audience (Zeng & Huang, 2021).
4. Live streamers' attractiveness refers to whether consumers think the live streamer is attractive based on personal style, appearance, and unique personalities that possibly exist.

According to scholars' research and combined with live stream e-commerce, this study mainly explores the impact of four aspects of live streamers' features (professionalism, credibility, attractiveness, and interactivity) on consumers' online satisfaction and online trust. Relevant hypotheses are put forward as follows:

- H6:** The live streamer's professionalism has a positive impact on consumers' online satisfaction.
- H7:** The live streamer's professionalism has a positive impact on consumers' online trust.
- H8:** The live streamer's credibility has a positive impact on consumers' online satisfaction.
- H9:** The live streamer's credibility has a positive impact on consumers' online trust.
- H10:** The live streamer's attractiveness has a positive impact on consumers' online satisfaction.
- H11:** The live streamer's attractiveness has a positive impact on consumers' online trust.
- H12:** The live streamer's interactivity has a positive impact on consumers' online satisfaction.
- H13:** The live streamer's interactivity has a positive impact on consumers' online trust.

### Perceived Value of Live Streaming Platforms

Lin (2007) defined three dimensions of website value: perceived content value, context value, and infrastructure value. Unlike other websites, live streaming platforms are based on e-commerce transaction platforms and their infrastructure, and they realize their functional attributes with the live streaming module. The perceived content value, perceived context value, and perceived infrastructure value of live streaming platforms are the embodiment of value based on further refined live streaming functions, such as the scene and design of details in the live streaming room, the design of the live streaming interface on consumers' mobile phones, and the settings of transaction process. Cyr (2008) showed that the navigation design, visual design, and information design of websites significantly affect users' loyalty through the mediation of satisfaction and trust, resulting in repeat purchases (Srinivasan, Anderson, & Ponnabolu, 2002). Previous studies and research have confirmed that content and context significantly affect customers' loyalty by mediating customers' attitudes. Although infrastructure does not significantly impact loyalty, it significantly affects customers' attitudes (Lu & Lin, 2002). Liu & Xu (2011) also confirmed that these three dimensions significantly impact online stickiness, online trust and online satisfaction on consumers' repurchase intention (Liu & Xu, 2011; Feng et al., 2021).

In this study, perceived content value of live streaming platforms first relies on the interactive design and interface content organization of e-commerce transaction platforms and is then realized through consumers' subjective feelings brought about by live streamers' product selection, product information, and services. Perceived context value refers to the users' perception of the effectiveness of the interactive interface design of live streaming platforms such as the comfort level and attractiveness of fonts and color matching, which depends more on the scene and design of details in the live streaming room, and the interface design on consumers' mobile phones. Perceived infrastructure value

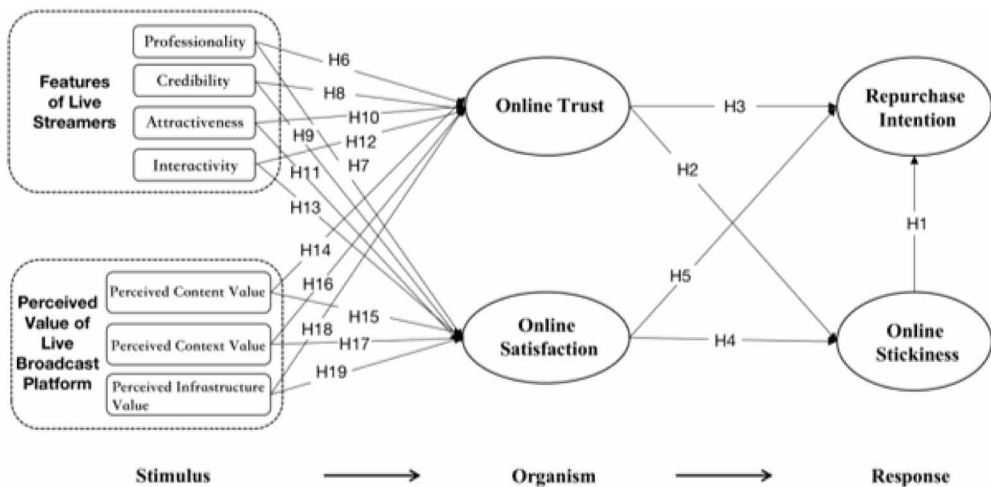
refers to consumers' perception of the efficiency of the platform's infrastructure, which is reflected in services such as the comfort level of the transaction and browsing process in live streaming and the organization of interactive functions on the platform.

- H14:** The perceived content value of consumers on live-streaming platforms has a positive impact on online satisfaction.
- H15:** The perceived content value of consumers on live-streaming platforms has a positive impact on online trust.
- H16:** The perceived context value of consumers on live-streaming platforms has a positive impact on online satisfaction.
- H17:** The perceived context value of consumers on live-streaming platforms has a positive impact on online trust.
- H18:** The perceived infrastructure value of consumers on live-streaming platforms has a positive impact on online satisfaction.
- H19:** The perceived infrastructure value of consumers on live-streaming platforms has a positive impact on online trust.

## RESEARCH MODEL

Based on the theoretical background and the above hypotheses, this study draws on the technical path of previous research. It combines the conceptual model of Liu and Xu (2011) to build a theoretical model of Stimulus-Organism-Response (SOR) (as shown in Figure 2). Empirical tests were conducted to demonstrate that external factors like live streamers' characteristics in live stream e-commerce, namely professionalism, credibility, attractiveness, and interactivity, and the perceived value of live streaming platforms, namely perceived content value, perceived context value, and perceived infrastructure value (stimulus) have a psychological transforming mechanism (organism) upon consumers' online satisfaction and online trust, and the reactive behavior of how perceived values in live streaming affect online stickiness and repurchase intention (response).

Figure 1. Research model



## RESEARCH DESIGN AND METHOD

### Questionnaire Design

To ensure the reliability of this study, the measurement indicators used are set according to the scales verified in current studies and research (Liu et al., 2020; Lin, 2007; Ohanian, 1990; Ohanian, 1991; Jin, 2007; Davis, 1989; Aladwania & Palvia, 2002; Rusbult, Martz, & Agnew, 1998; Gfen, 2000; Yi, 1990). Six consumers with rich shopping experiences on the live streaming platform were invited to conduct in-depth interviews. Later, the questionnaire was optimized based on the characteristics of the research topic with 42 items eventually determined. The final questionnaire was divided into two parts: The first part collects the basic information of users, while the second part is the behavior research, which mainly focuses on the online stickiness and the predisposing factors that affect the online stickiness, including characteristics of live streamers, the perceived value of the live streaming platform, online satisfaction, online trust, and repurchase intention influenced by online stickiness (see as Table 1).

### Data Collecting

The study was conducted through an online questionnaire from November 2021 to February 2022, and the respondents were all from China. A total of 481 valid questionnaires were collected, 10 times the number of analyzed items (42), which meets Jackson's standard that the ratio of estimated parameters to the number of samples should not be more than 1/10 (Jackson & Dennis, 2003). In addition to basic personal information, all items were measured on a seven-point Likert scale (1=strongly disagree, 7=strongly agree), based on which subsequent data analysis was carried out. The basic information about the respondents is shown in Table 2.

In terms of gender, female respondents accounted for 59.67%, and male 40.33%. From the perspective of age, most of the respondents were "21 to 30 years old," accounting for 41.79%, followed by "31-40 years old," accounting for 31.39%. In terms of educational background, most of the respondents were "undergraduate," a total of 249, accounting for 51.77%. As for monthly income, most respondents chose "6001-12000 RMB," which accounts for 39.92%. When it came to the number of live streamers they had followed, "7-8" was mostly chosen, with the highest proportion of 18.92%. As for the purchasing frequency on live streaming platforms, "often, more than 10 times" was more chosen than other ones, with the proportion of 41.16%.

## DATA ANALYSIS AND RESULTS

### Reliability and Validity Test

This study adopts Cronbach Alpha to measure the internal reliability of the questionnaire. The results showed that the Cronbach Alpha values of professionalism, credibility, attractiveness, interactivity, perceived content value, perceived context value, perceived infrastructure value, online satisfaction, online trust, online stickiness, and repurchase intention are 0.959, 0.946, 0.958, 0.959, 0.957, 0.943, 0.959, 0.960, 0.918, 0.951, and 0.928, respectively, all greater than 0.7 (Nunnally, 1967). This means that each item of the questionnaire is internally consistent, so the reliability of the results is excellent. Meanwhile, the CITC value of each item and the deleted Cronbach Alpha all meet the research requirements, and all items are measurements of the same concept, meaning there is no need to delete any. To summarize, the results of this study have passed the reliability test.

In this study, Exploratory Factor Analysis was employed to evaluate the construct validity of the questionnaire. The KMO value in this study is 0.976, more significant than 0.9, so the questionnaire data in this study meet the standards for factor analysis. The Cumulative % of Variance of the 11 factors is 88.34%, greater than 60%, which means that the information amount of research items can be effectively extracted. In addition, the absolute value of the factor loading coefficient of each



Table 1. Questionnaire design and literature source

Latent Variable	Latent Variable	Coding	Item	Source
Features of Live Streamers	Professionalism	PR1	The live streamers I follow have rich experience in introducing products.	Liu et al., 2020; Ohanian, 1990
		PR2	The live streamers I follow have rich expertise in the products they sell.	
		PR3	The live streamers I follow have rich experience in the products they sell.	
		PR4	The live streamers I follow are experts in the field of the products they sell.	
	Credibility	CR1	The advertisement by the live streamers I follow during their live streaming is trustworthy.	Liu et al., 2020; Ohanian, 1990
		CR2	The live streamers I follow do not deliver exaggerated or false advertising during their live streaming.	
		CR3	The live streamers I follow recognize the products they sell.	
		CR4	The live streamers I follow are honest and fair.	
	Attractiveness	AI1	I like the personal appearance of the live streamers I follow.	Ohanian, 1990; Ohanian, 1991
		AI2	The appearance of the live streamers I follow is outstanding.	
		AI3	The live streamers I follow are attractive in appearance.	
		AI4	The live streamers I follow have unique personalities.	
	Interactivity	IN1	The live streamers I follow have a good interaction with me during their live streaming.	Liu et al., 2020
		IN2	The live streamers I follow have a good interaction with the audience during their live streaming.	
		IN3	The live streaming contents of the live streamers I follow allow me to participate effectively.	
		IN4	When interacting with the live streamers I follow, I can always easily get the information I need from him or her.	
Perceived Value of Live Broadcast Platform	Perceived Content Value	PCNY1	The contents of the live streaming platform used by the live streamers I follow is useful.	Jin,2007; Davis, 1989
		PCNY2	The contents of the live streaming platform used by the live streamers I follow are comprehensive.	
		PCNY3	The contents on the interface of the live streaming platform used by the live streamers I follow are well organized.	
		PCNY4	The contents recommended to me by the live streaming platform used by the live streamers I follow are very novel.	
	Perceived Context Value	PCXV1	The interactive design of the interface of the live streaming platform used by the live streamers I follow is well organized.	Aladwania & Palvia, 2002
		PCXV2	The fonts of the live streaming platform used by the live streamers I follow look very comfortable.	
		PCXV3	The colors of the live streaming platform used by the live streamers I follow are well matched.	
		PCXV4	The live streaming platform used by the live streamers I follow looks attractive.	
	Perceived Infrastructure Value	PIV1	The loading speed of the live streaming platform used by the live streamers I follow is very fast.	Aladwania & Palvia, 2002
		PIV2	The live streaming platform used by the live streamers I follow is easy to navigate.	
		PIV3	The live streaming platform used by the live streamers I follow guarantees safe shopping.	
		PIV4	The live streaming platform used by the live streamers I follow has many interactive features (such as leaving messages and shopping).	

continued on following page

Table 1. Continued

Latent Variable	Latent Variable	Coding	Item	Source
Online Satisfaction	OSA1		I am very happy with the shopping experience on the live streaming platform used by the live streamers I follow.	Rusbult, Martz, & Agnew, 1998
	OSA2		The live streaming platform used by the live streamers I follow can meet my needs very well.	
	OSA3		I'm satisfied with the live streaming platform used by the live streamers I follow.	
	OSA4		The live streaming platform used by the live streamers I follow makes me very happy.	
Online Trust	OT1		I trust the live streaming platform used by the live streamers I follow.	Gfen, 2000
	OT2		I think the live streaming platform used by the live streamers I follow is trustworthy.	
	OT3		Even without supervision, I believe that the live streaming platform used by the live streamers I follow can do a good job.	
Online Stickiness	OST1		In the future, I plan to spend more time on the live streaming platform used by the live streamers I follow.	Lin, 2007
	OST2		I tend to stay longer on the live streaming platform used by the live streamers I follow than other ones.	
	OST3		If possible, I will often visit the live streaming platform used by the live streamers I follow.	
	OST4		Every time I go online, I want to surf the live streaming platform used by the live streamers I follow.	
Repurchase Intention	RI1		I tend to continue my purchase on the live streaming platform used by the live streamers I follow.	Yi, 1990
	RI2		I'm very willing to make another purchase on the live streaming platform used by the live streamers I follow.	
	RI3		I look forward to making another purchase in the near future on the live streaming platform used by the live streamers I follow.	

dimension is greater than 0.5. Therefore, it is fair to say that the questionnaire in this study features good construct validity.

### Confirmatory Factor Analysis

AMOS23.0 was used for Confirmatory Factor Analysis (CFA), and the convergent validity of the scale was analyzed with Combined Reliability (CR) and Average Variance Extraction (AVE). In the hypothetical model of this study, there are 11 latent variables, namely professionalism, credibility, attractiveness, interactivity, perceived content value, perceived context value, perceived infrastructure value, online satisfaction, online trust, online stickiness, and repurchase intention. The results of the CFA model in this study are shown in Figure 2.

According to the evaluation criteria of model fitting index, the CFA indexes in this study all meet the standard as shown in Table 4 ( $\chi^2/df=1.789<3$ ,  $NFI=0.949>0.9$ ,  $IFI=0.977>0.9$ ,  $TLI=0.974>0.9$ ,  $CFI=0.977>0.9$ ,  $GFI=0.883>0.8$ ,  $RMSEA=0.041<0.08$ ). Table 5 shows that the standardized factor loading coefficients of all indicators are greater than 0.5, as are each variable's AVE values (Fornell & Larcker, 1981). In addition, the CR values are all above 0.7. Therefore, all latent variables in this study feature sufficient convergent validity (Hair et al., 1998).

Table 2. Basic information and characteristics of respondents (N = 481)

Items	Categories	Frequency	Percent (%)
Gender	Male	194	40.33
	Female	287	59.67
Age	Under 20	46	9.56
	21 to 30	201	41.79
	31 to 40	151	31.39
	41 to 50	50	10.4
	51 to 60	33	6.86
Educational Background	Primary school and below	27	5.61
	Junior high school	33	6.86
	Ordinary high school/special secondary school/ technical school/vocational high school	47	9.77
	College degree	78	16.22
	Bachelor degree	249	51.77
	Master degree	47	9.77
Monthly income	Less than 4000 RMB	72	14.97
	4001 to 6000 RMB	86	17.88
	6001 to 12000 RMB	192	39.92
	12001 to 24000 RMB	88	18.3
	Over 24000 RMB	43	8.94
The number of live streamers you follow	1 to 2	42	8.73
	3 to 4	79	16.42
	5 to 6	88	18.3
	7 to 8	91	18.92
	9 to 10	65	13.51
	Over 10	86	17.88
	None	30	6.24
Purchase frequency through live streaming	Never	39	8.11
	Rarely, less than 5 times	107	22.25
	Occasionally, less than 10 times	137	28.48
	Often, more than 10 times	198	41.16
In total		481	100

## HYPOTHETICAL TEST

### Structural Equation Modeling

The Structural Equation Modeling (SEM) of AMOS 23 was used to verify the research hypothesis of this study. SEM, also known as the Covariance Structure Model, is an important tool for multivariate analysis. The model analyzes the relationship between features based on the covariance matrix of characteristic variables (Whittaker, 2011; Kline, 2015). The SEM results of this study are as follows.

Table 3. Reliability and validity test

Construct	Item	Factor Loading Coefficients	Eigen Value	% of Variance	Cumulative % of Variance	CITC	Cronbach's $\alpha$ after Deletion	Cronbach's Alpha
Professionalism	PR1	0.747	1.153	2.75%	76.74%	0.883	0.951	0.959
	PR2	0.747				0.908	0.944	
	PR3	0.727				0.910	0.943	
	PR4	0.747				0.898	0.947	
Credibility	CR1	0.765	2.243	5.34%	67.17%	0.871	0.928	0.946
	CR2	0.802				0.858	0.932	
	CR3	0.792				0.868	0.929	
	CR4	0.812				0.878	0.926	
Attractiveness	AT1	0.688	1.01	2.40%	81.79%	0.897	0.945	0.958
	AT2	0.740				0.896	0.946	
	AT3	0.718				0.907	0.942	
	AT4	0.670				0.890	0.947	
Interactivity	IN1	0.770	1.568	3.73%	70.91%	0.892	0.947	0.959
	IN2	0.733				0.897	0.946	
	IN3	0.751				0.901	0.944	
	IN4	0.774				0.902	0.944	
Perceived Content Value	PCNV1	0.674	0.848	2.02%	83.81%	0.896	0.943	0.957
	PCNV2	0.643				0.898	0.943	
	PCNV3	0.661				0.906	0.940	
	PCNV4	0.665				0.881	0.948	
Perceived Context Value	PCXV1	0.728	1.11	2.64%	79.38%	0.857	0.928	0.943
	PCXV2	0.726				0.867	0.925	
	PCXV3	0.752				0.856	0.928	
	PCXV4	0.736				0.878	0.921	
Perceived Infrastructure Value	PIV1	0.787	1.297	3.09%	73.99%	0.877	0.952	0.959
	PIV2	0.763				0.904	0.944	
	PIV3	0.714				0.908	0.942	
	PIV4	0.739				0.906	0.943	
Online Satisfaction	OSA1	0.584	0.820	1.95%	85.76%	0.911	0.945	0.960
	OSA2	0.540				0.891	0.950	
	OSA3	0.569				0.908	0.945	
	OSA4	0.542				0.895	0.949	
Online Trust	OT1	0.602	0.459	1.09%	88.34%	0.844	0.874	0.918
	OT2	0.606				0.846	0.872	
	OT3	0.540				0.813	0.900	
Online Stickiness	OST1	0.843	25.969	61.83%	61.83%	0.887	0.934	0.951
	OST2	0.820				0.881	0.935	
	OST3	0.825				0.892	0.932	
	OST4	0.825				0.863	0.940	
Repurchase Intention	RI1	0.648	0.626	1.49%	87.25%	0.848	0.901	0.928
	RI2	0.646				0.851	0.898	
	RI3	0.603				0.862	0.890	

Table 4. Model fitting results of the confirmatory factor analysis

Common Indicators	X2	df	X2/df	NFI	IFI	TLI	CFI	GFI	RMSEA
Evaluation Criteria	-	-	<3	>0.9	>0.9	>0.9	>0.9	>0.8	<0.08
Index Value	1367.156	764	1.789	0.949	0.977	0.974	0.977	0.883	0.041

According to the evaluation criteria of model fitting indexes (Hu & Bentler, 1999), Table 6 shows that the CFA model fitting indicators in this study all meet the criteria ( $X^2/df=1.856<3$ ,  $NFI=0.946>0.9$ ,  $IFI=0.974$ ,  $TLI=0.972>0.9$ ,  $CFI=0.974>0.9$ ,  $GFI=0.877>0.8$ ,  $RMSEA=0.042<0.08$ ).

The results of path coefficients (as shown in Figure 3 and in Table 7) show that professionalism, credibility, attractiveness, interactivity, perceived content value, perceived context value, and perceived infrastructure value all have a significant impact on online trust ( $\beta=0.162$ ,  $p<0.001$ ), ( $\beta=0.122$ ,  $p=0.002<0.01$ ), ( $\beta=0.104$ ,  $p=0.035<0.05$ ), ( $\beta=0.224$ ,  $p<0.001$ ), ( $\beta=0.147$ ,  $p=0.008<0.01$ ), ( $\beta=0.132$ ,  $p=0.002<0.01$ ), ( $\beta=0.152$ ,  $p<0.001$ ), so the path assumptions above are all established. The path assumptions of the impact of professionalism, credibility, attractiveness, interactivity, perceived content value, perceived context value, and perceived infrastructure value on online satisfaction are established, they are ( $\beta=0.150$ ,  $p<0.001$ ), ( $\beta=0.134$ ,  $p<0.001$ ), ( $\beta=0.143$ ,  $p=0.001<0.01$ ), ( $\beta=0.125$ ,  $p=0.001<0.01$ ), ( $\beta=0.154$ ,  $p=0.002<0.01$ ), ( $\beta=0.201$ ,  $p<0.001$ ), ( $\beta=0.148$ ,  $p<0.001$ ). The path assumptions of the impact of online trust on online stickiness ( $\beta=0.239$ ,  $p<0.001$ ) and that of online satisfaction on online stickiness ( $\beta=0.480$ ,  $p<0.001$ ) are established. Moreover, the path assumptions of the impact of online trust, online satisfaction, and online stickiness on repurchase intention are also established. They are ( $\beta=0.341$ ,  $p<0.001$ ), ( $\beta=0.277$ ,  $p<0.001$ ), ( $\beta=0.369$ ,  $p<0.001$ ). All the path tests are established, which further verifies the mediating effect in the model.

### Mediating Effect

The Bootstrap of Amos23 was further used to test the mediating effect. The sample size was set to 5000 (usually more than 1000 as required), and the confidence level of the interval 95% (usually set to 90%, 95% and 99%). The upper and lower bounds of the bias-corrected confidence interval were observed. When the bias-corrected confidence interval of the indirect effect does not include 0, there is a mediating effect.

The results showed that the Bootstrap 95% confidence intervals corresponding to the indirect effect values of online trust's effect on the relationship between professionalism, credibility, interactivity, perceived content value, perceived context value, perceived infrastructure value, repurchase intention, and online stickiness do not contain 0, indicating that the mediating effect of online trust in the above path holds. However, the Bootstrap 95% confidence intervals corresponding to the indirect effect values of online trust's effect on the relationship between attractiveness and repurchase intention as well as online stickiness contain 0, indicating that the mediating effect of online trust in the above paths does not hold. The Bootstrap 95% confidence intervals corresponding to the indirect effect values of online satisfaction's effect on the relationship between professionalism, credibility, attractiveness, interactivity, perceived content value, perceived context value, perceived infrastructure value, repurchase intention, and online stickiness do not contain 0, indicating that the mediating effect of online satisfaction in the above path holds. Moreover, the Bootstrap 95% confidence intervals corresponding to the indirect effect values of online stickiness's effect on the relationship between online satisfaction and repurchase intention and online trust and repurchase intention do not include 0, which indicates that the mediating effect of online stickiness in the above paths holds. The summarized results are shown in Table 8 below.

Table 5. Results of factor loading, average variance extracted, and composite reliability

Latent Variable	Observable Variable	Unstandardized Factor Loading Coefficients	Standard Error	C.R.	p	Standardized Factor Loading Coefficients	Average Variance Extracted	Composite Reliability
Professionalism	PR1	1				0.906	0.855	0.959
	PR2	1.039	0.03	34.916	***	0.932		
	PR3	1.045	0.029	35.578	***	0.938		
	PR4	0.999	0.029	33.915	***	0.923		
Credibility	CR1	1				0.910	0.813	0.946
	CR2	0.991	0.033	30.273	***	0.887		
	CR3	1.024	0.032	31.586	***	0.902		
	CR4	1.011	0.032	32.05	***	0.907		
Attractiveness	AT1	1				0.925	0.852	0.959
	AT2	0.956	0.027	35.428	***	0.917		
	AT3	0.993	0.027	37.410	***	0.932		
	AT4	0.999	0.028	35.667	***	0.919		
Interactivity	IN1	1				0.915	0.852	0.959
	IN2	1.026	0.029	35.239	***	0.926		
	IN3	1.013	0.029	35.384	***	0.927		
	IN4	1.002	0.029	35.151	***	0.925		
Perceived Content Value	PCNV1	1				0.921	0.849	0.958
	PCNV2	1.061	0.029	36.181	***	0.927		
	PCNV3	1.024	0.028	37.038	***	0.933		
	PCNV4	0.982	0.029	33.631	***	0.905		
Perceived Context Value	PCXV1	1				0.889	0.807	0.943
	PCXV2	1.111	0.037	29.872	***	0.902		
	PCXV3	1.013	0.035	28.709	***	0.887		
	PCXV4	1.090	0.035	30.777	***	0.914		
Perceived Infrastructure Value	PIV1	1				0.894	0.853	0.959
	PIV2	1.125	0.034	32.921	***	0.926		
	PIV3	1.113	0.032	34.334	***	0.940		
	PIV4	1.067	0.032	33.63	***	0.933		
Online Trust	OT1	1				0.894	0.790	0.919
	OT2	1.009	0.034	29.389	***	0.897		
	OT3	0.998	0.036	27.836	***	0.875		
Online Satisfaction	OSA1	1				0.932	0.858	0.960
	OSA2	1.009	0.027	36.708	***	0.918		
	OSA3	1.010	0.026	38.448	***	0.931		
	OSA4	1.015	0.027	37.419	***	0.924		

continued on following page

Table 5. Continued

Latent Variable	Observable Variable	Unstandardized Factor Loading Coefficients	Standard Error	C.R.	p	Standardized Factor Loading Coefficients	Average Variance Extracted	Composite Reliability
Online Stickiness	OST1	1				0.913	0.829	0.951
	OST2	1.056	0.032	33.329	***	0.914		
	OST3	1.097	0.032	34.338	***	0.924		
	OST4	1.001	0.032	31.055	***	0.891		
Repurchase Intention	RI1	1				0.891	0.813	0.929
	RI2	0.989	0.034	29.117	***	0.895		
	RI3	1.074	0.035	30.824	***	0.918		

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

Table 6. Fitting results of structural equation modeling

Common Indicators	X2	df	X2/df	NFI	IFI	TLI	CFI	GFI	RMSEA
Evaluation Criteria	-	-	<3	>0.9	>0.9	>0.9	>0.9	>0.8	<0.08
Index Value	1446.011	779	1.856	0.946	0.974	0.972	0.974	0.877	0.042

Figure 3. Results of SEM analysis

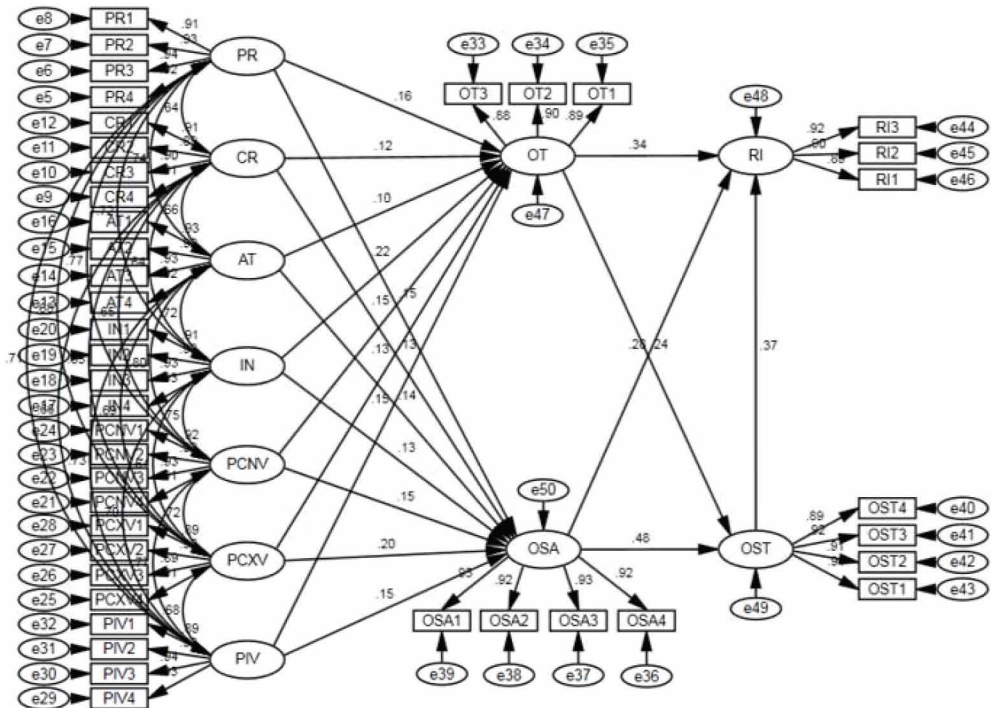


Table 7. Results of path coefficient test

Path			Standardized Regression Coefficients	Unstandardized Regression Coefficients	S.E.	C.R.	P
PR	--->	OT	0.162	0.154	0.044	3.524	***
CR	--->	OT	0.122	0.126	0.04	3.125	0.002
AT	--->	OT	0.104	0.098	0.047	2.103	0.035
IN	--->	OT	0.224	0.198	0.039	5.076	***
IN	--->	OSA	0.125	0.123	0.038	3.223	0.001
PCNV	--->	OT	0.147	0.143	0.054	2.649	0.008
PCXV	--->	OT	0.132	0.143	0.045	3.164	0.002
PIV	--->	OT	0.152	0.154	0.046	3.346	***
PR	--->	OSA	0.150	0.159	0.043	3.66	***
CR	--->	OSA	0.134	0.154	0.04	3.855	***
AT	--->	OSA	0.143	0.15	0.046	3.249	0.001
PCNV	--->	OSA	0.154	0.167	0.054	3.109	0.002
PCXV	--->	OSA	0.201	0.242	0.045	5.369	***
PIV	--->	OSA	0.148	0.167	0.046	3.67	***
OSA	--->	OST	0.480	0.44	0.065	6.821	***
OT	--->	OST	0.239	0.244	0.072	3.376	***
OT	--->	RI	0.341	0.339	0.053	6.405	***
OSA	--->	RI	0.277	0.247	0.049	5.097	***
OST	--->	RI	0.369	0.359	0.038	9.57	***

\*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

## DISCUSSION

The results showed that online stickiness, online trust, and online satisfaction have a significant positive impact on repurchase intention (supporting H1, H3 and H5), among which online trust and online stickiness play a more important role than online satisfaction, and the role of online stickiness is slightly greater than that of online trust, indicating that when users have a strong sense of loyalty and trust in the live streaming platform used by the live streamers they follow, they tend to spend more time on that platform and are more likely to give positive comments on the information provided by the live streaming platform (Liu et al., 2021). Online trust positively impacts online stickiness (supporting H2), indicating that trust in the live streamers can effectively improve the online stickiness of the live streaming platform and further enhance users' willingness to repurchase. In addition, online satisfaction has a significant positive impact on online stickiness (supporting H4). Therefore, the higher the users' satisfaction with the live streaming platform, the more they believe that the platform used by the live streamers they follow can meet their needs and bring more joy, thus increasing their willingness to repurchase on it. The establishment of the hypothesis in this study is consistent with scholars' research on the influence of online satisfaction, online trust, and online stickiness on users' behavioral intentions when using live-streaming platforms (Lin, 2007; Liu & Xu, 2011; Lăzăroiu et al., 2020; Xu & Liu, 2011; Chen & Du, 2022; Chen et al., 2022).



**Table 8. Summary of mediating effect test**

Independent Variable	Mediator	Dependent Variable	Indirect Effects	BootSE	BootLLCI	BootULCI
Professionality	Online Trust	Repurchase Intention	0.055	0.055	0.012	0.114
Credibility	Online Trust	Repurchase Intention	0.042	0.042	0.010	0.090
Attractiveness	Online Trust	Repurchase Intention	0.036	0.036	-0.005	0.085
Interactivity	Online Trust	Repurchase Intention	0.076	0.076	0.035	0.133
Perceived Content Value	Online Trust	Repurchase Intention	0.050	0.050	0.002	0.125
Perceived Context Value	Online Trust	Repurchase Intention	0.050	0.050	0.002	0.125
Perceived Infrastructure Value	Online Trust	Repurchase Intention	0.052	0.052	0.009	0.111
Professionality	Online Trust	Online Stickiness	0.039	0.039	0.009	0.090
Credibility	Online Trust	Online Stickiness	0.029	0.029	0.006	0.072
Attractiveness	Online Trust	Online Stickiness	0.025	0.025	-0.002	0.077
Interactivity	Online Trust	Online Stickiness	0.053	0.053	0.015	0.114
Perceived Content Value	Online Trust	Online Stickiness	0.035	0.035	0.003	0.099
Perceived Context Value	Online Trust	Online Stickiness	0.035	0.035	0.003	0.099
Perceived Infrastructure Value	Online Trust	Online Stickiness	0.036	0.036	0.007	0.090
Professionality	Online Satisfaction	Repurchase Intention	0.042	0.042	0.012	0.091
Credibility	Online Satisfaction	Repurchase Intention	0.037	0.037	0.012	0.077
Attractiveness	Online Satisfaction	Repurchase Intention	0.040	0.040	0.008	0.089
Interactivity	Online Satisfaction	Repurchase Intention	0.035	0.035	0.008	0.082
Perceived Content Value	Online Satisfaction	Repurchase Intention	0.043	0.043	0.002	0.109
Perceived Context Value	Online Satisfaction	Repurchase Intention	0.056	0.056	0.022	0.109
Perceived Infrastructure Value	Online Satisfaction	Repurchase Intention	0.056	0.056	0.022	0.109
Professionality	Online Satisfaction	Online Stickiness	0.072	0.072	0.023	0.142
Credibility	Online Satisfaction	Online Stickiness	0.064	0.064	0.026	0.116
Attractiveness	Online Satisfaction	Online Stickiness	0.069	0.069	0.012	0.145
Interactivity	Online Satisfaction	Online Stickiness	0.060	0.060	0.012	0.129
Perceived Content Value	Online Satisfaction	Online Stickiness	0.074	0.074	0.005	0.165
Perceived Context Value	Online Satisfaction	Online Stickiness	0.074	0.074	0.005	0.165
Perceived Infrastructure Value	Online Satisfaction	Online Stickiness	0.071	0.071	0.022	0.145
Online Satisfaction	Online Stickiness	Repurchase Intention	0.177	0.044	0.103	0.274
Online Trust	Online Stickiness	Repurchase Intention	0.088	0.033	0.030	0.160

Secondly, live streamers' characteristics positively impact online trust and online satisfaction (supporting H6 to H13), among which their interactivity has the greatest impact on online trust, followed by professionalism, credibility, and attractiveness. Among factors which have impact on online satisfaction, the order from strong to weak is professionalism, attractiveness, credibility, and interactivity with no distinct difference. It is obvious that the strength of interaction reflects the value of users' needs. For example, scholars have mentioned that due to the particularity of live stream e-commerce, creating certain ambiance during interactions can inspire intimacy and promote closer states of mind (Zeng & Huang, 2021; Floh, 2013; Deng et al., 2021). Therefore, if the live streamer provides high-quality interactive information (such as fast, accurate, and real response to the audience's inquiries about the product) during live stream, users can acquire the information they need, the live stream atmosphere can be activated, and a shopping atmosphere of trust can be created, which effectively improves users' online trust and satisfaction and has a positive impact on purchase intention (Zeng & Huang, 2021). In addition, the professionalism, attractiveness, and credibility of live streamers, that is, their understanding of the field of products they sell and their real and objective understanding of the products that users feel during the live stream through their introduction to products and replies to users' questions, can stimulate users' trust. Live streamers' attractive appearance and personality can also greatly improve their online satisfaction, significantly impacting online stickiness, also known as users' loyalty to the live streaming platform. The results confirm that professionalism, credibility, attractiveness, and interactivity of live streamers play an important role in boosting users' repurchase intention (Luo et al., 2021; Fang, 2014; Wohn & Guo, 2018; Zeng & Huang, 2021; Feng & Chen, 2022).

Thirdly, the perceived value of the live streaming platform has a positive impact on both online trust and online satisfaction (supporting H14 to H19), among which perceived context value has the greatest impact on online satisfaction, followed by perceived content value. As for the impact on online trust, the order from strong to weak is perceived infrastructure value, perceived content value and perceived context value, with no distinct difference among them. The findings highlight the importance of perceived context value (Cyr, 2008; Lu & Lin, 2002; Aladwania & Palvia, 2002). The results showed that good interactive interfaces of the live streaming platform, such as clear interface planning and appropriate fonts and colors, can provide users with a comfortable visual experience. Besides, the detailed, novel, and useful product introduction, developed interactive services and a safe shopping environment provided by the live streaming platform allow users to gain highly relevant feedback on content needs, which has a positive impact, making users more trusting and satisfied with the live streaming platform they use (Zhang et al., 2022).

Finally, the results of the mediating effect test showed that the mediating effect of online satisfaction in the influential path of live streamers' characteristics on perceived value of the live streaming platform holds, so does that of online stickiness in the influential path of online satisfaction and online trust on repurchase intention. The mediating effect of online trust in the influential path of professionalism, credibility, interactivity, and the three perceived values of the live streaming platform on repurchase intention and online stickiness also hold, while online trust does not have mediating effect on the influential path of attractiveness on repurchase intention or online stickiness. This demonstrates that even if you trust a certain live streamer, the online stickiness and repurchase intention may not be affected by his or her attractiveness. Comparatively speaking, the attractiveness of live streamers depends more on their professional output, their sincere and earnest explanation to the products, and their situational interaction with the live streaming audience in a way that is in harmony with the tonality of the brand and the characteristics of products. Based on such a reliable image and effective interaction, consumers are more loyal and tend to choose the products and brands they recommend, which eventually has a positive impact on online stickiness and repurchase intention.

## CONCLUSION AND FUTURE RESEARCH

### Theoretical Significance

The main contribution of this study is that the applicability of SOR theory in the field of live streaming e-commerce is further confirmed, based on which an analysis model of consumer behavior in live streaming e-commerce is proposed and the deconstruction of consumers as the subject and the characteristics of live streamers and perception towards the live streaming platform as external factors has been conducted, so as to have an effect on consumers' purchase behavior on live streaming platforms in different stages and different relationships. Eventually, a theoretical model is established based on the SOR theory from the perspective of live streamers' characteristics (professionalism, credibility, attractiveness, and interactivity), the perceived value of the live streaming platform (perceived content value, perceived context value, and perceived infrastructure value), online satisfaction, online trust and online stickiness, which discusses the influencing factors of consumers' continuous purchase on the live streaming platform. According to the path analysis in this study, consumers' perceptions of professionalism, credibility, attractiveness, and interactivity of the live streamer, their affirmation of the perceived value of the live streaming platform, and their online trust and satisfaction have direct or indirect effect on their online stickiness and continuous purchase.

### Management Significance

This study provides feasible guidelines for the assembling and daily operation management of the global live stream e-commerce team. Relevant enterprises involved in the field of live streaming e-commerce can improve the management system and performance evaluation standards according to the different stages, different factors, and different modes in the theoretical model of SOR, so as to enhance consumers' stickiness with more specific targets and improve the trading volume of live streaming shopping. First, among the perceived values of live commerce, perceived context value has a significant impact on online satisfaction, so the team of live stream e-commerce needs to be equipped with staff who have the aesthetic ability that fits the market positioning of products and creativity on the Internet, and to realize the scene construction and live stream prop preparation that meet the attributes of Internet communication, further enhancing the realization of perception context value, promoting consumers' online satisfaction, and increasing consumers' online stickiness and repurchase intention. Second, among the characteristics of the live streamer, interactivity has a more significant impact on online trust. In response, global e-commerce companies and operation teams of live stream e-commerce need to pay attention to cultivating the interactive ability of live streamers in the process of recruiting and training. Based on the unique personality of the live streamer, interactive labels with more Internet recognition and memory points can be created, and such public persona needs maintaining to further consolidate consumers' online trust, eventually achieving the improvement of online stickiness and repurchase intention.

### Marketing Significance

In this study, new requirements and development orientations are put forward for practitioners in the global marketing of live commerce industry. The perceived value of the live streaming platform has a positive impact on both online satisfaction and online trust, which means that perceived content value, perceived context value, and perceived infrastructure value can all be transformed into marketing tools based on the structural characteristics of the live streaming platform, which further deepens the positive guiding role of the perceived value of the live streaming platform, improves online satisfaction and online trust, thereby reducing consumers' wariness and cost of sales.

As far as live streamers are concerned, they are important participants of live commerce and independent individuals with personal attributes. Therefore, live streamers' trustworthiness can be improved through professionalism, credibility, attractiveness, and interactivity to raise consumers' attention. Therefore, based on psychological analysis of consumer behavior deduced from individual

characteristics and big data, the live streamers and the broadcasting room can be designed to be more recognizable and memorable, including highly recognizable and memorable lines, exclusive coupons with social and interactive attributes which will deepen consumers' participation, realizing target following, expanding the influence of live streamers, and promoting the proportion of consumption behavior.

### **Limitations and Future Research**

There are still certain limitations in this study. First, the samples of the empirical research are mainly from Chinese consumers, which may lead to the limitation of sample coverage. In further research, expanding the scope of respondents will help build a better universality of the influencing factor model for consumers' repurchase intention. Second, in this study, brand trust of products or services sold in live streaming is not taken as an influencing factor. As an important section in the complete chain of live streaming e-commerce, after-sales service is not discussed, which can be a direction for future research. Moreover, this study has not considered special features of the cities where the respondents live. Still, there do exist certain differences among the consuming groups in coastal cities and inland cities, and among those in first-tier, second-tier, and third-tier cities in the current online consumption environment. Therefore, in the follow-up research, factors such as live streaming platform attributes, live streamers' characteristics, and audience location should be combined for more extensive research. Finally, it is suggested that in the future researchers also study the influence of live streaming consumers' generation and gender on their repurchase intention so that operators can improve their services for different consuming groups.

### **FUNDING**

This research was funded by Fujian University Humanities and Social Sciences Research Base-Cross media design research center project (16KPSS03). This work was supported by Fujian Province Undergraduate Education and Teaching Reform Research Project "Research on the Training Model of New Liberal Arts Compound Creative Talents under the Rural Revitalization Strategy," Project no. FBJG20210206. 2021 Fujian Jiangxia University scientific research projects (Project No. JXS2021010).

## REFERENCES

- Aladwania, A. M., & Palvia, P. C. (2002). Developing and validating an instrument for measuring user-perceived web quality. *Information & Management*, 39(6), 467–476. doi:10.1016/S0378-7206(01)00113-6
- Bai, S., Yin, Y., Wu, Y., Zhang, J. Z., Yu, Y., & Jasimuddin, S. M. (2022). Consumer engagement on social networking sites: The antecedents and mediating mechanism. *Journal of Organizational and End User Computing*, 34(1), 1–19. doi:10.4018/JOEUC.307567
- Bilal, M., Jianqiu, Z., Dukhaykh, S., Fan, M., & Trunk, A. (2021). Understanding the effects of eWOM antecedents on online purchase intention in China. *Information (Basel)*, 12(5), 192. doi:10.3390/info12050192
- Bomil, S., & Ingo, H. (2003). The impact of customer trust and perception of security control on the acceptance of electronic commerce. *International Journal of Electronic Commerce*, 7(3), 135–161. doi:10.1080/10864415.2003.11044270
- Cai, L., Lu, S., & Chen, B. (2022). Constructing technology commercialization capability: The critical role of user engagement and big data analytics capability. *Journal of Organizational and End User Computing*, 34(9), 1–21. doi:10.4018/JOEUC.303677
- Chen, M., Wang, P., & Zhang, C. (2021). An empirical study on the influencing factors of consumer behavior of e-sports users – based on SOR theory. *Journal of Sports Adult Education*, 37(5), 23–31.
- Chen, M., & Du, W. (2022). Dynamic relationship network and international management of enterprise supply chain by particle swarm optimization algorithm under deep learning. *Expert Systems: International Journal of Knowledge Engineering and Neural Networks*. Advance online publication. doi:10.1111/exsy.13081
- Chen, M., Liu, Q., Huang, S., & Dang, C. (2022). Environmental cost control system of manufacturing enterprises using artificial intelligence based on value chain of circular economy. *Enterprise Information Systems*, 16(8-9), 1268–1287. doi:10.1080/17517575.2020.1856422
- Chen, M.-H., & Tsai, K.-M. (2020). An empirical study of brand fan page engagement behaviors. *Sustainability (Basel)*, 12(1), 434. doi:10.3390/su12010434
- CITICS CURITIES. (2020). *CITIC Securities: 2019 E-commerce Live Broadcasting Industry Special Research Report (attached for download)*. 199IT Internet Data Center. <http://www.199it.com/archives/994058.html>
- Cyr, D. (2008). Modeling web site design across cultures: Relationships to trust, satisfaction, and e-loyalty. *Journal of Management Information Systems*, 11(24), 42–72. doi:10.2753/MIS0742-1222240402
- Davenport, T. (2000). Sticky business. *CIO (Framingham, Mass.)*, 13(8), 58–60.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(1), 319–340. doi:10.2307/249008
- Deng, X., Guo, X., Wu, Y. J., & Chen, M. (2021). Perceived environmental dynamism promotes entrepreneurial team member's innovation: Explanations based on the uncertainty reduction theory. *International Journal of Environmental Research and Public Health*, 18(4), 2033. doi:10.3390/ijerph18042033 PMID:33669732
- Fang, Y.-H. (2014). Beyond the credibility of electronic word of mouth: Exploring eWOM adoption on social networking sites from affective and curiosity perspectives. *International Journal of Electronic Commerce*, 18(3), 67–102. doi:10.2753/JEC1086-4415180303
- Feng, B., Sun, K., Zhong, Z., & Chen, M. (2021). The internal connection analysis of information sharing and investment performance in the venture capital network community. *International Journal of Environmental Research and Public Health*, 18(22), 11943. doi:10.3390/ijerph182211943 PMID:34831699
- Feng, Z., & Chen, M. (2022). Platformance-based cross-border import retail e-commerce service quality evaluation using an artificial neural network analysis. *Journal of Global Information Management*, 30(11), 1–17. Advance online publication. doi:10.4018/JGIM.306271
- Floh, A., & Madlberger, M. (2013). The role of atmospheric cues in online impulse – buying behavior. *Electronic Commerce Research and Applications*, 12(6), 425–439. doi:10.1016/j.elerap.2013.06.001

- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *JMR, Journal of Marketing Research*, 24(2), 337–346.
- Gfen, D. (2000). E-commerce: The role of familiarity and trust. *Omega*, 28(6), 725–737. doi:10.1016/S0305-0483(00)00021-9
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis*. Prentice Hall.
- Hidayat, A., Wijaya, T., Ishak, A., & Endi Catyanadika, P. (2021). Consumer trust as the antecedent of online consumer purchase decision. *Information (Basel)*, 12(4), 145. doi:10.3390/info12040145
- Hilvert-Bruce, Z., Neill, J. T., Sjoblom, M., & Hamari, J. (2018). Social motivations of live-streaming viewer engagement on twitch. *Computers in Human Behavior*, 84, 84. doi:10.1016/j.chb.2018.02.013
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. doi:10.1080/10705519909540118
- Hu, M., Zhang, M., & Wang, Y. (2017). Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Computers in Human Behavior*, 75, 594–606. doi:10.1016/j.chb.2017.06.006
- Huang, S. H., Deng, F. M., & Xiao, J. C. (2021). Research on impulse purchase decision of audiences on live streaming platforms: From the perspective of dual paths perspective. *Finance & Economics*, 5, 119–132.
- Huang, S. H., Xiao, J. C., & Jin, Y. N. (2020). Study on the influencing factors of consumers' continuous buying intention on social e-commerce platform based on S-O-R theory. *Soft Science*, 34(6), 7.
- Jackson, & Dennis, L. (2003). Revisiting sample size and number of parameter estimates: Some support for the N: q hypothesis. *Structural Equation Modeling*, 10(1), 128–141.
- Jin, L. (2007). The effects of value dimensions on sense of community, loyalty and brand related behavior intentions in virtual brand community. *Journal of Management Science*, 20(2), 36–45.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). Guilford Publications.
- Lăzăroi, G., Neguriță, O., Grecu, I., Grecu, G., & Mitran, P. C. (2020). Consumers' decision-making process on social commerce platforms: Online trust, perceived risk, and purchase intentions. *Frontiers in Psychology*, 11, 890. doi:10.3389/fpsyg.2020.00890 PMID:32499740
- Leeraphong, A., & Mardjo, A. (2013). Trust and risk in purchase intention through online social network: A focus group study of Facebook in Thailand. *Joebm Com*, 314–318.
- Li, D., Browne, G. J., & Wetherbe, J. C. (2006). Why do internet users stick with a specific web site? A relationship perspective. *International Journal of Electronic Commerce*, 10(4), 105–141. doi:10.2753/JEC1086-4415100404
- Li, L., & Zhou, Y. (2020). The model, risk and reconstruction of network trust in the intelligent age – starting from the trust crisis caused by the live broadcast of goods. *News and Writing*, (9), 21–28.
- Li, Q., Gao, X., Xu, X., & Qiao, Z. (2021). A study on viewers' information processing and purchase intention in live streaming commerce. *Guanli Xuebao*, 18(6), 895–903.
- Li, Y., Gao, J., Ru, M., & Luo, Z. (2018). Analysis of consumer behavior under the influence of online marketing live broadcast. *Economic & Trade*, (5), 161–162.
- Lin, C. C. (2007). Online stickiness: Its antecedents and effect on purchasing intention. *Behaviour & Information Technology*, 26(6), 507–516. doi:10.1080/01449290600740843
- Lin, L., Hu, J. H., Sheng, O., & Lee, J. (2010). Is stickiness profitable for electronic retailers? *Communications of the ACM*, 53(3), 132–136. doi:10.1145/1666420.1666454
- Liu, F., Meng, L., Chen, S., & Duan, S. (2020). The impact of network celebrities' information source characteristics on purchase intention. *Guanli Xuebao*, 17(1), 94–104.
- Liu, P. S., & Shi, Y. D. (2020). Research on the influencing mechanism of live broadcasting marketing pattern on consumers' purchase decision. *China Business and Market*, 34(10), 10.

- Liu, Y. (2022). Impact of live video streaming on consumers' intention based on SOR mode-mediating role of perceived value. *Journal of Sports Adult Education*, 38(1), 39–46.
- Liu, Y., Zhang, S., Chen, M., Wu, Y., & Chen, Z. (2021). The sustainable development of financial topic detection and trend prediction by data mining. *Sustainability (Basel)*, 13(14), 7585. doi:10.3390/su13147585
- Liu, Z., & Xu, J. (2011). Study of online stickiness: Its antecedents and effect on repurchase intention. *Library and Information Service*, 55(22), 6.
- Lu, H., & Lin, P. (2002). Predicting consumer behavior in the market-space: A study of Rayport and Sviokla's framework. *Information & Management*, 40(1), 1–10. doi:10.1016/S0378-7206(01)00131-8
- Luo, H., Cheng, S., Zhou, W., Yu, S., & Lin, X. (2021). A study on the impact of linguistic persuasive styles on the sales volume of live streaming products in social e-commerce. *Mathematics*, 9(13), 1576. doi:10.3390/math9131576
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. MIT Press.
- Moorman, C., Deshpande, R., & Zaltman, G. (1993). Factors affecting trust in market research relationships. *Journal of Marketing*, 57(1), 81–101. doi:10.1177/002224299305700106
- Nunnally, J. C. (1967). *Psychometric theory*. McGraw-Hill Education.
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39–52. doi:10.1080/00913367.1990.10673191
- Ohanian, R. (1991). The impact of celebrity spokespersons' perceived image on consumers' intention to purchase. *Journal of Advertising Research*, 31(1), 46–54.
- Oliver, R. (1980). A cognitive model of the antecedents and consequences of satisfaction decision. *JMR, Journal of Marketing Research*, 17(4), 460–469. doi:10.1177/002224378001700405
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce integrating trust and risk with technology acceptance model. *International Journal of Electronic Commerce*, 7(3), 101–134. doi:10.1080/10864415.2003.11044275
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5(4), 357–387. doi:10.1111/j.1475-6811.1998.tb00177.x
- Srinivasan, S. S., Anderson, R., & Ponnavaolu, K. (2002). Customer loyalty in e-commerce: An exploration of its antecedents and consequences. *Journal of Retailing*, 78(1), 41–50. doi:10.1016/S0022-4359(01)00065-3
- Tirtayani, I. G. A., & Sukaatmadja, I. P. G. (2018). The effect of perceived website quality, e-satisfaction, and e-trust towards online repurchase intention. *International Journal of Economics, Commerce and Management*, 6(10), 262–287.
- Venkatesh, V., & Agarwal, R. (2006). Turning visitors into customers: A usability-centric perspective on purchase behavior in electronic channels. *Management Science*, 52(3), 367–382. doi:10.1287/mnsc.1050.0442
- Wang, E. S. T. (2010). Impact of multiple perceived value on consumers' brand preference and purchase intention: A case of snack foods. *Journal of Food Products Marketing*, 16(4), 386–397. doi:10.1080/10454446.2010.509242
- Whittaker, T. A. (2011). *A beginner's guide to structural equation modeling*. Taylor & Francis.
- Wohn, D. Y., Guo, F., & Mclaughlin, C. (2018). Explaining viewers' emotional, instrumental, and financial support provision for live streamers. *Proceedings of the 2018 CHI conference on human factors in computing systems*, 1-13. doi:10.1145/3173574.3174048
- Wongkitrungrueng, A., Assarut, N., Business, J. O., & Woodside, A. G. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of Business Research*, 117, 543–556. doi:10.1016/j.jbusres.2018.08.032
- Xie, Y., Li, C., Gao, P., & Liu, Y. (2019). The effect and mechanism of social presence in live marketing on online herd consumption from behavioral and neurophysiological perspectives. *Xinli Kexue Jinzhan*, 27(6), 990–1004. doi:10.3724/SP.J.1042.2019.00990

Xu, J., & Liu, Z. (2011). Study on the effects of virtual community involvement on online stickiness and repurchase intention. *Chinese Retail Research*, (1), 41–50.

Yi, Y. (1990). A critical review of consumer satisfaction review of marketing. American Marketing Association.

Yuan, C. L., Kim, J., & Kim, S. J. (2016). Parasocial relationship effects on customer equity in the social media context. *Journal of Business Research*, 69(9), 3795–3803. doi:10.1016/j.jbusres.2015.12.071

Yuan, Y. H., Yeh, Y. C., Wu, C. H., Liu, C. Y., Chen, H. H., & Chen, C. W. (2022). The study of para-social interaction with e-word-of-mouth for influencer marketing by complex computing. *Journal of Organizational and End User Computing*, 34(3), 1–15. doi:10.4018/JOEUC.287105

Zeng, L., & Huang, D. (2021). What dominates the willingness of online live shopping – a study on the factors affecting the willingness of live shopping audiences from the persuasion theory perspective. *News and Writing*, (7), 50–57.

Zhang, H., Fan, L., Chen, M., & Qiu, C. (2022). The impact of SIPOC on process reengineering and sustainability of enterprise procurement management in e-commerce environments using deep learning. *Journal of Organizational and End User Computing*, 34(8), 1–17. Advance online publication. doi:10.4018/JOEUC.306270

Zhang, M., Liu, Y., Wang, Y., & Zhao, L. (2021). How to retain customers: Understanding the role of trust in live streaming commerce with a socio-technical perspective. *Computers in Human Behavior*, 127.

Zott, C., Amit, R., & Donlevy, J. (2000). Strategies for value creation in e-commerce: Best practice in Europe. *European Management Journal*, 18(5), 463–475. doi:10.1016/S0263-2373(00)00036-0