

Research on the Impact of Interactive Types of E-commerce Live-streamers on Consumers' Purchase Intention for Agricultural Products

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Abstract:

This study focuses on the e-commerce live-streaming scenario of agricultural products, exploring the influence mechanism of the interactive types of live-streamers on consumers' purchase intention. It particularly investigates the impact of task-oriented interaction and relationship-oriented interaction, and examines the mediating effect of consumer trust. Based on the Social Exchange Theory, a theoretical framework is constructed, and data are collected through questionnaire surveys. The results show that both interactive types positively affect consumers' purchase intention, and consumer trust plays a mediating role in this process. The research conclusions provide a theoretical basis for the design of interaction strategies and the construction of trust mechanisms in the e-commerce live-streaming scenario, and have practical reference value for improving purchase conversion efficiency and promoting the healthy development of the e-commerce live-streaming industry.

Key Word: e-commerce live streaming; the interactive types of live-streamers; agricultural products; consumers' purchase intention

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I. Introduction

The wave of digitalization has continuously driven the innovation of e-commerce models. Among these developments, live-streaming e-commerce, with its distinctive features integrating real-time interaction and immersive experience, is reshaping consumers' shopping decision-making paths. In recent years, live-streaming e-commerce for agricultural products has emerged as a new force driving agricultural economic growth by virtue of its advantages in immediacy, interactivity, and visualization. Specifically, the live-streaming model enables producers to interact directly with consumers, greatly shortening the length of traditional supply chains, which improves circulation efficiency and reduces transaction costs (Hilvert-Bruce *et al.*, 2018). Meanwhile, the real presentation of production scenarios and product characteristics effectively alleviates information asymmetry, enhances consumers' perceived trust and purchase intention, and demonstrates outstanding social value and economic potential in mitigating the unsalable problem of agricultural products and increasing farmers' income (Cui *et al.*, 2026).

However, the conversion efficiency of live-streaming marketing is affected by multiple factors, among which the type of interaction between streamers and consumers is the most critical. Existing studies have shown that different types of streamer interactions have significantly differentiated effects on consumers' purchase decisions: affective interaction focuses on cultivating emotional bonds, while informative interaction focuses on the detailed elaboration of product functions (Zhang *et al.*, 2020). In view of this, how to design accurate and effective interaction strategies based on the inherent attributes of agricultural products and the characteristics of target audiences has become a core issue that urgently needs to be addressed in this field.

Against the above practical and theoretical background, this study focuses on the context of live-streaming e-commerce for agricultural products, and aims to systematically explore the influence mechanism of the interactive types of live-streamers on consumers' purchase intention. Drawing on social exchange theory (Cropanzano and Mitchell, 2005), this study incorporates consumer trust as a mediating variable to construct a theoretical analysis framework. At the theoretical level, this study systematically incorporates the interactive types of live-streamers into the research on agricultural product live-streaming, makes up for the deficiency of existing literature in examining the segmented dimensions of streamer interaction, and expands the theoretical perspective of consumer behavior analysis; meanwhile, it deepens the understanding of the influence mechanism of interaction by clarifying the mediating path of consumer trust. At the practical level, the research conclusions can provide empirical evidence for agricultural enterprises and live-streaming platforms to formulate differentiated interaction strategies, optimize streamer training systems, and improve live-streaming

content design, so as to effectively stimulate consumers' purchase intention and improve the conversion efficiency of live-streaming sales.

II. Theoretical Basis and Literature Review

Social Exchange Theory

The Social Exchange Theory was first proposed by Homans (1958), which explains human behavior from the perspectives of economic rational choice and social interaction. It holds that social interaction is essentially an exchange process, and whether an individual maintains an exchange relationship depends on the weighing of benefits and costs – only when the expected return is greater than the input cost, can the exchange behavior continue (Homans, 1958). In the context of e-commerce live streaming, the interaction between live-streamers and consumers also constitutes a typical social exchange: consumers invest time, attention, and even money, expecting to obtain returns such as product information, entertainment experience, and social belonging; while live-streamers, through product explanations, content provision, and emotional support, gains consumers' attention, trust, and purchase behavior (Cropanzano and Mitchell, 2005). Under this framework, different interactive types of live-streamers significantly affect consumers' perception of exchange benefits and costs, thereby changing their participation intention and purchase decisions.

Specifically, when live-streamers actively respond to questions, provide personalized recommendations, or showcase product details, the information and emotional benefits perceived by consumers are enhanced, while the time cost and cognitive cost required for participation are relatively reduced, thereby increasing the attractiveness of the exchange relationship. This mechanism is particularly prominent in agricultural product e-commerce live streaming: through the output of high-value information such as showcasing production environments, sharing planting experiences, and explaining quality identification knowledge, live-streamers not only provide differentiated benefits for consumers but also prompt them to develop trust and identification with live-streamers (Lu *et al.*, 2018). The principle of reciprocity, as the core proposition of the Social Exchange Theory, further deepens the understanding of this mechanism. When consumers perceive the sincerity and professional efforts of live-streamers, based on the principle of reciprocity, they tend to use purchase behavior as a reward for their emotional and time investment. In the live streaming scenarios of agricultural products, this reciprocal effect is even more intense – consumers' willingness to support the farmer group is often closely intertwined with emotional identification, regional sentiments, and even the value of rural revitalization, making the trust and reward mechanism triggered by interaction more sensitive and effective.

Research on E-commerce Live Streaming Interaction

The research on e-commerce live streaming interaction mainly unfolds along three main lines: interaction characteristics, interaction content, and interaction effects. From the perspective of interaction characteristics, existing literature has summarized three core dimensions. The first is real-time nature, which enables consumers to obtain information immediately and participate in discussions, significantly enhancing the immersive experience and sense of presence (Han and Zhao, 2026). The second is bidirectionality, through forms such as bullet comments, real-time Q&A, and voice chat, to establish bidirectional communication channels, creating a strong sense of social presence and effectively, narrowing the psychological distance between live-streamers and consumers (Jing *et al.*, 2026, Sun *et al.*, 2019, Xue *et al.*, 2020). The third is personalization, where live-streamers provide differentiated responses based on individual needs, effectively enhancing consumer satisfaction and loyalty (Ma and Fang, 2026). The synergy of these three elements constitutes the basic technical framework and experience foundation of e-commerce live streaming interaction.

Regarding interaction content, existing studies generally distinguish between functional interaction and emotional interaction. Functional interaction focuses on product information dissemination, question answering, and shopping advice, aiming to help consumers form rational cognition and comprehensive judgment – in the live streaming of agricultural products, this is manifested as systematic explanations of variety comparison, origin traceability, and quality identification knowledge. On the other hand, emotional interaction emphasizes establishing emotional bonds between live-streamers and consumers through humorous, friendly, or empathetic communication methods, triggering resonance (Meng *et al.*, 2021). These two types of interaction are not mutually exclusive but rather complementary and symbiotic: the former meets consumers' cognitive needs, while the latter responds to their emotional demands. The organic integration of these two can more fully stimulate purchase intention. Moreover, the relevance between interaction frequency and content is also not to be overlooked. Moderate frequency helps maintain audience attention continuously, while excessive frequency may lead to information overload, and too little may result in user loss. Live-streamers need to adjust dynamically based on the content rhythm and audience preferences (Hou *et al.*, 2019, Hu *et al.*, 2017); interaction content should closely adhere to the core selling points of the product and incorporate story elements and entertainment elements to enhance appeal.

At the interaction effect level, existing research has confirmed that interaction has a significant positive impact on consumers' purchase decisions. Its effect paths mainly include trust building, reduced perceived risk, and stimulation of group identity. First, interaction can significantly enhance consumers' perception of trust in live-streamers (Aprianingsih *et al.*, 2025, Han and Zhao, 2026), and vivid product demonstrations or real user evaluations can help reduce information asymmetry and reduce consumers' perceived risks (Li *et al.*, 2026). Second, group interaction atmospheres, such as bullet comments, can stimulate social identity and herd mentality, thereby triggering impulsive purchasing behavior (Xu *et al.*, 2025). More importantly, positive interaction strategies not only can improve the conversion rate of a single purchase but also help cultivate brand loyalty and repeat purchase intentions - such as interactive performances and the creation of dramatic atmospheres can quickly establish "double meaning" (Swift Guanxi) relationships, positively predicting consumers' purchase intention (Keng and Chen, 2026).

Research on the Relationship between E-commerce Live Streaming and Consumer Purchase Intention

The formation mechanism of consumer purchase intention in the context of e-commerce live streaming has attracted extensive attention from the academic community. Existing studies mainly explore this through three paths: interaction characteristics, consumer perception, and product matching, and have accumulated rich research results.

From the perspective of interaction characteristics, the professionalism of live-streamers and the interaction methods are the key antecedents influencing consumers' purchase intention. Existing studies have pointed out, from the perspective of uncertainty reduction, that the external characteristics of live-streamers and the value signals conveyed through immediate interaction can effectively reduce consumers' uncertainty about products and channels, thereby cultivating trust perception (Lu and Chen, 2021). Research based on the SOR model further confirmed that interactivity and presence affect purchase intention through the mediating role of trust and emotional resonance (Han *et al.*, 2024). Other studies have pointed out that product quality and service quality positively affect perceived value and negatively affect perceived risk, and the reduction of perceived risk will enhance consumer trust, while perceived value and consumer trust ultimately jointly drive the formation of purchase intention (Cui *et al.*, 2026). From the perspective of the consumer perception path, trust, perceived value, and satisfaction constitute the core mediating mechanism connecting external stimuli and purchase decisions. External stimuli in the live streaming context (such as influencer resources and live-streamer characteristics) affect purchase intention through mediating variables such as perceived value, trust, and green consumption cognition (Jin and Zhang, 2025). At the same time, information quality, product quality, logistics service quality, and origin image can also positively influence consumers' repurchase intention through satisfaction and trust (Liu and Fan, 2025). From the perspective of product matching, the choice of live streaming interaction strategies needs to fully consider the product type. Different types of products have significant constraints on the choice of interaction methods; research on agricultural products with geographical indications has found that emotional (as opposed to information) live content can better stimulate consumers' brand recognition, thereby effectively promoting purchase behavior (Liu and Han, 2025).

The e-commerce live streaming of agricultural products is the specific application of the e-commerce live streaming model in the field of agricultural product circulation. Compared with industrial products with high standardization and stable quality, agricultural products have inherent attributes such as perishability, seasonality, and quality uncertainty, resulting in higher perceived risks for consumers during the purchase process. This makes the consumer decision-making mechanism in the live streaming context of agricultural products exhibit unique patterns different from general e-commerce live streaming, thus having independent research value.

III. Research Model And Hypotheses

Research Model

This article classifies the interactive types of live-streamers into task-oriented interaction and relationship-oriented interaction. Among them, task-oriented interaction focuses on the transmission of functional information and problem-solving. Live-streamers obtain consumers' specific needs through questioning and introduce product features accordingly, helping consumers form a comprehensive understanding to optimize their purchase decisions. On the other hand, relationship-oriented interaction emphasizes emotional communication. Live-streamers establish emotional bonds by discussing life topics, showing interest in the consumers' personal situations, and highlighting commonalities between them. Based on this, this article has established a theoretical model of task-oriented interaction, relationship-oriented interaction, consumer trust, and purchase intention. This model follows the classic paradigm of the SOR theory, with the interactive types of live-streamers as the independent variable, consumer trust as the mediating variable, and purchase intention as the response variable. It systematically reveals the mechanism by which the interactive

types of live-streamers affect consumers' purchase intention in the e-commerce live streaming of agricultural products.

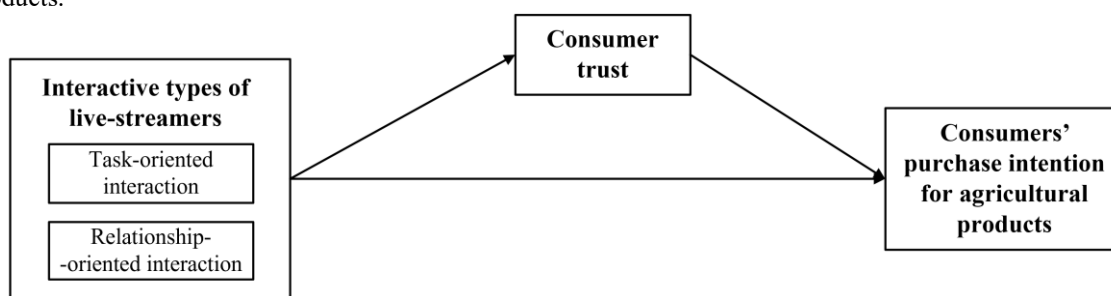


Figure 1 Theoretical Model

Research Hypotheses

Task-oriented interaction is based on meeting the actual needs of consumers. Live-streamers provide accurate functional information about agricultural products through targeted questions, personalized answers, and product inquiry solutions, thereby reducing consumers' search costs and decision-making difficulty. Research shows that the explanation of product functions and response to consumer needs by live-streamers can effectively promote purchase behavior (Zhang *et al.*, 2020). Relationship-oriented interaction focuses on building emotional bonds between live-streamers and consumers. Live-streamers achieve this by paying attention to the personal circumstances of consumers, conducting life-related topic discussions, and discovering common interests between both parties, enabling consumers to gain a sense of social belonging and emotional satisfaction during the interaction. Empirical studies have shown that emotional interaction in the live streaming of agricultural products can significantly optimize consumers' psychological experiences, and the establishment of two-way emotional connection can effectively enhance consumers' participation enthusiasm and purchase intention (Meng *et al.*, 2021). Based on this, the following hypotheses are proposed:

H1a: Task-oriented interaction positively affects consumers' purchase intention for agricultural products;

H1b: Relationship-oriented interaction positively affects consumers' purchase intention for agricultural products.

In task-oriented interaction, live-streamers answer consumers' personalized questions, delve into product-related doubts, and precisely convey the functional information of agricultural products. This process can fully demonstrate live-streamers' professional knowledge reserve and sense of responsibility. Existing studies have shown that the professionalism and interactivity of live-streamers enhance consumers' perceived trust, thereby promoting purchase behavior. Accurate product information transmission helps to increase consumers' trust judgment on product quality and value (Wongkitrungrueng and Assarut, 2020, Zhang *et al.*, 2020). In relationship-oriented interaction, it focuses on narrowing the psychological distance between live-streamers and consumers through personalized emotional connection. When live-streamers show sincere concern for consumers' personal situations, conduct life-like communication, and actively discover common ground between the two parties, consumers can perceive live-streamers' sincere intention, thereby reducing their instinctive resistance to the commercial nature of live streaming. Research has found that emotional interaction between live-streamers and consumers can significantly enhance consumers' social presence and trust perception, and the two-way emotional connection has a positive effect on the establishment of trust (Meng *et al.*, 2021, Xue *et al.*, 2020). Therefore, the following hypotheses are proposed in this paper:

H2a: Task-oriented interaction has a positive impact on consumer trust;

H2b: Relationship-oriented interaction has a positive impact on consumer trust.

Agricultural products have inherent attributes such as vulnerability, quality uncertainty, and difficulty in accurately assessing quality before purchase, which lead to higher perceived risks for consumers during the purchasing process. In this context, consumer trust is regarded as a key mechanism to reduce perceived risks and eliminate purchase concerns. Existing research has provided sufficient evidence for the positive relationship between trust and purchase intention. Studies have shown that consumer trust is the core factor influencing the purchase intention of agricultural product live streaming, and the trust mechanism directly affects the conversion efficiency of users (Han *et al.*, 2024, Liu and Fan, 2025). Existing research has found that trust has a significant positive impact on purchase intention (Osei-Frimpong *et al.*, 2022, Wang and Zhang, 2025). Based on this, this paper proposes the following hypotheses:

H3: Consumer trust positively affects consumers' purchase intention for agricultural products.

Task-oriented interaction and relationship-oriented interaction not only directly act on consumers' purchase intention but may also have an indirect impact through the key psychological variable of consumer trust. Specifically, in task-oriented interaction, live-streamers provide precise information, give professional product explanations, and answer targeted questions, enabling consumers to form a rational judgment on live-streamers' ability and the reliability of product information, thereby establishing cognitive trust. This trust, as a psychological bond connecting consumers and the product, effectively reduces perceived risks and decision-making uncertainty in the transaction process, enhances trust, and indirectly promotes the generation of purchase intention (Osei-Frimpong *et al.*, 2022, Wang and Zhang, 2025). In relationship-oriented interaction, through life-oriented communication, emotional care, and the exploration of commonalities, consumers feel the sincerity and kindness of live-streamers, thereby forming emotional trust. Based on the emotional trust relationship, consumers are more willing to accept live-streamers' product recommendations, reduce sensitivity to the quality and transaction risks of agricultural products, enhance trust, and thereby indirectly improve their purchase intention (Osei-Frimpong *et al.*, 2022, Wang and Zhang, 2025). Based on this, this paper proposes the following hypotheses:

H4a: Consumer trust acts as a mediator between task-oriented interaction and purchase intention;

H4b: Consumer trust acts as a mediator between relationship-oriented interaction and purchase intention.

IV. Research Design

Research Design

This study employed a questionnaire survey method, distributing the survey through the online platform. After screening, 439 valid questionnaires were obtained, with exclusion criteria including excessive missing responses, clearly patterned answers, and inconsistent responses. To ensure sample relevance, all participants were consumers who had experience watching and purchasing agricultural products via the e-commerce live streaming.

Measurement of Variables

The questionnaire in this study was developed by revising an existing, well-established scale to better fit the specific context of agricultural product e-commerce live streaming. The questionnaire consists of two parts: the first part includes screening questions and demographic characteristics, such as gender, age, occupation, monthly income, and whether participants have watched or purchased agricultural products from e-commerce live streaming. The screening questions are used to identify consumers who have prior experience watching and purchasing agricultural products through live streaming. The second part comprises the core measurement scales, covering constructs such as task-oriented interaction/relationship-oriented interaction, consumer trust, and purchase intention. All items were measured using a seven-point Likert scale, with wording revised according to the research context to ensure content validity of the scale.

V. Data Analysis And Results

Descriptive statistical analysis

A total of 439 valid questionnaires were collected. Regarding gender, there were 153 males (34.85%) and 286 females (65.15%). In terms of monthly income, 25 respondents earned less than 1,000 yuan (5.69%), 186 earned between 1,000 and 3,000 yuan (42.37%), 85 earned between 3,000 and 5,000 yuan (19.36%), and 143 earned more than 5,000 yuan (32.57%). Occupation-wise, 162 were students (36.90%) and 202 were full-time employees (46.01%). The detailed distribution of data is shown in the table below.

Table 1 Descriptive Statistics Analysis

Item	Category	Frequency	Percentage
Gender	Male	153	34.85
	Female	286	65.15
Monthly Income	Below ¥1,000	25	5.69
	¥1,000-¥3,000	186	42.37
	¥3,000-¥5,000	85	19.36
	Above ¥5,000	143	32.57
Occupation	Student	162	36.90
	Full-time Employee	202	46.01
	Part-time Employee	27	6.15
	Freelancer	42	9.57
Have you watched e-commerce live-streaming for agricultural products?	Unemployed	6	1.37
	Have watched	439	100.00
Total		439	100.00

Reliability and Validity Analysis

Reliability Analysis

The reliability analysis results are shown in Table 2 below. The Cronbach's α coefficient values of the four variables - task-oriented interaction, relationship-oriented interaction, consumer trust, and purchase intention - all exceeded 0.7, confirming the reliability and stability of each variable scale and effectively ensuring the quality of the research data.

Table 2 Reliability Analysis

Variable	Number of Items	Cronbach's α Coefficient
task-oriented interaction	6	0.753
relationship-oriented interaction	4	0.718
consumer trust	8	0.840
purchase intention	4	0.773

Validity Analysis

This study used the KMO test and the Bartlett's sphericity test to determine whether the questionnaire was suitable for factor analysis. The results showed that the KMO value was 0.943, which was greater than 0.6, meeting the prerequisite requirements for factor analysis, meaning that the data could be used for factor analysis research. Additionally, the data passed the Bartlett's sphericity test ($p < 0.05$), indicating that the research data is suitable for factor analysis.

Table 3 Results of KMO and Bartlett's Test

KMO		0.943
Bartlett's Test of Sphericity	Approximate Chi-Square	3339.392
	df	231
	p-value	0.000

Factor analysis extracted a total of 4 factors. The eigenvalue of each factor was greater than 1. The variance explained rates after rotation of these 4 factors were 19.530%, 13.621%, 12.005%, and 7.104% respectively. The cumulative variance explained rate after rotation was 52.260%.

Table 4 Table of Variance Explained

Factor Number	Eigenvalue			Before Rotation			After Rotation		
	Eigenvalue	Percentage of Variance Explained (%)	Cumulative %	Eigenvalue	Percentage of Variance Explained (%)	Cumulative %	Eigenvalue	Percentage of Variance Explained (%)	Cumulative %
1	7.976	36.254	36.254	7.976	36.254	36.254	4.297	19.53	19.53
2	1.361	6.187	42.441	1.361	6.187	42.441	2.997	13.621	33.151
3	1.157	5.261	47.703	1.157	5.261	47.703	2.641	12.005	45.156
4	1.003	4.56	52.263	1.003	4.56	52.263	1.563	7.104	52.26

Correlation Analysis

Person test was used to examine the degree of correlation between two or more variables. As shown in Table 5, the mean values of the variables such as purchase intention ($M = 5.501$, $SD = 0.759$), task-oriented interaction ($M = 5.588$, $SD = 0.618$), relationship-oriented interaction ($M = 5.300$, $SD = 0.737$), and consumer trust ($M = 5.363$, $SD = 0.677$) were all at a moderately high level. The correlation analysis indicated that purchase intention was significantly positively correlated with task-oriented interaction ($r = 0.487$, $p < 0.001$), relationship-oriented interaction ($r = 0.529$, $p < 0.001$), and consumer trust ($r = 0.619$, $p < 0.001$); task-oriented interaction was significantly positively correlated with relationship-oriented interaction ($r = 0.581$, $p < 0.001$) and consumer trust ($r = 0.664$, $p < 0.001$); and relationship-oriented interaction was also significantly positively correlated with consumer trust ($r = 0.750$, $p < 0.001$).

Table 5 Correlation Analysis of Variables

	Mean	Std. Deviation	purchase intention	task-oriented interaction	relationship-oriented interaction	consumer trust
purchase intention	5.501	0.759	1			
task-oriented interaction	5.588	0.618	0.487***	1		
relationship-oriented interaction	5.300	0.737	0.529***	0.581***	1	
consumer trust	5.363	0.677	0.619***	0.664***	0.750***	1

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

Regression Analysis

Regression Analysis of the Interactive Types of live-streamers and Purchase Intention

Purchase intention is taken as the dependent variable, and task-oriented interaction and relationship-oriented interaction as independent variables for the regression analysis. The results are shown in Table 6. The overall regression model is significant, with $F(2, 436) = 106.764$, $p < 0.001$; the model fitting indicators are $R^2 = 0.329$ and adjusted $R^2 = 0.326$, indicating that task-oriented interaction and relationship-oriented interaction can jointly explain 32.9% of the variation in purchase intention. The collinearity diagnosis results show that all VIF values in the model are less than 5, meaning there is no collinearity problem; and the D-W value is 1.691, close to the number 2, thus indicating that the model does not have autocorrelation, there is no correlation between the sample data, and the model is good. Task-oriented interaction has a significant positive predictive effect on purchase intention ($B = 0.333$, $t = 5.625$, $p < 0.001$), and relationship-oriented interaction also has a significant positive predictive effect on purchase intention ($B = 0.383$, $t = 7.709$, $p < 0.001$), indicating that both interaction types can effectively enhance consumers' purchase intention.

Table 6 Regression Analysis of the Interactive Types of live-streamers and Purchase Intention

	Non-standardization coefficient		Standardized Coefficients	t	p	VIF	Tolerance
	B	Std. Error	Beta				
Constant	1.611	0.280	-	5.754	0.000***	-	-
task-oriented interaction	0.333	0.059	0.271	5.625	0.000***	1.509	0.662
relationship-oriented interaction	0.383	0.050	0.372	7.709	0.000***	1.509	0.662
R^2	0.329						
Adjusted R^2	0.326						
F	$F(2,436)=106.764, p=0.000$						
D-W value	1.691						

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

Regression Analysis of the Interactive Types of live-streamers and Consumer Trust

Taking consumer trust as the dependent variable and task-oriented interaction and relationship-oriented interaction as the independent variables, a regression analysis was conducted. The results showed that the regression model was overall significant, with $F(2, 436) = 388.962$, $p < 0.001$; the model had a good fit, with $R^2 = 0.641$ and adjusted $R^2 = 0.639$, indicating that task-oriented interaction and relationship-oriented interaction could explain 64.1% of the variation in consumer trust (see Table 7). An examination of multicollinearity in the model revealed that all VIF values were less than 5, suggesting no collinearity issues; the D-W value was 2.122, close to the number 2, thus indicating no autocorrelation in the model, and there was no correlation between the sample data, making the model quite good. The regression coefficients showed that task-oriented interaction had a significant positive predictive effect on consumer trust ($B = 0.377$, $t = 9.764$, $p < 0.001$), and relationship-oriented interaction also had a significant positive predictive effect on consumer trust ($B = 0.505$, $t = 15.593$, $p < 0.001$), and the predictive power of relationship-oriented interaction was stronger.

Table 7 Regression Analysis of the Interactive Types of live-streamers and Consumer Trust

	Non-standardization coefficient		Standardized Coefficients	t	p	VIF	Tolerance
	B	Std. Error	Beta				
Constant	0.578	0.183	-	3.164	0.002**	-	-
task-oriented interaction	0.377	0.039	0.344	9.764	0.000***	1.509	0.662
relationship-oriented interaction	0.505	0.032	0.550	15.593	0.000***	1.509	0.662
R^2	0.641						
Adjusted R^2	0.639						
F	$F(2,436)=388.962, p=0.000$						
D-W value	2.122						

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

The regression results of consumer trust and purchase intention

A linear regression analysis was conducted using consumers' purchase intention as the dependent variable and consumer trust as the independent variable. The results are shown in Table 8. The model was overall significant ($F(1, 437) = 272.100$, $p < 0.001$), with a good fit ($R^2 = 0.384$), indicating that consumer trust can explain 38.4% of the variation in consumers' purchase intention. A test for multicollinearity of the model revealed that the VIF values in the model were less than 5, suggesting that there was no multicollinearity problem. The regression coefficient value of consumer trust was ($B = 0.694$, $t = 16.495$, $p = 0.000 < 0.01$), indicating that consumer trust has a significant positive impact on purchase intention.

Table 8 Regression Analysis of Consumer Trust and Purchase Intention

	Non-standardization coefficient		Standardized Coefficients	t	p	VIF	Tolerance
	B	Std. Error	Beta				
Constant	1.777	0.228	-	7.808	0.000***	-	-
consumer trust	0.694	0.042	0.619	16.495	0.000***	1.000	1.000
R ²	0.384						
Adjusted R ²	0.382						
F	F(1,437)=272.100, p=0.000						
D-W value	1.513						

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

Mediation Analysis

The Bootstrap method was used to test the mediating role of consumer trust between the interactive types of live-streamers and purchase intention. The results showed that the total effect of task-oriented interaction on purchase intention was 0.333 ($p < 0.001$), the direct effect was 0.144 (95% CI = 0.022 - 0.265, $p = 0.021$), and the indirect effect through consumer trust was 0.189 (95% CI = 0.128 - 0.262, $t = 5.507$, $p < 0.001$), with the 95% confidence interval not including 0, indicating that consumer trust played a significant partial mediating role between task-oriented interaction and purchase intention (see Table 8). The total effect of relationship-oriented interaction on purchase intention was 0.383 ($p < 0.001$), the direct effect was 0.129 (95% CI = 0.014 - 0.244, $p = 0.028$), and the indirect effect through consumer trust was 0.253 (95% CI = 0.168 - 0.342, $t = 5.776$, $p < 0.001$), with the 95% confidence interval not including 0, indicating that consumer trust also played a significant partial mediating role between relationship-oriented interaction and purchase intention.

Table 9 Mediating Effect Path Analysis

Path	Effect	Effect value	95%CI		t	p
			Lower	Upper		
task-oriented interaction=>consumer trust=>purchase intention	Indirect effect	0.189	0.128	0.262	5.507	0.000
task-oriented interaction=>purchase intention	Direct effect	0.144	0.022	0.265	2.325	0.021
task-oriented interaction=>purchase intention	Total effect	0.333	0.217	0.449	5.625	0.000
relationship-oriented interaction=>consumer trust=>purchase intention	Indirect effect	0.253	0.168	0.342	5.776	0.000
relationship-oriented interaction =>purchase intention	Direct effect	0.129	0.014	0.244	2.205	0.028
relationship-oriented interaction =>purchase intention	Total effect	0.383	0.285	0.480	7.709	0.000

Hypothesis Testing

The results show that all the research hypotheses were supported, as detailed in Table 10.

Table 10 Summary of Assumption Results

Assumption	Assumption Content	Result
H1a	Task-oriented interaction positively affects consumers' purchase intention for agricultural products.	supported
H1b	Relationship-oriented interaction positively affects consumers' purchase intention for agricultural products.	supported
H2a	Task-oriented interaction has a positive impact on consumer trust.	supported
H2b	Relationship-oriented interaction has a positive impact on consumer trust.	supported
H3	Consumer trust positively affects consumers' purchase intention for agricultural products.	supported
H4a	Consumer trust acts as a mediator between task-oriented interaction and purchase intention.	supported
H4b	Consumer trust acts as a mediator between relationship-oriented interaction and purchase intention.	supported

VI. Conclusion And Suggestions

Conclusion

Through empirical analysis, this study systematically revealed the influence mechanism of the interactive types of live-streamers (task-oriented interaction, relationship-oriented interaction) in agricultural product e-commerce live streaming on consumers' purchase intention. The results of this study indicate that both task-oriented interaction and relationship-oriented interaction have a significant positive impact on the purchase intentions of agricultural product consumers. Consumer trust plays an important mediating role between the interactive types of live-streamers and purchase intention. Specifically, task-oriented interaction gains consumer trust by demonstrating the professionalism and capabilities of live-streamers, while relationship-oriented interaction acquires consumer trust by conveying sincerity and kindness. Ultimately, consumer trust is transformed into consumers' purchase intention.

Research Implications

Theoretical Significance

Firstly, this paper expands the theoretical perspective of research on e-commerce live streaming interaction. Most previous studies have treated the interaction of live-streamers as a single construct for examination, and have rarely deeply distinguished the mechanisms of the differential effects of different interaction types. This study divides live-streamers' interaction into two categories: task-oriented and relationship-oriented, and empirically examines the differentiated influence paths of these two types on consumers' purchase intention for agricultural products. This enriches the application of the interaction classification theory in the e-commerce live streaming context and provides an operationalized variable definition and measurement framework for subsequent research. Secondly, this paper deepens the understanding of the trust transmission mechanism. This study confirms that consumer trust plays a mediating role between the two interaction types and consumers' purchase intention. It reveals that task-oriented interaction mainly affects the consumers' purchase intention through trust in live-streamers' professional ability, and relationship-oriented interaction mainly affects that through trust in live-streamers' emotions. This provides a more precise theoretical explanation for understanding the formation and transformation of consumer trust in agricultural product live streaming.

Practical Significance

Firstly, this paper provides empirical evidence for the precise design of interactive strategies for agricultural product live streaming. The research results show that both task-oriented interaction and relationship-oriented interaction can effectively enhance consumer trust and purchase intention. Therefore, live-streamers of agricultural products should flexibly allocate the two types of interaction resources based on product characteristics and live streaming goals: for agricultural products with high complexity in quality identification (such as fresh fruits and vegetables), task-oriented interaction should be strengthened to reduce consumer information asymmetry; for agricultural products with weak brand premium but high emotional value (such as regional characteristic agricultural products), relationship-oriented interaction should be emphasized to enhance consumer emotional identification. Secondly, this paper provides a reference for content optimization and mechanism design of live streaming platforms. The research has confirmed the key mediating role of consumer trust between the interactive types of live-streamers and purchase intention, suggesting that the platform should strengthen support in the design of interaction tools and the display of trust indicators. For example, live-streamers can be provided with more comprehensive product display tools and interaction function modules, establish a consumer evaluation and trust feedback mechanism, enhance consumer trust, and improve the conversion efficiency of live streaming.

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Conflicts of interest

All authors disclose no actual or potential conflicts of interest, including any financial, personal, or other relationships with other people or organizations that could inappropriately influence (bias) their work.

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