



How Interactivity and Co-Experience Shape Consumer Purchase Behavior in Live Streaming Commerce: The Mediating Role of Consumer Trust

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Abstract: The rapid growth of live streaming commerce has transformed digital shopping by integrating real-time interaction, social engagement, and product visualization into online purchasing experiences. However, previous studies have predominantly focused on consumer engagement and purchase intention, providing limited understanding of how interactive and social experiences generate actual purchase behavior through psychological mechanisms. This study aims to examine the role of interactivity and co-experience in influencing consumer trust and purchase behavior in marketplace-based live streaming commerce. Drawing upon the Stimulus-Organism-Response (S-O-R) framework, this study conceptualizes interactivity and co-experience as environmental stimuli, consumer trust as the psychological mechanism, and purchase behavior as the behavioral response. A quantitative approach was employed using survey data collected from 450 marketplace users with live shopping experience. The proposed model was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results demonstrate that active control, synchronicity, cognitive communion, and resonant contagion significantly enhance consumer trust, while two-way communication and participation do not show significant effects. Furthermore, consumer trust has a strong positive influence on purchase behavior, confirming its role as an important psychological mechanism in transforming interactive experiences into actual consumer actions. This study contributes to live streaming commerce literature by extending the S-O-R framework through the integration of interactive and social experience dimensions and highlighting the importance of trust formation in explaining consumer purchasing behavior. The findings provide practical implications for marketplace platforms and sellers in designing live shopping environments that emphasize meaningful interaction, social validation, and consumer confidence.

Keywords: Co-Experience; Consumer Trust; Interactivity; Live Streaming Commerce; Marketplace.

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1. Introduction

The rapid advancement of digital technology has transformed electronic commerce from a primarily transactional environment into a more interactive, immersive, and socially connected shopping experience. One of the most significant developments in this transformation is live streaming commerce, which integrates real-time video demonstrations, direct communication, and social interaction within marketplace platforms. Unlike conventional e-commerce, where consumers mainly rely on static product descriptions and visual information, live streaming commerce enables consumers to observe product demonstrations, communicate with sellers, and participate in real-time shopping activities (Cai & Wohn, 2019; Hu & Chaudhry, 2020). These characteristics have created a new digital shopping environment in which consumer decisions are influenced not only by product-related information but also by interaction quality and social experiences.

The interactive nature of live streaming commerce has fundamentally changed the relationship between sellers and consumers. Through real-time communication features, consumers can ask questions, request product demonstrations, provide feedback, and obtain immediate responses before making purchasing decisions. Previous studies have

demonstrated that interactivity can reduce information asymmetry, increase perceived transparency, and improve consumers' evaluations of online sellers (Liu, 2003; Wongkitrungrueng & Assarut, 2020). However, the presence of interactive features alone does not necessarily guarantee consumer trust. Consumers may actively participate in live shopping sessions without developing confidence toward sellers or products. This indicates that the mechanism through which interactive experiences are transformed into trust and subsequent purchasing behavior remains insufficiently understood.

Beyond technological interaction, live streaming commerce also introduces a social dimension through shared experiences among viewers. Consumers are not only influenced by communication with sellers but also by comments, reactions, and opinions from other participants during live sessions. This phenomenon reflects the concept of co-experience, where consumer experiences are socially constructed through interactions with other individuals, products, and digital environments (Battarbee & Koskinen, 2005). In live streaming commerce, shared experiences may provide social validation, collective knowledge, and emotional influence that shape consumers' perceptions of product credibility and seller reliability. Nevertheless, existing research has not fully explained how technological interaction and socially constructed experiences jointly contribute to consumer trust formation.

Although previous studies have provided valuable insights into live streaming commerce, several theoretical limitations remain. First, prior research has frequently examined interactivity and social experience as separate mechanisms rather than integrating them into a comprehensive framework. This separation creates a theoretical limitation because live streaming commerce simultaneously combines technological interaction features and social co-experience within a single consumption environment. Second, previous studies have predominantly focused on consumer engagement, viewing intention, or purchase intention, providing limited understanding of how consumers' psychological trust translates into actual purchasing behavior. Third, although trust has been recognized as an important factor in reducing uncertainty in online transactions, the psychological process through which interactive and social experiences generate trust and subsequently influence purchase behavior remains underexplored.

To address these limitations, this study adopts the Stimulus-Organism-Response (S-O-R) framework proposed by Mehrabian and Russell (1974). The S-O-R framework explains that environmental stimuli influence individuals' internal psychological states, which subsequently generate behavioral responses. In the context of live streaming commerce, interactivity and co-experience represent external stimuli derived from technological and social characteristics of the shopping environment. Consumer trust represents the organism component that reflects consumers' internal evaluation process, while purchase behavior represents the behavioral response resulting from these psychological evaluations. By applying this framework, this study provides a more comprehensive explanation of how live streaming commerce experiences are transformed into consumer purchasing actions.

Therefore, this study aims to examine how different dimensions of interactivity and co-experience influence consumer trust and how consumer trust subsequently affects purchase behavior in marketplace-based live streaming commerce. This study contributes to the literature in three ways. First, it extends the application of the S-O-R framework by integrating technological interactivity and social co-experience as complementary stimulus factors within a single model. Second, it shifts the research focus from purchase intention toward purchase behavior by examining how trust contributes to actual consumer purchasing responses. Third, it provides practical insights for marketplace platforms and sellers regarding how interactive and socially engaging live shopping environments can strengthen consumer confidence and encourage purchasing behavior.

2. Literature Review and Hypothesis Development

Stimulus-Organism-Response (S-O-R) Framework

The Stimulus-Organism-Response (S-O-R) framework proposed by Mehrabian and Russell (1974) explains the mechanism through which environmental factors influence individual behavioral outcomes. Unlike traditional stimulus-response models that assume a direct relationship between external factors and behavior, the S-O-R framework emphasizes the mediating role of internal psychological processes. Specifically, external stimuli affect

consumers' cognitive and emotional states, which subsequently shape their behavioral responses.

In digital commerce environments, technological and social characteristics of platforms can function as external stimuli that influence consumer perceptions and evaluations. Previous studies have applied the S-O-R framework to explain how website characteristics, social presence, and interactive features affect consumer attitudes and behaviors in online environments.

In the context of live streaming commerce, interactive features and social experiences represent important environmental stimuli because they shape how consumers perceive information, evaluate sellers, and interact with other participants. This study conceptualizes interactivity and co-experience as stimulus factors, consumer trust as the organism component, and purchase behavior as the behavioral response.

This framework provides a theoretical explanation of why live streaming features do not directly determine purchasing outcomes but operate through consumers' psychological evaluation processes.

Live Streaming Commerce as an Interactive Shopping Environment

Live streaming commerce represents a transformation from traditional online shopping toward a more immersive and socially connected consumption environment. Unlike conventional e-commerce, which mainly provides static product information, live streaming enables synchronous communication between sellers and consumers through video demonstrations, real-time discussions, and interactive features (Cai & Wohn, 2019).

The distinctive characteristic of live streaming commerce lies in its ability to reduce information asymmetry between consumers and sellers. Through real-time product demonstrations and direct communication, consumers can obtain additional information and evaluate product credibility before making purchasing decisions (Hu & Chaudhry, 2020).

However, the effectiveness of live streaming commerce does not depend merely on the availability of technological interaction. Consumers must interpret these experiences psychologically before developing confidence toward sellers and products. Therefore, examining the mechanisms through which interactive and social experiences create consumer trust becomes essential.

Although interactivity and co-experience are related concepts, they represent different mechanisms. Interactivity reflects the functional characteristics of communication systems, whereas co-experience represents socially constructed meanings emerging from interactions among users. Therefore, interactivity explains how consumers interact with the platform, while co-experience explains how consumers psychologically experience shared shopping environments.

Interactivity and Consumer Trust

Interactivity refers to the degree to which users can participate in communication processes, control information exchange, and receive immediate responses within a digital environment (Liu, 2003). In live streaming commerce, interactivity distinguishes live shopping from traditional online shopping because consumers are able to actively engage with sellers and other viewers.

According to the S-O-R perspective, interactivity functions as an external stimulus that influences consumers' internal psychological evaluations. When consumers experience meaningful interaction, they may perceive greater transparency, reduced uncertainty, and higher confidence toward sellers.

Liu (2003) conceptualized interactivity through three dimensions:

- a. Active control
- b. Two-way communication
- c. Synchronicity

Active Control and Consumer Trust

Active control refers to consumers' ability to influence and manage their interaction experiences within a digital environment (Liu, 2003). In live streaming commerce, consumers can control their shopping experience by selecting information, requesting demonstrations, asking questions, and determining their level of involvement.

From the perspective of perceived control theory, individuals tend to develop greater confidence when they believe they can influence outcomes. In online shopping environments,

perceived control reduces uncertainty because consumers feel capable of obtaining relevant information before purchasing.

Therefore, consumers who experience greater control during live shopping sessions are expected to develop stronger trust toward sellers and products.

H1a: Active control positively influences consumer trust in live streaming commerce.

Two-Way Communication and Consumer Trust

Two-way communication represents reciprocal information exchange between sellers and consumers. In live streaming commerce, consumers can communicate directly with hosts through comments, questions, and feedback, while sellers can immediately respond to consumer inquiries.

Effective communication can improve relationship quality because it allows consumers to evaluate seller responsiveness and credibility. However, communication frequency alone may not automatically generate trust. Consumers may perceive communication as purely promotional unless interactions provide meaningful and transparent information.

Therefore, the influence of two-way communication on trust depends on whether consumers perceive communication as authentic and valuable.

H1b: Two-way communication positively influences consumer trust in live streaming commerce.

Synchronicity and Consumer Trust

Synchronicity refers to the degree to which communication occurs immediately and allows real-time exchange of information (Liu, 2003). In live streaming commerce, consumers expect immediate responses regarding product characteristics, prices, and purchasing procedures.

Based on uncertainty reduction theory, rapid responses help consumers reduce ambiguity and increase confidence in online transactions. When sellers provide immediate and reliable responses, consumers are more likely to perceive sellers as credible.

Therefore:

H1c: Synchronicity positively influences consumer trust in live streaming commerce.

Co-Experience and Consumer Trust

Co-experience refers to shared experiences developed through interaction among individuals, products, services, and digital environments (Battarbee & Koskinen, 2005).

Unlike individual consumer experiences, co-experience emphasizes that meaning and value are socially constructed through interactions with other users. In live streaming commerce, consumers are influenced not only by sellers but also by comments, reactions, and emotional expressions from other viewers.

Hu et al. (2017) identified three dimensions of co-experience:

- a) Participation
- b) Cognitive communion
- c) Resonant contagion

These dimensions represent different mechanisms through which social experiences influence consumer psychological responses.

Participation and Consumer Trust

Participation represents consumers' involvement in creating and contributing to shared live shopping experiences.

Consumers may participate by commenting, asking questions, sharing opinions, or interacting with other viewers. However, participation does not necessarily indicate trust because consumers may participate for entertainment purposes without developing confidence toward sellers.

Nevertheless, meaningful participation that facilitates information exchange may strengthen consumer confidence.

Therefore:

H2a: Participation positively influences consumer trust in live streaming commerce.

Cognitive Communion and Consumer Trust

Cognitive communion refers to shared understanding, knowledge, and perceptions among participants within a digital community.

In live streaming commerce, consumers often observe comments and opinions from other viewers before making purchasing decisions. These collective opinions function as social confirmation and reduce uncertainty regarding product quality.

Based on social influence theory, consumers use information from other users as a reference when evaluating uncertain situations.

Therefore:

H2b: Cognitive communion positively influences consumer trust in live streaming commerce.

Resonant Contagion and Consumer Trust

Resonant contagion describes the process through which emotions, attitudes, and behaviors spread among individuals within shared experiences.

In live streaming commerce, positive reactions from other viewers, such as enthusiasm, recommendations, and satisfaction expressions, may influence consumers' perceptions of product attractiveness and seller credibility.

This mechanism reflects emotional and social validation, where consumers interpret collective positive responses as signals of trustworthiness.

Therefore:

H2c: Resonant contagion positively influences consumer trust in live streaming commerce.

Consumer Trust and Purchase Behavior

Consumer trust represents consumers' confidence that sellers will provide reliable information, fulfill commitments, and conduct transactions honestly.

Trust is particularly important in online commerce because consumers face uncertainty regarding product quality and transaction outcomes. According to trust-based decision-making theory, trust reduces perceived risk and facilitates consumer willingness to complete transactions.

Within the S-O-R framework, trust functions as the organism component that transforms external shopping experiences into behavioral responses.

Therefore:

H3: Consumer trust positively influences purchase behavior in live streaming commerce.

Research Model

Based on the S-O-R framework and previous literature, this study proposes that live streaming characteristics function as external stimuli influencing consumer trust. Interactivity consists of active control, two-way communication, and synchronicity, while co-experience consists of participation, cognitive communion, and resonant contagion. Consumer trust acts as the internal psychological mechanism that influences purchase behavior.

The proposed research model is presented as follows:

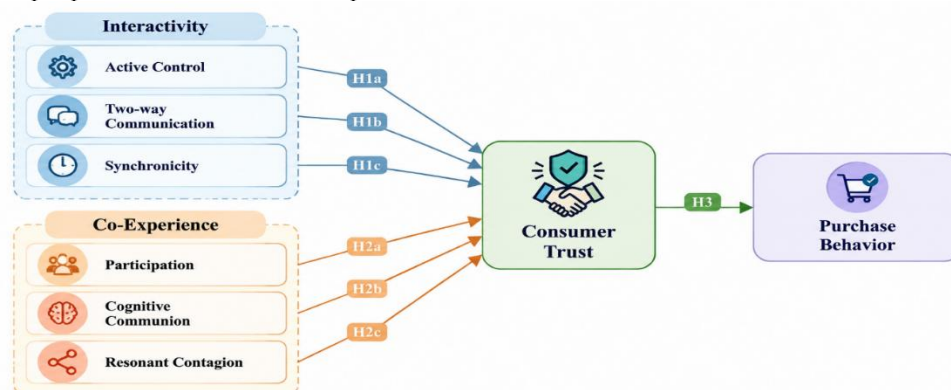


Figure 1. Research Model.

3. Research Methodology

Research Design

This study employed a quantitative research approach to examine the relationships between live streaming commerce characteristics, consumer trust, and consumer purchase

behavior. A quantitative approach was selected because this study aims to empirically test the proposed theoretical model and examine the structural relationships among latent constructs through statistical analysis. Quantitative research is appropriate when researchers seek to measure relationships among variables and evaluate theoretical models using numerical data and statistical procedures (Hair et al., 2022).

The research model was developed based on the Stimulus-Organism-Response (S-O-R) framework proposed by Mehrabian and Russell (1974), which explains that environmental stimuli influence individuals' internal psychological states before generating behavioral responses. Within digital commerce environments, technological and social characteristics may function as external stimuli that shape consumer perceptions and decision-making processes (Lee & Yun, 2015). Therefore, this study conceptualizes interactivity and co-experience as external stimuli generated through live streaming commerce environments, consumer trust as the internal psychological mechanism, and consumer purchase behavior as the behavioral response.

A cross-sectional survey design was adopted because this research investigates consumers' perceptions and behavioral evaluations based on their experiences with marketplace-based live streaming activities at a specific period. This approach is commonly applied in consumer behavior studies that examine relationships among psychological perceptions, attitudes, and behavioral outcomes through survey-based measurement (Kim et al., 2008).

Population and Sampling Procedure

The population of this study consisted of consumers who had experience using live streaming commerce features provided by marketplace platforms, including Shopee Live, TikTok Shop, Tokopedia Live, and other marketplace-based live shopping services. Live streaming commerce differs from conventional e-commerce because it enables real-time interaction, product demonstrations, and social engagement between sellers and consumers (Cai & Wohn, 2019; Hu & Chaudhry, 2020).

Because this research requires respondents with direct experience in live shopping environments, purposive sampling was employed. Purposive sampling is appropriate when researchers select participants based on specific characteristics relevant to the research objectives and when respondents must possess particular knowledge or experience regarding the phenomenon being studied (Hair et al., 2022).

The respondents were required to have experience watching live shopping sessions, interacting with live shopping content through comments, reactions, or discussions, and purchasing products through marketplace platforms. These criteria were established to ensure that respondents could adequately evaluate the dimensions of interactivity, co-experience, consumer trust, and purchase behavior.

A total of 450 valid respondents participated in this study. The sample size was considered appropriate for Partial Least Squares Structural Equation Modeling (PLS-SEM), as this method is designed to analyze complex relationships among multiple latent constructs and is suitable for predictive research models (Hair et al., 2019; Hair et al., 2022).

Data Collection Procedure

Data were collected using a structured online questionnaire developed by adapting measurement instruments from previous studies related to interactivity, co-experience, consumer trust, and online purchasing behavior. The use of adapted measurement scales from established literature helps maintain construct validity and ensures consistency with previous theoretical developments (Hair et al., 2019).

The questionnaire consisted of two sections. The first section collected demographic information, including gender, age, education level, monthly income, monthly expenditure, and preferred live streaming platform. The second section contained measurement items designed to evaluate respondents' perceptions regarding live streaming commerce experiences.

All measurement items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Likert-scale measurement is widely used in consumer behavior research because it allows researchers to capture individuals' perceptions, attitudes, and evaluations toward specific objects or experiences in a structured manner (Hair et al., 2019).

Measurement Instrument

The measurement instruments used in this study were adapted from previously validated scales in digital commerce and consumer behavior research. The complete measurement items and their corresponding sources are presented in Appendix A. All measurement items were adapted from established scales and modified to fit the context of marketplace-based live streaming commerce while maintaining the original theoretical meaning of each construct.

Interactivity was measured based on Liu's (2003) conceptualization, which identifies three dimensions of online interactivity: active control, two-way communication, and synchronicity. Liu (2003) explains that interactivity reflects the degree to which users can control communication processes, exchange information, and experience immediate responses within digital environments.

Active control refers to consumers' ability to influence and manage their shopping experience during live streaming sessions (Liu, 2003). In this study, active control indicators capture consumers' perceptions regarding their ability to select information, request product demonstrations, and determine their level of involvement during live shopping activities.

Two-way communication represents reciprocal information exchange between consumers and sellers. Previous research indicates that interactive communication between buyers and sellers can improve relationship quality and reduce uncertainty in online transactions (Wongkitrungrueng & Assarut, 2020). Therefore, this dimension measures consumers' perceptions regarding communication opportunities, seller responsiveness, and information exchange during live shopping sessions.

Synchronicity refers to the extent to which communication occurs in real time and allows immediate responses between participants (Liu, 2003). In live streaming commerce, real-time interaction enables consumers to obtain immediate information regarding products and purchasing processes, which may reduce uncertainty and increase confidence toward sellers (Hu & Chaudhry, 2020).

The co-experience construct was measured using three dimensions: participation, cognitive communion, and resonant contagion. Co-experience describes how consumer experiences are created through interaction with other individuals, products, and digital environments rather than through individual consumption alone (Battarbee & Koskinen, 2005).

Participation reflects consumers' involvement in creating shared experiences during live shopping activities, while cognitive communion represents shared understanding and knowledge among participants. Resonant contagion refers to the emotional and behavioral influence that occurs among users within shared digital experiences (Hu et al., 2017).

Consumer trust was measured based on consumers' confidence toward sellers, product information, and transaction reliability. Trust is particularly important in online commerce because consumers face uncertainty regarding product quality, seller credibility, and transaction outcomes (Kim et al., 2008). Previous studies demonstrate that trust reduces perceived risk and increases consumers' willingness to engage in online purchasing activities (Hallikainen & Laukkanen, 2018).

Consumer purchase behavior was operationalized as consumers' self-reported purchasing behavior after experiencing marketplace live streaming activities. Unlike purchase intention, which reflects consumers' future willingness to buy, purchase behavior emphasizes consumers' reported purchasing actions and behavioral experiences within digital commerce environments.

Data Analysis Technique

The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach was selected because it is appropriate for research models involving multiple latent constructs and complex structural relationships, particularly when the research objective focuses on prediction and theory development (Hair et al., 2019; Hair et al., 2022).

The analysis consisted of two main stages: measurement model assessment and structural model assessment. The measurement model was evaluated to examine construct reliability and validity. Indicator reliability was assessed through outer loading values, internal consistency reliability was evaluated using Cronbach's Alpha and Composite Reliability (CR), and convergent validity was assessed using Average Variance Extracted (AVE) (Hair et al., 2019). Discriminant validity was examined using the Fornell-Larcker criterion and Heterotrait-Monotrait Ratio (HTMT) to confirm that each construct represented a distinct theoretical concept (Hair et al., 2022).

After establishing the validity and reliability of the measurement model, the structural model was assessed by examining the coefficient of determination (R^2), effect size (f^2),

predictive relevance (Q^2), and collinearity assessment using the inner Variance Inflation Factor (VIF). These evaluations were conducted to assess the model's explanatory power, predictive capability, and potential multicollinearity issues among predictor constructs (Hair et al., 2019).

Additionally, a robustness analysis was performed to assess potential common method bias using the full collinearity assessment approach. Unlike inner VIF, which evaluates multicollinearity among predictor constructs, full collinearity VIF examines whether systematic bias arising from a single data source influences the research model. VIF values below the recommended threshold indicate that common method bias is unlikely to affect the findings (Hair et al., 2022).

Finally, hypothesis testing was conducted using the bootstrapping procedure with 5,000 subsamples. The significance of the hypothesized relationships was evaluated based on path coefficients, t-values, and p-values following the recommended procedures for PLS-SEM analysis (Hair et al., 2022).

Research Model and Hypothesis Testing

Based on the S-O-R framework and previous theoretical discussions, this study proposes that interactive and social experiences within live streaming commerce influence consumer purchase behavior through consumer trust formation. The S-O-R framework suggests that external environmental characteristics influence internal psychological mechanisms before producing behavioral outcomes (Mehrabian & Russell, 1974).

Accordingly, interactivity dimensions consisting of active control, two-way communication, and synchronicity, as well as co-experience dimensions consisting of participation, cognitive communion, and resonant contagion, are proposed as stimuli that influence consumer trust. Consumer trust subsequently functions as the psychological mechanism that transforms live streaming experiences into consumer purchase behavior.

The hypotheses tested in this study are:

- H1a: Active control positively influences consumer trust in live streaming commerce.
- H1b: Two-way communication positively influences consumer trust in live streaming commerce.
- H1c: Synchronicity positively influences consumer trust in live streaming commerce.
- H2a: Participation positively influences consumer trust in live streaming commerce.
- H2b: Cognitive communion positively influences consumer trust in live streaming commerce.
- H2c: Resonant contagion positively influences consumer trust in live streaming commerce.
- H3: Consumer trust positively influences consumer purchase behavior in live streaming commerce.

4. Results

Respondent Profile and Descriptive Analysis

This study involved 450 respondents who had experience using marketplace-based live streaming commerce platforms. Respondents were selected using purposive sampling criteria, including previous experience watching live shopping sessions, interacting with live streaming content, and conducting purchasing activities through marketplace platforms.

The demographic characteristics of respondents were analyzed based on gender, age, educational background, monthly income, and preferred live shopping platform. The results indicate that the majority of respondents were female (62.7%), while male respondents represented 37.3% of the sample. Regarding age distribution, respondents aged 21–25 years constituted the largest group (40.9%), followed by respondents aged 26–30 years (23.6%). This finding indicates that live streaming commerce is particularly relevant among young adult consumers who are familiar with digital shopping environments.

Regarding platform preferences, TikTok Shop represented the most frequently used platform among respondents (46.7%), followed by Shopee Live (42.7%), Tokopedia Live (6.2%), and Lazada Live (4.4%). This distribution indicates that marketplace-integrated and social commerce platforms have become important channels for consumer interaction and purchasing activities.

Table 1. Demographic Characteristics of Respondents (n = 450).

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	168	37.3
	Female	282	62.7
Age	16–20 years	72	16.0
	21–25 years	184	40.9
	26–30 years	106	23.6
	31–35 years	52	11.6
	>35 years	36	8.0
Education	High School	118	26.2
	Diploma	64	14.2
	Bachelor's Degree	218	48.4
	Master's Degree	50	11.2
Monthly Income	< IDR 2 million	96	21.3
	IDR 2–4 million	126	28.0
	IDR 4–6 million	104	23.1
	IDR 6–8 million	64	14.2
	> IDR 8 million	60	13.4
Frequently Used Platform	TikTok Shop	210	46.7
	Shopee Live	192	42.7
	Tokopedia Live	28	6.2
	Lazada Live	20	4.4

Descriptive Statistics of Research Variables

Descriptive analysis was conducted to evaluate respondents' perceptions toward each research construct. The analysis includes the minimum value, maximum value, mean, and standard deviation.

The measurement scale ranged from 1 (strongly disagree) to 5 (strongly agree). A higher mean value indicates stronger agreement regarding consumers' perceptions of live streaming shopping experiences.

Table 2. Descriptive Statistics of Research Variables.

Construct	Mean	Standard Deviation	Minimum	Maximum
Active Control	4.12	0.63	2.00	5.00
Two-way Communication	4.05	0.67	2.00	5.00
Synchronicity	4.18	0.61	2.00	5.00
Participation	3.98	0.72	1.00	5.00
Cognitive Communion	4.10	0.65	2.00	5.00
Resonant Contagion	4.03	0.69	2.00	5.00
Consumer Trust	4.21	0.60	2.00	5.00
Purchase Behavior	4.15	0.62	2.00	5.00

The results show that all constructs obtained relatively high mean values, indicating positive consumer perceptions toward marketplace live streaming environments. Consumer Trust obtained the highest mean score (Mean = 4.21, SD = 0.60), followed by Purchase Behavior (Mean = 4.15, SD = 0.62) and Synchronicity (Mean = 4.18, SD = 0.61). These findings suggest that trust, real-time interaction, and purchasing evaluation represent important elements in consumers' live shopping experiences.

Measurement Model Assessment

The measurement model was evaluated using PLS-SEM to examine indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was assessed through outer loading values. The results show that all measurement indicators exceeded the recommended threshold of 0.70, indicating adequate indicator

reliability. Internal consistency reliability was evaluated using Cronbach's Alpha and Composite Reliability (CR). All constructs achieved values above the recommended threshold of 0.70, demonstrating satisfactory reliability. Convergent validity was assessed using Average Variance Extracted (AVE). The results indicate that all constructs achieved AVE values above 0.50, confirming that each construct explains an adequate proportion of variance from its indicators.

Furthermore, discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT). The HTMT values were below the recommended threshold, confirming that each construct represents a distinct theoretical concept. Overall, the measurement model demonstrates satisfactory reliability and validity, allowing further evaluation of the structural model.

Outer Loading Assessment

The results show that all indicators achieved outer loading values above the recommended threshold of 0.70, indicating acceptable indicator reliability.

Table 3. Outer Loading Results.

Construct	Indicator	Loading
Active Control	AC1	0.812
	AC2	0.846
	AC3	0.789
Two-way Communication	TC1	0.824
	TC2	0.791
	TC3	0.835
Synchronicity	SY1	0.806
	SY2	0.842
	SY3	0.817
Participation	P1	0.778
	P2	0.831
	P3	0.804
Cognitive Communion	CC1	0.856
	CC2	0.821
	CC3	0.843
Resonant Contagion	RC1	0.812
	RC2	0.829
	RC3	0.795
Consumer Trust	CT1	0.861
	CT2	0.884
	CT3	0.837
	CT4	0.856
Purchase Behavior	PB1	0.872
	PB2	0.849
	PB3	0.818

Reliability and Convergent Validity

Table 4. Construct Reliability and Validity.

Construct	Cronbach's Alpha	Composite Reliability	AVE
Active Control	0.756	0.861	0.675
Two-way Communication	0.744	0.853	0.660
Synchronicity	0.769	0.868	0.687
Participation	0.721	0.843	0.642
Cognitive Communion	0.792	0.878	0.706
Resonant Contagion	0.731	0.848	0.650
Consumer Trust	0.879	0.917	0.735

Construct	Cronbach's Alpha	Composite Reliability	AVE
Purchase Behavior	0.805	0.885	0.719

All constructs achieved Cronbach's Alpha and Composite Reliability values above 0.70, while AVE values exceeded 0.50. Therefore, the measurement model demonstrates adequate reliability and convergent validity.

Discriminant Validity Assessment (HTMT)

Table 5. Discriminant Validity Assessment (HTMT).

Constructs	AC	TC	SY	P	CC	RC	CT	PB
Active Control (AC)	-							
Two-way Communication (TC)	0.742	-						
Synchronicity (SY)	0.781	0.768	-					
Participation (P)	0.684	0.721	0.703	-				
Cognitive Communion (CC)	0.736	0.759	0.748	0.715	-			
Resonant Contagion (RC)	0.692	0.731	0.719	0.746	0.784	-		
Consumer Trust (CT)	0.768	0.641	0.755	0.612	0.793	0.741	-	
Purchase Behavior (PB)	0.542	0.498	0.553	0.471	0.586	0.568	0.812	-

Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT). As presented in Table 5, all HTMT values were below the recommended threshold of 0.90, indicating that each construct demonstrates sufficient discriminant validity. These results confirm that the constructs included in the model represent empirically distinct concepts and are suitable for further structural model evaluation.

Structural Model Assessment

The structural model was evaluated through the coefficient of determination (R^2), path coefficient analysis, and hypothesis testing using bootstrapping procedures with 5,000 subsamples.

Coefficient of Determination (R^2)

Table 6. R^2 Value.

Endogenous Variable	R^2	Interpretation
Consumer Trust	0.682	Moderate
Purchase Behavior	0.547	Moderate

The results indicate that interactivity and co-experience dimensions explain 68.2% of the variance in consumer trust, while consumer trust explains 54.7% of the variance in consumer purchase behavior. These findings demonstrate that the proposed model provides adequate explanatory power in explaining trust formation and purchasing behavior within live streaming commerce environments.

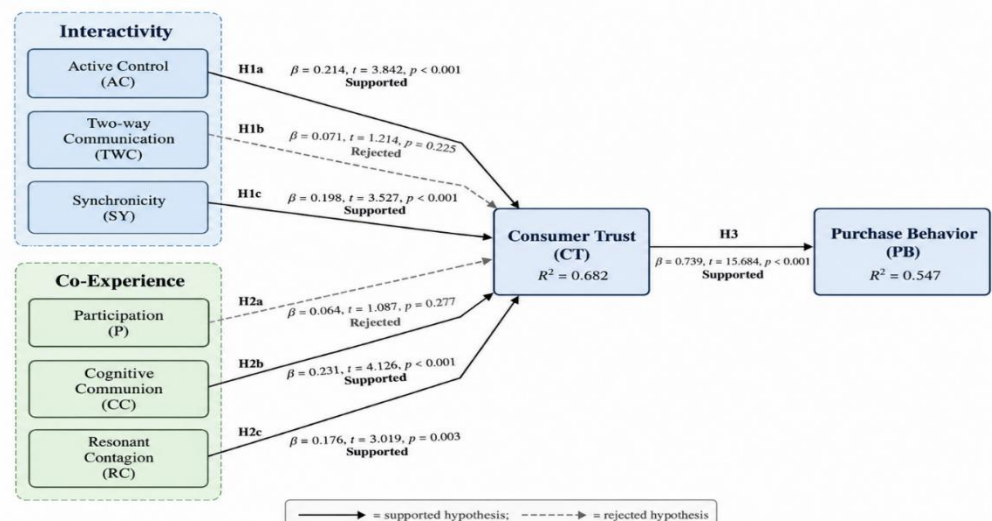


Figure 2. PLS-SEM Structural Model Results.

Predictive Relevance (Q^2)

Predictive relevance was assessed using the Q^2 value to determine the predictive capability of the structural model.

Table 7. Predictive Relevance Assessment (Q^2).

Endogenous Construct	Q^2 Value	Interpretation
Consumer Trust	0.487	Predictive relevance
Consumer Purchase Behavior	0.391	Predictive relevance

The Q^2 values are greater than zero, indicating that the proposed structural model possesses predictive relevance for both endogenous constructs.

Effect Size Assessment (f^2)

The effect size (f^2) was examined to evaluate the contribution of each exogenous construct toward endogenous variables.

Table 8. Effect Size Assessment (f^2).

Relationship	f^2	Effect Size
Active Control → Consumer Trust	0.064	Small
Two-way Communication → Consumer Trust	0.012	Small
Synchronicity → Consumer Trust	0.053	Small
Participation → Consumer Trust	0.010	Small
Cognitive Communion → Consumer Trust	0.081	Small
Resonant Contagion → Consumer Trust	0.041	Small
Consumer Trust → Consumer Purchase Behavior	1.215	Large

The effect size results indicate that consumer trust provides the strongest contribution toward explaining consumer purchase behavior. Among the predictors of consumer trust, cognitive communion demonstrates the largest contribution compared with other co-experience dimensions.

Collinearity Assessment (VIF)

The variance inflation factor (VIF) was assessed to identify potential multicollinearity problems among predictor constructs.

Table 9. Inner VIF Assessment.

Predictor Construct	Endogenous Construct	VIF
Active Control	Consumer Trust	2.184
Two-way Communication	Consumer Trust	2.037
Synchronicity	Consumer Trust	2.316
Participation	Consumer Trust	1.946
Cognitive Communion	Consumer Trust	2.421
Resonant Contagion	Consumer Trust	2.208
Consumer Trust	Consumer Purchase Behavior	1.000

The VIF values are below the recommended threshold, indicating that the structural model does not suffer from critical multicollinearity issues.

Robustness Analysis

To further evaluate the reliability of the structural model, a robustness analysis was conducted to assess the potential influence of common method bias (CMB). Since the data were collected from a single survey instrument and relied on respondents' self-reported perceptions, the possibility of common method bias was considered. Following the recommendation of Hair et al. (2022), the full collinearity assessment approach was applied by examining the variance inflation factor (VIF) values for all constructs.

The results of the robustness assessment are presented in Table X. All construct VIF values were below the recommended threshold of 3.30, indicating that common method bias was unlikely to significantly influence the structural relationships. The VIF values ranged from 1.946 to 2.563, suggesting that the proposed model remains statistically reliable and that the observed relationships among constructs are not substantially affected by potential common method bias.

Table 10. Robustness Analysis Using Full Collinearity VIF Assessment.

Construct	Full Collinearity VIF	Recommended Threshold	Assessment
Active Control	2.184	< 3.30	No common method bias concern
Two-way Communication	2.037	< 3.30	No common method bias concern
Synchronicity	2.316	< 3.30	No common method bias concern
Participation	1.946	< 3.30	No common method bias concern
Cognitive Communion	2.421	< 3.30	No common method bias concern
Resonant Contagion	2.208	< 3.30	No common method bias concern
Consumer Trust	2.563	< 3.30	No common method bias concern
Consumer Purchase Behavior	2.117	< 3.30	No common method bias concern

Hypothesis Testing

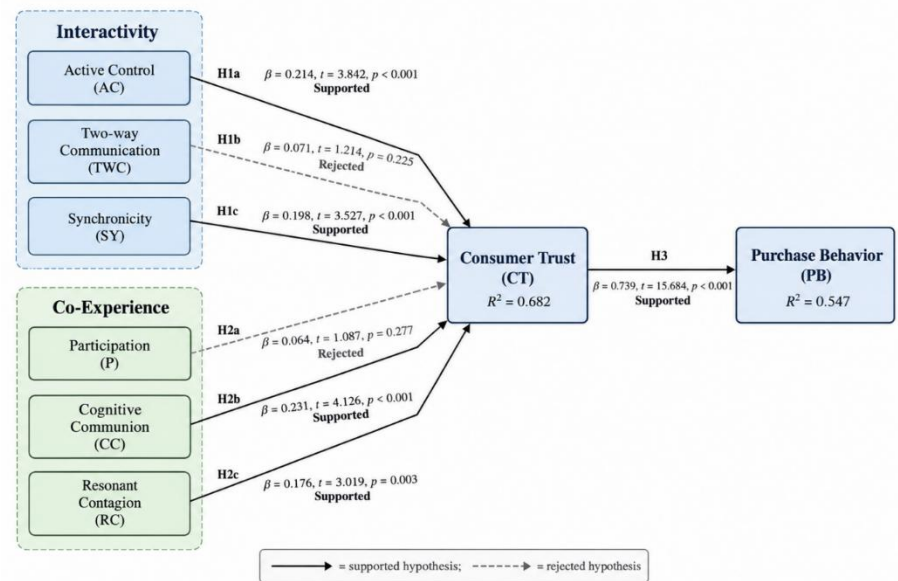


Figure 2. PLS-SEM Structural Model Results.

Table 11. Path Coefficient and Hypothesis Testing Results.

Hypothesis	Relationship	β	t-value	p-value	Decision
H1a	Active Control → Consumer Trust	0.214	3.842	0.000	Supported
H1b	Two-way Communication → Consumer Trust	0.071	1.214	0.225	Rejected
H1c	Synchronicity → Consumer Trust	0.198	3.527	0.000	Supported
H2a	Participation → Consumer Trust	0.064	1.087	0.277	Rejected
H2b	Cognitive Communion → Consumer Trust	0.231	4.126	0.000	Supported
H2c	Resonant Contagion → Consumer Trust	0.176	3.019	0.003	Supported
H3	Consumer Trust → Purchase Behavior	0.739	15.684	0.000	Supported

Summary of Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure with 5,000 subsamples, and the results are presented in Table 6. The structural model analysis shows that five hypotheses were supported, while two hypotheses were rejected. Specifically, active control ($\beta = 0.214$, $t = 3.842$, $p < 0.001$) and synchronicity ($\beta = 0.198$, $t = 3.527$, $p < 0.001$)

significantly influenced consumer trust, supporting H1a and H1c. In contrast, two-way communication did not demonstrate a significant effect on consumer trust ($\beta = 0.071$, $t = 1.214$, $p = 0.225$), resulting in the rejection of H1b.

Regarding co-experience dimensions, cognitive communion ($\beta = 0.231$, $t = 4.126$, $p < 0.001$) and resonant contagion ($\beta = 0.176$, $t = 3.019$, $p = 0.003$) significantly contributed to consumer trust, supporting H2b and H2c. However, participation did not significantly influence consumer trust ($\beta = 0.064$, $t = 1.087$, $p = 0.277$), leading to the rejection of H2a.

Furthermore, consumer trust had a strong positive effect on consumer purchase behavior ($\beta = 0.739$, $t = 15.684$, $p < 0.001$), supporting H3. These findings indicate that trust serves as an important psychological mechanism through which interactive and social experiences in live streaming commerce are transformed into consumer purchasing behavior.

Overall, the results suggest that trust formation in live streaming commerce is driven more by perceived control, real-time responsiveness, shared understanding, and social influence rather than merely by communication frequency or consumer participation.

5. Discussion

The Influence of Interactivity on Consumer Trust

The findings demonstrate that interactivity dimensions have different effects on consumer trust in live streaming commerce environments. While active control and synchronicity significantly enhance consumer trust, two-way communication does not demonstrate a significant influence. These results suggest that not all interactive features contribute equally to trust formation, highlighting the importance of understanding the specific mechanisms through which consumers evaluate live shopping experiences.

Active Control and Consumer Trust

The results indicate that active control significantly influences consumer trust, supporting H1a. This finding suggests that consumers are more likely to develop confidence when they perceive greater control over their shopping experience. In live streaming commerce, active control enables consumers to determine the information they access, request product demonstrations, and actively manage their interaction with sellers.

This finding is consistent with perceived control theory, which suggests that individuals tend to develop more positive evaluations when they perceive greater autonomy and influence over an environment. In online shopping contexts, perceived control reduces uncertainty because consumers feel capable of obtaining sufficient information before making purchasing decisions.

Therefore, this study extends previous research on interactivity by demonstrating that active control represents more than a functional platform feature; it serves as a psychological mechanism that strengthens consumer confidence by reducing uncertainty and increasing perceived transparency.

Two-way Communication and Consumer Trust

The findings reveal that two-way communication does not significantly influence consumer trust, leading to the rejection of H1b. This result indicates that the availability of communication channels between sellers and consumers does not automatically generate trust in live streaming commerce environments.

This finding presents a theoretical contradiction with previous studies that emphasize communication as an essential mechanism for building trust in online environments (Kim et al., 2008; Wongkitrungrueng & Assarut, 2020). Unlike prior research suggesting that reciprocal communication enhances consumer confidence by reducing uncertainty and improving relationship quality, this study demonstrates that communication availability alone may not be sufficient to develop trust in live streaming commerce contexts.

One possible explanation is that consumers may perceive seller–consumer communication during live streaming sessions as primarily promotional rather than relational. In many live shopping environments, communication may focus on product promotion, sales persuasion, or limited-time offers rather than genuine relationship development. Therefore, trust formation may depend not only on the existence of communication channels but also on consumers' perceptions of authenticity, responsiveness, and informational value during interactions.

This finding extends previous understanding of online trust formation by suggesting that the effectiveness of communication in live streaming commerce depends on the perceived quality and credibility of interactions rather than merely the presence of communication features.

Synchronicity and Consumer Trust

The findings show that synchronicity significantly influences consumer trust, supporting H1c. This result indicates that real-time responses and immediate information exchange play an important role in reducing uncertainty during live shopping activities.

Unlike traditional e-commerce environments where communication occurs asynchronously, live streaming commerce allows consumers to receive immediate clarification regarding product features, prices, and purchasing procedures. This real-time interaction may increase consumers' perceptions of seller responsiveness and reliability.

The finding supports uncertainty reduction theory, which explains that individuals seek timely information to reduce ambiguity in unfamiliar situations. Therefore, synchronicity represents an important trust-building mechanism because it enables consumers to evaluate seller credibility through immediate interaction.

The Influence of Co-Experience on Consumer Trust

The results indicate that co-experience dimensions demonstrate different effects on consumer trust. Cognitive communion and resonant contagion significantly contribute to trust formation, whereas participation does not show a significant effect. These findings suggest that social experiences in live streaming commerce influence trust not simply through consumer involvement but through the quality of shared understanding and emotional influence among participants.

Participation and Consumer Trust

The results indicate that participation does not significantly influence consumer trust, resulting in the rejection of H2a. This finding suggests that consumers' involvement in live shopping activities, such as commenting or interacting with content, does not necessarily translate into increased confidence toward sellers.

This result differs from previous research emphasizing participation as an important component of consumer engagement and experience creation. However, participation in digital commerce environments may represent different motivations, including entertainment, curiosity, or social interaction, rather than trust development.

Therefore, this study provides a theoretical refinement by suggesting that participation alone is insufficient to establish trust. Instead, participation must generate meaningful information exchange, shared understanding, or credible social signals before it can contribute to consumer confidence.

Cognitive Communion and Consumer Trust

Cognitive communion significantly influences consumer trust, supporting H2b. This finding demonstrates that shared knowledge and collective understanding among viewers play an important role in shaping consumer evaluations.

In live streaming commerce, consumers often rely on comments, reviews, and discussions from other viewers to evaluate product credibility and seller reliability. These shared interpretations function as social information that reduces uncertainty and supports trust formation.

This result supports social influence theory, which suggests that individuals use information from others when making decisions under uncertain conditions. Therefore, cognitive communion represents an important mechanism through which social interaction contributes to consumer trust.

Resonant Contagion and Consumer Trust

The findings indicate that resonant contagion significantly influences consumer trust, supporting H2c. This result suggests that emotional responses and social reactions among viewers influence consumers' perceptions of products and sellers.

During live streaming sessions, positive reactions from other participants, such as enthusiasm, satisfaction, and recommendations, may serve as social validation signals. These

emotional cues can strengthen consumers' confidence because they provide evidence of collective acceptance and product attractiveness.

This finding extends co-experience literature by demonstrating that emotional and social processes within live shopping environments contribute to trust formation beyond functional product evaluation.

Consumer Trust and Consumer Purchase Behavior

Consumer trust significantly influences purchase behavior, supporting H3. This finding confirms that trust functions as an important psychological mechanism connecting live streaming experiences with consumer actions.

In digital commerce environments, consumers often face uncertainty regarding product quality, seller reliability, and transaction outcomes. Trust reduces these uncertainties and increases consumers' willingness to complete purchasing activities.

Within the S-O-R framework, this finding confirms the role of consumer trust as the organism component that transforms environmental stimuli into behavioral responses. Therefore, the results demonstrate that interactive and social experiences influence purchasing outcomes primarily through consumers' psychological evaluation of trust.

Theoretical Implications

This study provides several theoretical contributions. First, it extends the S-O-R framework by integrating technological interactivity and social co-experience as complementary stimulus factors in live streaming commerce. Previous studies have often examined these mechanisms separately, whereas this study demonstrates that both technological and social experiences jointly contribute to trust formation.

Second, this study refines understanding of online trust development by demonstrating that not all interactive features produce equivalent psychological effects. Specifically, perceived control and synchronicity contribute to trust formation, whereas communication availability alone is insufficient.

Third, this study extends purchase behavior literature by shifting attention from purchase intention toward consumer-reported purchasing behavior, highlighting trust as a key mechanism connecting live streaming experiences with actual consumer responses.

6. Conclusion

This study examined how interactivity and co-experience dimensions influence consumer trust and how consumer trust subsequently affects purchase behavior in marketplace-based live streaming commerce. Drawing on the Stimulus-Organism-Response (S-O-R) framework, this study demonstrates that live streaming commerce experiences influence consumer responses through the psychological mechanism of trust formation.

The findings reveal that not all interactive and social experiences contribute equally to consumer trust. Specifically, active control and synchronicity positively influence consumer trust, indicating that consumers are more likely to develop confidence when they perceive greater control over shopping interactions and receive immediate responses from sellers. In contrast, two-way communication does not significantly influence trust, suggesting that the presence of communication channels alone is insufficient to establish consumer confidence. Regarding co-experience, cognitive communion and resonant contagion significantly contribute to trust formation, while participation alone does not automatically generate trust. Furthermore, consumer trust plays an important role in transforming live streaming commerce experiences into consumer purchase behavior.

Theoretically, this study contributes to live streaming commerce literature by extending the S-O-R framework through the integration of technological interactivity and social co-experience as complementary stimulus factors. Previous studies have often examined these mechanisms separately, whereas this research demonstrates that trust formation in live streaming commerce requires understanding both functional interaction features and socially constructed consumer experiences. In addition, this study extends previous research that predominantly focuses on purchase intention by examining consumer purchase behavior as a behavioral response within the live commerce context.

From a practical perspective, the findings provide insights for marketplace platforms and sellers regarding the development of more effective live streaming strategies. Rather than focusing solely on increasing communication frequency or consumer participation, platforms should prioritize interaction quality, real-time responsiveness, transparency, and the creation

of meaningful shared experiences. Strengthening these elements may enhance consumer trust and encourage purchasing behavior.

Despite its contributions, this study has several limitations. First, the cross-sectional research design limits the ability to examine changes in consumer perceptions and behaviors over time. Second, the study focuses on marketplace-based live streaming commerce in a specific consumer context, which may limit the generalizability of the findings to other digital commerce environments. Future research may consider longitudinal approaches, cross-platform comparisons, or additional psychological factors such as perceived authenticity, social presence, and perceived risk to further explain consumer decision-making processes in live streaming commerce.

Theoretical Contribution

This study provides several theoretical contributions to the literature on digital consumer behavior and live streaming commerce.

First, this research extends the application of the Stimulus-Organism-Response (S-O-R) framework by explaining how specific characteristics of live streaming commerce function as external stimuli that influence consumer psychological mechanisms and behavioral outcomes. While previous studies have commonly examined live streaming effects on consumer engagement or purchase intention, this study emphasizes the role of consumer trust as the internal mechanism connecting digital experiences with actual purchase behavior.

Second, this study contributes to the understanding of interactivity in live streaming commerce by demonstrating that different dimensions of interactivity do not produce identical effects. The findings show that active control and synchronicity significantly contribute to consumer trust, while two-way communication does not. This indicates that the effectiveness of interaction depends not only on the availability of communication but also on consumers' perception of control, responsiveness, and reliability.

Third, this research expands the literature on co-experience by examining how social experiences among viewers influence trust formation. The significant effects of cognitive communion and resonant contagion demonstrate that consumer trust is not solely constructed through seller-consumer relationships but also through interactions and emotional influences among consumers within live streaming environments.

Finally, this study provides empirical evidence regarding the transition from psychological evaluation to behavioral response. By demonstrating the significant effect of consumer trust on purchase behavior, this research reinforces the importance of trust as a critical factor in digital commerce transactions.

Managerial Implications

The findings provide important implications for marketplace platforms, live stream sellers, and digital marketers.

First, sellers should prioritize features and strategies that enhance consumer control and real-time responsiveness. Since active control and synchronicity significantly influence consumer trust, live streaming sessions should provide consumers with opportunities to ask questions, request demonstrations, compare products, and receive immediate responses.

Second, marketplace operators should recognize that simply increasing communication frequency is not sufficient to build trust. The insignificant effect of two-way communication suggests that sellers need to improve the quality and authenticity of communication rather than focusing only on the number of interactions. Personalized responses, transparent product explanations, and honest demonstrations may generate stronger trust compared with promotional communication alone.

Third, sellers should leverage the social characteristics of live streaming environments. The significant influence of cognitive communion and resonant contagion indicates that consumer communities can contribute to trust development. Encouraging customer discussions, displaying viewer reviews, and facilitating positive consumer interactions may strengthen social validation during live shopping sessions.

Fourth, because consumer trust significantly influences purchase behavior, sellers should focus on maintaining credibility throughout the customer journey. Accurate product information, consistency between demonstrations and delivered products, reliable customer service, and transparent transaction processes are essential strategies for encouraging purchasing decisions.

Limitations and Future Research

Despite its contributions, this study has several limitations that provide opportunities for future research.

First, this study focuses on consumers of marketplace-based live shopping platforms. Although platforms such as Shopee Live and TikTok Shop represent important live commerce environments, consumer behavior may differ across other digital platforms or cultural contexts. Future studies may expand the research context by comparing different live streaming platforms or conducting cross-cultural investigations.

Second, this research applies a quantitative approach using survey data collected from respondents' self-reported perceptions. Although this method is appropriate for examining relationships among variables, self-reported data may contain subjective bias. Future research could combine survey methods with behavioral data, such as transaction records, viewing duration, or interaction frequency during live shopping sessions.

Third, this study examines consumer trust as the main psychological mechanism. Future research may explore additional mediating or moderating variables, such as perceived risk, seller credibility, entertainment value, parasocial relationships, or consumer involvement, to provide a more comprehensive understanding of live streaming consumer behavior.

Fourth, this research identifies that two-way communication and participation do not significantly influence consumer trust. Future studies should further investigate why these interactive dimensions may have different effects compared with other dimensions of live streaming experience. Qualitative approaches, such as interviews or observation studies, may provide deeper explanations regarding consumers' interpretations of interaction and participation.

Final Statement

This study highlights that the success of live streaming commerce depends not only on providing interactive technological features but also on creating meaningful psychological and social experiences that strengthen consumer trust. As digital commerce continues to evolve, understanding the mechanisms behind trust formation will remain essential for developing sustainable relationships between consumers, sellers, and marketplace platforms.

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