

## The Impact of Social Presence on Consumer Purchase Intention in Live Commerce: Mediating Effect of Customer Stickiness

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### Abstract

This study examined the influence of social presence on consumers' purchase intentions in live commerce settings, focusing on the mediating role of customer stickiness. While live commerce experienced exponential growth, reaching a transaction volume of 4.9 trillion yuan in China's market in 2023, limited understanding remained regarding how dimensions of social presence affected consumer behavior in this context. Drawing upon social presence theory, the research proposed a theoretical framework that assessed the direct effects of social presence dimensions (awareness, emotional, and cognitive) on purchase intention and the mediating effect of customer stickiness. Data were collected from 389 live commerce consumers through a structured questionnaire survey, and correlation analysis, regression analysis, and bootstrapping methods were employed to test the hypothesized relationships. The results revealed that all three dimensions of social presence positively influenced purchase intention, with emotional presence showing the most substantial effect ( $\beta = 0.352$ ,  $p < 0.01$ ), followed by cognitive presence ( $\beta = 0.296$ ,  $p < 0.05$ ) and awareness presence ( $\beta = 0.275$ ,  $p < 0.05$ ). Additionally, customer stickiness significantly mediated these relationships, with the most substantial mediating effect observed in the communication aspect of social presence (0.159). These findings contributed to theory and practice by providing insights into how social presence shaped purchase behavior in live commerce environments and offering practical implications for e-commerce enterprises and live-streaming platforms to enhance their operational effectiveness.

**Keywords:** social presence; live commerce; customer stickiness; purchase intention; consumer behavior

## Introduction

The rapid evolution of Internet technology and smart devices has revolutionized commerce, paving the way for innovative e-commerce formats. Among these, live commerce has gained prominence, combining entertainment, social interaction, and real-time commercial transactions to create a uniquely immersive shopping experience. This model bridges the gap between offline and online shopping by enabling real-time interactions between sellers and buyers, fostering immediate feedback, and enhancing consumer engagement (Lin et al., 2024).

In 2023, China's live commerce market reached a transaction volume of 4.9 trillion yuan, a 40.48% year-over-year increase, with 540 million users and a penetration rate of 31.9% (iResearch, 2024). Despite this impressive growth, the success of live commerce depends not only on its operational model but also on its ability to cultivate social presence—the sense of being connected and engaged in a social and interactive environment—among its users.

### Research Problem

Although live commerce leverages social presence to simulate offline shopping experiences, understanding its specific effects on consumer behavior remains limited. Existing studies often emphasize platform features or celebrity endorsements but overlook the intrinsic mechanisms of social presence in shaping purchase intentions (Shao, 2024). Moreover, businesses' reliance on external influences like celebrity-driven sales often results in high operational costs and unstable performance, failing to utilize the platform's full potential (Liu et al., 2024).

A deeper exploration of social presence, particularly its three dimensions—awareness, emotional, and cognitive presence—can illuminate how it drives consumer purchase intention. Additionally, the mediating role of customer stickiness, which reflects consumers' commitment to and engagement with a platform, remains insufficiently studied in the live commerce context.

While live commerce has grown substantially, understanding how social presence influences consumer behavior in this context remains limited.

### Research Gap

While live commerce has seen substantial growth, understanding how social presence influences consumer behavior in this context remains limited. Existing studies have primarily focused on general online environments, with insufficient attention to the multidimensional nature of social presence in live commerce, including awareness, emotional, and cognitive dimensions. Additionally, the mediating role of customer stickiness—representing consumer loyalty and

sustained platform engagement—has been largely overlooked. Furthermore, most research emphasizes the direct effects of platform features on consumer behavior, neglecting the underlying psychological mechanisms that drive purchase decisions. Addressing these gaps is essential to advance theoretical understanding and practical application in live commerce.

## Objectives

This study aims to explore the influence of social presence on purchase intention in live commerce, emphasizing the mediating role of customer stickiness. Specifically, the objectives are:

Q1: To investigate how the dimensions of social presence (awareness, emotional, and cognitive) affect consumer purchase intentions.

Q2: To examine the mediating effect of customer stickiness in the relationship between social presence and purchase intention.

Q3: To determine the relative importance of the dimensions of social presence in shaping consumer behavior, offering actionable insights for platform optimization.

## Literature Review and Research Hypotheses

### Social Presence in Live Commerce

Social presence refers to the actual level that individuals can present and the degree perceived by the receiver in mediated communication environments (Li & Zhang, 2023). Building on previous research by Qin and Zhu (2023), who studied social presence in celebrity-driven live commerce; the concept can be divided into three dimensions. First, awareness of social presence refers to consumers' perception of coexistence with others in the virtual live-streaming environment, reflecting their sense of being present in the same space despite physical separation (Du, 2024; Huang, 2022). Second, emotional social presence captures the affective connections and emotional resonance formed during live-streaming interactions, including the warmth, friendliness, and emotional engagement experienced by consumers (Tan & Li, 2024; Zhang et al., 2023). Third, cognitive social presence encompasses the intellectual engagement and information processing that occurs during live streaming, including consumers' ability to understand product information and engage in meaningful interactions (Du, 2024; Wang et al., 2024).

### **Customer Stickiness**

Customer stickiness represents customers' psychological dependence during continuous shopping experiences (Samir et al., 2023). As highlighted in the technical acceptance model research, consumers' acceptance and trust of products and services form the foundation of customer stickiness (Hess et al., 2009). In the live commerce context, it manifests as customers' tendency to visit and spend time in specific live-streaming rooms repeatedly (Wang et al., 2024). This behavior is often reinforced by interactive features such as real-time communication, exclusive offers, and personalized recommendations, which create a sense of connection and belonging.

### **Purchase Intention**

Purchase intention refers to the possibility of consumers buying a service or product under the influence of various factors (Li & Gao, 2023). In live commerce settings, specific factors affecting purchase intention include income level, gender, age, service attitude, and store environment (Samir et al., 2023; Zhang, 2023). Additionally, factors such as broadcaster characteristics, marketing skills, and streaming atmosphere play crucial roles in shaping purchase intentions (He, 2024).

### **Social Presence and Purchase Intention**

Recent studies have demonstrated that individuals with higher social presence can gain greater advantages in media interaction (Huang, 2022). During live streaming sessions, the broadcaster's image, language ability, and marketing skills collectively create a social presence that influences consumers' purchase decisions (Du, 2024; Xing et al., 2024). This leads to the first hypothesis:

H1: Social presence has a positive promotion effect on consumers' purchase intention.

Building on the multi-dimensional nature of social presence identified in previous research (Tan & Li, 2024), the second hypothesis is proposed:

H2: The three dimensions of awareness, emotion, and cognition all have a positive promotion effect on consumers' purchase intention.

### **The Mediating Role of Customer Stickiness**

The technical acceptance model suggests that consumers' acceptance and trust form the foundation of customer stickiness (Zhang, 2023). When consumers engage in live streaming shopping, the interaction between broadcasters and customers facilitates both product

understanding and emotional connection (Chen, 2024; Li & Gao, 2023). This enhanced engagement leads to increased customer stickiness, which in turn affects purchase intentions (Xing et al., 2024). Therefore:

H3: Customer stickiness plays a mediating role in the positive promotion effect of social presence on consumers' purchase intention.

The conceptual framework is then proposed in Figure 1:

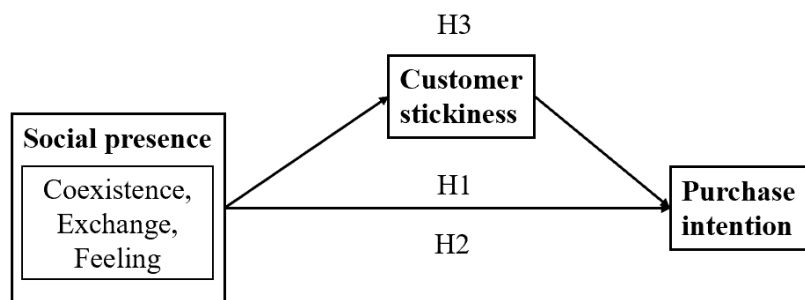


Fig. 1 Conceptual framework

## Research Methodology

### Research Design

This study employs quantitative research to examine the relationships between social presence, customer stickiness, and purchase intention in live commerce settings. The research design incorporates a structured questionnaire survey as the primary data collection instrument. This method was chosen for its effectiveness in gathering standardized data from a large sample of live commerce consumers and its ability to systematically test hypothesized relationships between variables.

### Questionnaire Design and Measurement

The questionnaire structure consists of two main sections. The first section collects respondents' demographic information, including gender, age, monthly income level, education level, and occupation type. The second section contains the main measurement items for the research constructs. All items are measured using a five-point Likert scale, where 1 represents "strongly disagree" and 5 represents "strongly agree." The measurement items are developed based on existing literature and adapted to the live commerce context.

Social presence is measured through nine items across three dimensions. The awareness dimension assesses consumers' perception of coexistence in the virtual environment. The emotional dimension evaluates the affective connections formed during live streaming, including items about emotional resonance and warmth experienced in the virtual environment. The cognitive dimension measures intellectual engagement and information exchange. Customer stickiness is measured using four items that assess consumers' time spent in live streaming rooms and intention to continue using live commerce platforms. Purchase intention is measured through three items focusing on consumers' willingness to buy products during live streams, their tendency to add items to shopping carts, and their likelihood to recommend products to others. Table 1 refers to the questionnaire.

**Table 1** Questionnaire of the research

Specific measurement index	Index classification	Indicator topic
<b>Gender, age, and other indicators</b>	–	Gender, age, monthly income level, education level, occupation type–
<b>social presence</b>	Coexist	I feel that live shopping is associated with others in the studio that is free by time and space I can feel like someone else in the studio is in line with me The studio gave me a feeling of being there
	Exchange	I can continuously share my opinions with others in the studio I can feel social in the studio The questions I ask can get responses from the studio anchor or others
	Feeling	Others in the studio can bring me a warm atmosphere Communication with the people in the studio will make me more emotional People in the studio will affect my mood
<b>Customer stickiness</b>	–	I stayed in the studio for longer than the average shopping page I plan to continue to increase the time I stay in the studio If there is a purchase demand, I will consider live shopping first
<b>Consumer purchase intention</b>	–	I will put items in my shopping cart when I watch the live stream I'm willing to buy the goods while watching the live broadcast I would like to recommend people around me to buy goods from the studio

### **Sampling and Data Collection**

The study adopts a combination of convenience and purposive sampling methods. The target population comprises consumers who have experience with live commerce shopping. To enhance sample representativeness, participants were selected from various demographic backgrounds.

The data collection process was conducted through multiple channels. Online distribution was implemented through the Questionnaire Star platform and QQ mailbox system. Additionally, offline distribution channels were utilized to reach a broader range of respondents. The data collection period spanned from October to December 2023.

### **Estimate Methods**

The study employed several statistical methods for data analysis. Preliminary analysis included descriptive statistics for demographic information and reliability testing through Cronbach's alpha coefficient. Correlation analysis examines the relationships between variables for hypothesis testing, while regression analysis tests the direct effects. The bootstrapping method is utilized to test the effects of mediation.

## **Research Results**

### **Sample Characteristics Analysis**

The research distributed 400 questionnaires and received 389 valid responses, achieving a response rate of 97.25%. Analysis of respondent characteristics reveals significant insights into the live commerce consumer demographic profile.

Female respondents comprise 53.21% of the sample, while males comprise 46.79%. The majority (60.41%) are aged 18–30 years, followed by those aged 31–45 years (17.99%), under 18 years (11.83%), and over 45 years (9.77%). Most respondents (63.40%) earn between 3,001 and 6,000 yuan monthly, with 17.48% earning below 3,000 yuan, 14.14% earning 6,001–8,000 yuan, and 4.88% earning above 8,000 yuan. 35.22% have high school education or below, 31.36% hold junior college degrees, 24.68% have undergraduate degrees, and 8.74% have master's degrees or higher. Occupations are primarily company employees (38.30%), followed by public sector employees (19.28%), students (17.74%), liberal professions (14.14%), and others (10.54%). Descriptive statistics are detailed in Table 2.

**Table 2** Descriptive Statistical Results (389 persons in total)

Metric	Number of people	Proportion
Gender		
Man	182	46.79
Woman	207	53.21
Age		
Under 18 years old	46	11.83
18 to 30 years old	235	60.41
31 to 45 years old	70	17.99
Over 45 years old	38	9.77
Monthly income level		
Below RMB 3,000 yuan	68	17.48
3001 yuan to 6000 yuan	247	63.40
6001 yuan to 8000 yuan	55	14.14
More than RMB 8,000 yuan	19	4.88
Education level		
High school and below	137	35.22
Junior college	122	31.36
Undergraduate course	96	24.68
Master's degree or above	34	8.74
Vocational type		
Full-time equivalence	69	17.74
Public institutions, government organs, and units	75	19.28
Company employee	149	38.30
Liberal professions	55	14.14
Other	41	10.54

## Reliability and Validity Analysis

### Reliability Analysis

Cronbach's alpha coefficient analysis indicates high internal consistency for all constructs. The social presence scale demonstrates strong reliability, with an overall alpha value exceeding 0.8. Similarly, the customer stickiness and purchase intention scales show robust reliability, with alpha values above 0.8. These results exceed the conventional threshold of 0.7, confirming the measurement instruments' reliability.



### Validity Analysis

Construct validity assessment through factor analysis yields satisfactory results. The KMO value surpasses 0.7, indicating adequate sampling adequacy. Bartlett's test of sphericity shows statistical significance ( $p < 0.05$ ), supporting the factor analysis's appropriateness. Then, the CFA result showed that all the factor loadings were above 0.6.

### Correlation Analysis

Correlation analysis reveals significant relationships among the study variables. The three dimensions of social presence demonstrate positive correlations with customer stickiness and purchase intention. Specifically, awareness shows a correlation coefficient of 0.320 with customer stickiness and 0.299 with purchase intention. The emotional dimension exhibits correlation coefficients of 0.337 and 0.322, respectively, while the cognitive dimension shows coefficients of 0.326 and 0.307. Table 3 refers to the correlation analysis.

**Table 3:** Variable correlation analysis

Variable index	Coexist	Exchange	Feeling	Customer stickiness	Purchase intention
Coexist	1				
Exchange	0.332**	1			
Feeling	0.339**	0.358**	1		
Customer stickiness	0.320**	0.326**	0.337**	1	
Purchase intention	0.299**	0.307**	0.322**	0.339**	1

Note: \*\* $p < 0.01$ .

### Hypothesis Testing

#### Direct Effect Analysis

The regression analysis of social presence and purchase intention yields significant results. The overall social presence positively affects purchase intention ( $\beta = 0.319$ ,  $p < 0.01$ ). Individual dimension analysis reveals that awareness ( $\beta = 0.275$ ,  $p < 0.05$ ), emotional ( $\beta = 0.352$ ,  $p < 0.01$ ), and cognitive dimensions ( $\beta = 0.296$ ,  $p < 0.05$ ) all significantly influence purchase intention. Table 4 refers to the regression analysis results of social presence and purchase intention.

**Table 4** Results of regression analysis of social presence and purchase intention

Metric	Purchase intention
Social presence (overall)	0.319***
Coexist	0.275**
Exchange	0.296**
Feeling	0.352***
R <sup>2</sup>	0.416
Adjust R <sup>2</sup>	0.406
F	32.782***

Note: \*\*p<0.01, \*\*\*p<0.001, Standardized coefficients were reported.

### Mediating Effect Analysis

The analysis of customer stickiness's mediating role proceeds through several steps. First, social presence significantly influences customer stickiness ( $\beta = 0.446$ ,  $p < 0.001$ ). Second, customer stickiness significantly affects purchase intention ( $\beta = 0.645$ ,  $p < 0.001$ ). The adjusted R<sup>2</sup> values indicate good model fit across analyses. Table 5 refers to the return of social presence and customer stickiness. Table 6 refers to the regression results of customer stickiness and purchase intention.

**Table 5** Return of social presence and customer stickiness

Metric	Customer stickiness
Social presence (overall)	0.446***
Coexist	0.426***
Exchange	0.435***
Feeling	0.458***
R <sup>2</sup>	0.602
Adjust R <sup>2</sup>	0.597
F	43.108***

Note: \*\*\*p<0.001, Standardized coefficients were reported.

**Table 6** Regression results of customer stickiness and purchase intention

Metric	Purchase intention
Customer stickiness	0.645
R <sup>2</sup>	0.698
Adjust R <sup>2</sup>	0.581
F	45.209***

Note: \*\*\*p<0.001, Standardized coefficients were reported.

### Bootstrapping Analysis

Based on 5,000 resamples and a 95% confidence interval, the bootstrapping analysis confirms the mediating effect of customer stickiness. The confidence intervals for indirect effects do not contain zero, supporting the mediation hypothesis. The analysis reveals varying strengths of mediation across social presence dimensions, with communication presence showing the most substantial mediating effect (0.159), followed by emotional presence (0.146) and coexistence presence (0.043).

**Table 7** Results of the mediation effect test of customer stickiness

Action path	Influence	Confidence interval		Conclusion
		Superior limit	Lower limit	
Coexistence sense of presence–customer stickiness–purchase intention	0.043	0.025	0.051	
Communicate telepresence–customer stickiness–purchase intention	0.159	0.093	0.223	Part of the intermediary
Emotional presence–customer stickiness–purchase intention	0.146	0.087	0.211	
Social presence–customer stickiness–purchase intention	0.153	0.059	0.213	

## Discussion and Conclusions

### Research Findings Discussion

The empirical results confirm that social presence significantly influences purchase intention in live commerce settings, consistent with findings in prior studies on online shopping environments (Wang et al., 2021). This study extends these insights by emphasizing the unique features of live commerce, which integrates real-time interactions between broadcasters and viewers, creating a

socially immersive shopping experience. The positive relationship between social presence and purchase intention ( $\beta = 0.319$ ,  $p < 0.01$ ) highlights the critical role of perceived social interaction in stimulating consumer behavior in live commerce.

Among the dimensions of social presence, emotional presence demonstrates the strongest influence ( $\beta = 0.352$ ,  $p < 0.01$ ), aligning with studies that underscore the importance of emotional engagement in fostering consumer trust and intention to purchase (Wu et al., 2023). Cognitive presence ( $\beta = 0.296$ ,  $p < 0.05$ ) and awareness presence ( $\beta = 0.275$ ,  $p < 0.05$ ) also positively affect purchase intention, albeit to a lesser extent. These findings suggest a hierarchical impact, where emotional presence plays a particularly dominant role, consistent with the interactive and emotionally engaging nature of live commerce (Li et al., 2024).

Customer stickiness is identified as a significant mediating mechanism in the relationship between social presence and purchase intention, corroborating earlier research that highlights the importance of platform engagement in online shopping (Busalim et al., 2021). The bootstrapping analysis confirms the mediation effect, with an indirect effect of 0.153 and a 95% confidence interval of [0.059, 0.213], indicating that social presence indirectly influences purchase intention by fostering customer loyalty and platform dependence.

The mediating effect varies across social presence dimensions, offering nuanced insights into consumer behavior. The strongest mediation is observed in the emotional and interactive aspects of social presence, with communication presence (0.159) and emotional presence (0.146) showing higher mediation effects compared to coexistence presence (0.043). The relatively weaker mediating effect of coexistence presence suggests that while simply being aware of others in the live commerce environment contributes to stickiness, the interactive and emotional elements significantly drive loyalty and subsequent purchase behavior.

## New Knowledge from Research

This study enhances the understanding of consumer behavior in live commerce by emphasizing the critical role of social presence and customer stickiness in shaping purchase intentions. It highlights the multidimensional impact of social presence—emotional, cognitive, and awareness—on purchase behavior, with emotional presence being the most influential.

By introducing customer stickiness as a mediating mechanism, the research provides a comprehensive view of how social presence indirectly fosters loyalty and repeated engagement,

further driving purchase intentions. The varying mediation effects across social presence dimensions, particularly the strong influence of communication presence, offer new insights into live commerce's interactive and immersive nature.

These findings contribute to theory by bridging gaps in understanding live commerce's psychological dynamics and to practice by guiding platforms to enhance emotional and interactive features, ultimately improving consumer engagement and loyalty in the competitive digital marketplace.

## **Theoretical and Practical Implications**

### **Theoretical Implications**

First, it extends the application of social presence theory in the live commerce context by decomposing social presence into three distinct dimensions and examining their differential effects on purchase intention. This dimensional analysis provides a more nuanced understanding of how different aspects of social presence function in digital commerce environments.

Second, the study identifies customer stickiness as a crucial mediating mechanism, contributing to the theoretical understanding of how social presence translates into purchase intention. This finding bridges the gap between social presence theory and consumer behavior in digital platforms.

Third, the research provides empirical evidence for the relative importance of different social presence dimensions in live commerce, offering a foundation for future research in this rapidly evolving field.

### **Practical Implications**

E-commerce enterprises should enhance broadcasters' skills in product presentation and interactive engagement through targeted training. Creating engaging broadcast environments that simulate offline shopping and leveraging technology for seamless interaction can further strengthen social presence and consumer satisfaction.

To enhance user engagement, live streaming platforms must improve technological features such as virtual reality tools and interactive functionalities. At the same time, implementing strict quality control measures ensures the credibility of content and products, fostering trust among consumers.

It is crucial to provide clear guidelines and tailored support for merchants. Platforms should help merchants adapt to live commerce quickly, optimize their performance, and create a seamless shopping experience for viewers.

## Research Limitations and Future Directions

First, while the study focused on general live commerce settings, future research could examine how social presence affects different product categories or industry sectors. Second, the cross-sectional nature of the data collection limits our understanding of how these relationships evolve over time. Longitudinal studies could provide insights into the dynamic nature of social presence and customer stickiness. Third, future research could explore additional mediating or moderating variables that might influence the relationship between social presence and purchase intention, such as product type, price level, or consumer characteristics.

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