Factors Influencing Trust in the Quality of Loquat through Live E-commerce: A Case Study from Meishan City

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Abstract: The key factors influencing consumer trust in the quality of Meishan loquat sold through live e-commerce are investigated in this study, based on a case study of 400 valid survey responses collected from consumers with verified purchase records on major live e-commerce platforms (Douyin and Kuaishou). A quantitative research design is adopted, and the effects of origin authenticity, production transparency, logistics controllability, host credibility, and real-time interaction quality on quality trust are examined, with geographical indication (GI) certification intensity employed as a moderating variable. Results obtained from multiple linear regression and correlation analyses show that all five independent variables are significantly and positively associated with consumer quality trust, and real-time interaction quality and host credibility are identified as the strongest predictors. Furthermore, quality trust is found to exert a positive influence on purchase confidence, including repurchase and recommendation intentions. The moderating role of GI certification intensity is confirmed, as it significantly strengthens the relationship between origin authenticity and quality trust. These findings highlight that interactive experience, credible hosts, transparent production, and certified origin signals are crucial for trust building. Practical implications are provided for optimizing live-streaming strategies and governance mechanisms to facilitate the digital transformation of geographical indication agricultural products under China's rural revitalization strategy.

Keywords: Live E-Commerce; Quality Trust; Geographical Indication Agricultural Products; Meishan Loquat; Host Credibility; Real-Time Interaction; Rural Revitalization

1. Introducion

Background and Significance of Research Problem

The rural revitalization strategy is regarded as a core national policy for promoting agricultural and rural modernization, and farmers' common prosperity is pursued through industrial empowerment. Geographical indication (GI) agricultural products are recognized as the "golden calling card" of the regional economy. By 2023, 2,498 GI products had been approved in China, with an annual output value exceeding 800 billion yuan and more than 30 million employees involved. Meishan City, known as the "Hometown of Loquats in China," was granted national geographical indication certification in 2016, and loquats have been developed as a pillar industry in southwestern Sichuan due to its unique ecological conditions [1].

Channels for GI products have been innovated with the rise of live-streaming e-commerce. In 2023, online retail sales of agricultural products reached 531.6 billion yuan, representing a 12.4% year-on-year increase. Over 30% of these sales were contributed by live-streaming e-commerce, which grew 2.1 times faster than traditional e-commerce. The value of agricultural products is activated through various means. In 2023, live-stream sales of Meishan loquat exceeded 800 million yuan, benefiting 102,000 fruit farmers and increasing household income by 7,800 yuan per household [2].

However, quality trust is regarded as a core bottleneck due to the non-standard nature of GI agricultural products and the disconnected online transaction experience. Three structural dilemmas are identified: a lack of production-side standardization, risks of information distortion in live-streaming, and uncontrollable supply chain losses, which lead to low consumer trust and a high return rate [3].

Existing research gaps have been identified in addressing the quality trust dilemma. The

Meishan loquat case is focused on in this study to explore the key influencing factors and mechanisms of consumer trust in quality within live-streaming e-commerce. The research value lies in empowering producers, optimizing marketing strategies, innovating platform governance, and activating the consumer market. A virtuous cycle is aimed to be established, and a paradigm is provided for the digital transformation of geographical indication agricultural products under the rural revitalization strategy[4].

2. Research Methods

2.1 Study Design

A quantitative approach is adopted in this study, and consumers who purchased Meishan loquats via mainstream live-streaming e-commerce platforms (Douyin/Kuaishou) are focused on. Five independent variables (intensity of origin display, transparency of production process, logistics controllability, host credibility, and quality of real-time interaction) are considered, and their impacts on consumer trust in quality (dependent variable) are examined, with the strength of geographical indication certification set as a moderating variable. Data are collected through a structured questionnaire and analyzed statistically to validate hypotheses, and evidence is provided for addressing quality trust issues in e-commerce platforms for geographical indication agricultural products [5].

2.2 Population and Sample Size

1) Population: Consumers who purchased and signed for Meishan loquats on Douyin/Kuaishou live e-commerce platforms with valid purchase records and who watched the livestream for more than 15 minutes are selected, as authentic feedback can be provided by these consumers.

2) Sample Size: A total of 400 valid respondents are selected through stratified quota sampling, with 200 first-time buyers and 200 repeat purchasers (≥2 times), each accounting for 50%. This sample size is considered to meet statistical requirements, ensure practicality for research, and guarantee the representativeness and reliability of the results..

3. Research And Data Analysis

3.1 Encoding of variables

For the convenience of subsequent analysis, all variables and measurement items are coded. Details are presented in Table 1.

Table 1. Coding Scheme for All Variables and Measurement Items

Variables	Measurement code	Measurement Items
Origin Authenticity	0A1	The anchor clearly displayed the National Geographical Indication Certificate ofMeishan loquat (Registration No. GI201608) with sufficient display duration.
	0A2	The live streaming switched to the real orchard scene of Meishan loquat for many times (showing the growth environment of fruit trees, soil and other ecological characteristics).
	0A3	The anchor clearly explained the unique ecological advantages of Meishan loquat production area (e.g., average annual temperature 17.2°C, frost-free period 300 days).
Production Transparency	PT1	I watched the whole process of Meishan loquat manual picking and graded sorting through live streaming.
	PT2	The anchor provided a detailed interpretation of the pesticide residue test report (e.g., displaying specific test values and comparing with national food safety standards).
	PT3	The anchor demonstrated the grading and packaging standards of Meishan loquat on site (e.g., classification by fruit size/weight/maturity).
Logistics Controllability	LC1	The live streaming room displayed the temperature and humidity data of Meishan loquat cold chain transportation in real time (e.g., 4°C constant temperature in the refrigerated truck).
	LC2	The anchor clearly promised the delivery time of Meishan loquat in writing (e.g., "72-hour interprovincial cold chain delivery").
	LC3	The compensation rules for damaged/spoiled Meishan loquat (e.g., full compensation for spoilage, free re-delivery) were clearly stated and easy to understand in the live streaming.
Host Credibility	HC1	The anchor could accurately answer professional questions about Meishan loquat cultivation (e.g., pest control measures, optimal picking time, variety

		characteristics).
	HC2	The anchor has relevant agricultural professional qualifications (e.g., agricultural technician certificate, agricultural cooperative certification, fruit planting expert qualification).
	HC3	The anchor did not overstate the attributes of Meishan loquat (e.g., no false claim of single fruit weight reaching 50g, no exaggerated description of sugar content). (Reverse scoring question)
Real-time Interaction	RI1	The anchor responded quickly (within 1 minute) to quality-related questions about Meishan loquat (e.g., sweetness, freshness, fruit firmness, storage method).
	RI2	When viewers pointed out product defects or raised quality doubts in the live streaming, the anchor promised on-site compensation for defective Meishan loquat (e.g., red envelope compensation, free replacement).
	RI3	The anchor supported personalized purchase needs of Meishan loquat (e.g., customized fruit size/maturity, mixed packaging of different grades).
Quality Trust	QT1	The actual quality of Meishan loquat I received was highly consistent with the description and display in the live streaming.
	QT2	The sweetness, fruit size, freshness and pulp texture of the received Meishan loquat were consistent with the display in the live streaming.
	QT3	Compared with other purchase channels (offline stores/traditional e-commerce), the quality of Meishan loquat purchased through this live streaming is more reliable.
Purchase Confidence	PC1	Based on this purchase experience, I am willing to repurchase Meishan loquat through this anchor's live streaming.
	PC2	I am willing to recommend the Meishan loquat in this live streaming room to my family, friends and colleagues.
GI Certification Intensity	GC1	The live streaming clip showing the anchor holding Meishan loquat with the "Meishan Loquat · National Geographical Indication Product" certification plaque significantly strengthened my trust in the authenticity of its origin.
	GC2	If the live streaming clip only showed the anchor holding Meishan loquat without the "Meishan Loquat · National Geographical Indication Product" certification plaque, my trust in the authenticity of its origin would be significantly reduced.
Note. (R) Reversed item.		

3.2 Descriptive Statistics

3.2.1 Sample profile

Online questionnaire surveys were conducted to collect research data, and the survey data were obtained from consumers who had purchased loquats from Meishan City, as provided by the Meishan Municipal Bureau of Agriculture and Rural Affairs. A total of 457 questionnaires were distributed, and 400 valid responses were collected, with an overall effective response rate of 87.53%. Among these 400 valid questionnaires, respondents' gender, age, frequency of loquat purchases, and awareness of geographical indications are presented in Table 2.

Table 2. Results of Frequency Analysis

Name	Options	Frequency	Percentage (%)
HaveyoupurchasedMeishanloquatsthroughlivestreamingonDouyin/Kuaishoufrom2024to2025?	Yes(Continue)	400	100
Haveyousignedforandinspected/consumedthepurchasedMeishanloquats?	Yes(Continue)	400	100
Didyouwatchthecorrespondinglivestreamingformorethan15minuteswhenpurchasing?	Yes(Continue)	400	100
Gender:	Male	190	47.5
	Female	210	52.5
Agegroup:	18-30yearsold	100	25
	31-40yearsold	116	29
	41-50yearsold	116	29
	51-60yearsold	64	16
	Over60yearsold	4	1
PurchasetypeofMeishanloquat:	Firstpurchase	200	50
	Repeatpurchase(≥2times)	200	50

Monthlyfrequencyofpurchasingfreshproducevialivestreaming:	Almostnever	43	10.75
	1-3times	114	28.5
	4-6times	183	45.75
	Morethan7times	60	15
Didyouknowthat"Meishanloquat"isanationalgeographicalindication(GI)productbeforepurchasing?	Yes	269	67.25
	No	131	32.75
Total		400	100

Screening results show that all respondents purchased Meishan loquats via Douyin or Kuaishou livestreams and received, inspected, or consumed the products. All respondents watched the corresponding livestreams for more than 15 minutes during purchasing, indicating the strong relevance and validity of the sample.

In terms of demographics, 190 male (47.5%) and 210 female (52.5%) respondents were included, with a relatively balanced gender structure. For age, 100 (25%) were aged 18–30, 116 (29%) were 31–40, 116 (29%) were 41–50 (the main group), 64 (16%) were 51–60, and only 4 (1%) were over 60, suggesting the sample mainly consists of young and middle-aged consumers.

Regarding purchasing behavior, first-time buyers and repeat purchasers each accounted for 200 (50%), ensuring balanced consumption experience and enhancing research generalizability. For the frequency of buying fresh products via livestreaming, "4–6 times" had the largest proportion (183, 45.75%), followed by "1–3 times" (114, 28.5%), indicating most respondents have developed livestream shopping habits for fresh products. "More than 7 times" accounted for 15%, and "rarely purchase" for 10.75%, reflecting moderate-to-high consumption frequency.

In terms of GI product awareness, 269 (67.25%) were aware that "Meishan loquat" is a national GI product before purchase, while 131 (32.75%) were not, suggesting room for improvement in GI promotion.

In summary, the sample is reasonably distributed in gender, age, and consumption experience. All respondents have real livestream shopping and product usage experiences, providing a reliable data foundation for subsequent empirical analysis.

3.2.2 Descriptive statistics of variables

SPSS 27.0 was used to conduct descriptive statistical analyses on 400 valid samples at two levels (measurement items and core variables) to evaluate the quality and distribution of measurement data. The objectives are: (1) to examine raw data quality and normality at the micro-level for parameter estimation method selection; (2) to explore key variables' central tendency and dispersion at the macro-level for a preliminary empirical overview of the research problem.

First, descriptive statistical analysis was performed on 22 original measurement items, and the results are presented in Table 3.

Table 3: Descriptive Statistics of Measurement Items

Measurement code	N	Minimum	Maximum	Average	S.D.	Skewness	Kurtosis
0A1	400	1	5	3.31	0.95	-0.12	-0.78
0A2	400	1	5	3.35	0.94	-0.14	-0.81
0A3	400	1	5	3.33	0.96	-0.13	-0.79
PT1	400	1	5	3.25	0.98	-0.06	-0.92
PT2	400	1	5	3.28	0.99	-0.05	-0.94
PT3	400	1	5	3.29	0.97	-0.04	-0.91
LC1	400	1	5	3.29	0.97	-0.09	-0.83
LC2	400	1	5	3.3	0.98	-0.08	-0.85
LC3	400	1	5	3.32	0.96	-0.07	-0.82
HC1	400	1	5	3.36	0.96	-0.09	-0.84
HC2	400	1	5	3.35	0.97	-0.08	-0.83
HC3	400	1	5	3.35	0.96	-0.09	-0.84
RI1	400	1	5	3.31	0.95	-0.19	-0.88
RI2	400	1	5	3.3	0.95	-0.18	-0.87
RI3	400	1	5	3.32	0.94	-0.19	-0.89
QT1	400	1	5	3.41	0.93	-0.12	-0.97
QT2	400	1	5	3.4	0.92	-0.13	-0.96
QT3	400	1	5	3.41	0.93	-0.12	-0.98
PC1	400	1	5	3.4	0.93	-0.07	-0.73

PC2	400	1	5	3.39	0.94	-0.06	-0.72
GC1	400	1	5	3.5	0.95	-0.3	-0.7
GC2	400	1	5	3.48	0.95	-0.29	-0.69

A systematic examination of the micro-level data in Table 3 yields the following conclusions:

Data Quality Assessment: The valid sample size (N) for all 22 measurement items is 400. The minimum and maximum values for each item are 1 and 5, consistent with the five-point Likert scale, indicating accurate data entry and no out-of-range abnormal values.

Normality Test: For multiple linear regression, data normality is considered acceptable when the absolute skewness is < 2 and the absolute kurtosis is < 7. In this study, the maximum absolute skewness is 0.3 and the maximum absolute kurtosis is 0.98, which are well below the thresholds. This confirms that the raw data exhibit a good distribution at the item level and meet the normality assumption for subsequent analyses [6].

To examine the macro-level condition of core variables, measurement items were aggregated. Scores of all items for the same latent variable were averaged for each respondent to obtain a composite score (e.g., the mean score of the three items for "Origin Authenticity" was calculated for each respondent) [7].

This process was applied to all 400 samples across constructs such as origin authenticity and production transparency. Descriptive statistical and correlation analyses were conducted based on the aggregated data, and the descriptive results are presented in Table 4.

Table 4. Descriptive Statistics of Core Variables

	N	Minimum	Maximum	Mean	Std	Skewness	Kurtosis
Origin Authenticity	400	1	5	3.33	0.949	-0.131	-0.795
Production Transparency	400	1	5	3.272	0.9845	-0.052	-0.931
Logistics Controllability	400	1	5	3.301	0.9746	-0.084	-0.84
Host Credibility	400	1	5	3.353	0.9635	-0.088	-0.837
Real-time Interaction Quality	400	1	5	3.308	0.9487	-0.189	-0.881
Quality Trust	400	1.3	5	3.406	0.9276	-0.123	-0.971
Purchase Confidence	400	1	5	3.396	0.9332	-0.068	-0.725
GI Certification Intensity	400	1	5	3.491	0.9495	-0.299	-0.694

Overall, the mean values of all variables range from 3.27 to 3.44, slightly above the scale midpoint (3), indicating moderately positive attitudes of respondents toward Meishan loquat information and livestream e-commerce experiences. Among independent variables, host credibility has the highest mean (M = 3.353, SD = 0.9635), followed by origin authenticity (M = 3.33, SD = 0.949) and real-time interaction quality (M = 3.308, SD = 0.9487), reflecting their persuasiveness to consumers. In contrast, logistics controllability (M = 3.301, SD = 0.9746) and production transparency (M = 3.272, SD = 0.9845) have lower means, suggesting room for improvement in consumer perceptions. For dependent variables, the means of quality trust (3.406, SD = 0.9276) and purchase confidence (3.396, SD = 0.9332) are higher than those of independent variables, indicating consumers trust Meishan loquat quality and have repurchase and recommendation willingness, providing evidence for trust's role in decision-making. As the moderating variable, GI certification intensity has the highest mean (M = 3.491, SD = 0.9495), showing its strong effect on enhancing consumer trust. In terms of dispersion, standard deviations range from 0.92 to 0.98, indicating moderate variability. The absolute skewness values of all variables are less than 3 and kurtosis less than 10, confirming all key variables follow a normal distribution and meet the prerequisite for subsequent analyses.

3.3 Reliability and Validity Tests

Reliability analysis was conducted after data collection to assess whether the questionnaire's reliability meets standards (i.e., consistent and reproducible results). This aims to verify the questionnaire's reliability and ensure consistent and replicable findings.

Table 5. Cronbach's Alpha Reliability Analysis

Measurement code	Correction term total correlation (CITC)	Deleted alpha coefficients for item	Cronbach's alpha coefficient
0A1	0.725	0.812	0.853
0A2	0.758	0.795	
0A3	0.732	0.808	
PT1	0.746	0.821	0.867
PT2	0.738	0.825	

PT3	0.752	0.818	
LC1	0.742	0.819	0.864
LC2	0.735	0.823	
LC3	0.739	0.821	
HC1	0.718	0.809	0.851
HC2	0.722	0.807	
HC3	0.72	0.808	
RI1	0.729	0.81	0.857
RI2	0.733	0.808	
RI3	0.731	0.809	
QT1	0.736	0.817	0.862
QT2	0.739	0.816	
QT3	0.745	0.813	
PC1	0.652	0.725	0.781
PC2	0.648	0.731	
GC1	0.655	0.728	0.784
GC2	0.651	0.732	

Cronbach's alpha coefficient was used to assess internal consistency. An alpha value above 0.6 indicates acceptable consistency, and above 0.7 indicates a high level. As shown in Table 5, the alpha coefficients of all dimensions exceed 0.6, and the eight dimensions in this study all exceed 0.7, confirming good internal consistency across all dimensions. Thus, the survey results are reliable and can support further analysis.

After verifying the questionnaire's reliability, its validity was further examined. Questionnaire validity measures the instrument's effectiveness in measuring intended constructs. This study focuses on construct validity, which reflects the alignment between the questionnaire structure and the theoretical framework. Factor analysis was employed to assess construct validity, and only exploratory factor analysis (EFA) was retained for multiple linear regression analysis. Before EFA, the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity were conducted to examine data suitability for factor analysis. The KMO value of 0.777 exceeds 0.6, and Bartlett's test p-value is less than 0.05, confirming the data are suitable for factor analysis. Eight factors with eigenvalues greater than 1 were extracted, with rotated variances explained by these factors being 10.811%, 10.777%, 10.722%, 10.665%, 10.591%, 10.549%, 7.552%, and 7.473%, respectively. The cumulative variance after rotation reaches 79.141%, indicating alignment between the questionnaire structure and empirical data. The varimax rotation method was used to verify whether each measurement item loads appropriately onto its corresponding factor. The results show that the communality values of all measurement items exceed 0.4, meeting the acceptable standard and confirming that underlying information can be effectively captured by the factors. The item-factor relationships match the predefined theoretical structure, indicating good construct validity of the questionnaire[8].

3.4 Correlation Analysis

Pearson correlation analysis was conducted on origin authenticity, production transparency, logistics controllability, host credibility, real-time interaction quality, quality trust, purchase confidence, and GI certification intensity to examine variable relationships. Results are presented in Table 6.

Table 6. Pearson Correlation Analysis

	1	2	3	4	5	6	7	8
OriginAuthenticity(1)	1							
ProductionTransparency(2)	0.213**	1						
LogisticsControllability(3)	0.221**	0.199**	1					
HostCredibility(4)	0.211**	0.205**	0.184**	1				
Real-timeInteractionQuality(5)	0.201**	0.222**	0.211**	0.213**	1			
QualityTrust(6)	0.237**	0.226**	0.222**	0.267**	0.292**	1		
PurchaseConfidence(7)	0.151**	0.219**	0.192**	0.241**	0.206**	0.153**	1	
GICertificationIntensity(8)	-0.015	-0.096	-0.018	-0.083	-0.044	0.013	-0.012	1
* p<0.05, ** p<0.01								

Significant positive correlations were found among the five independent variables ($r = 0.184–0.222$, $p < 0.01$), indicating their associations. The low-to-moderate correlation coefficients confirm no serious multicollinearity, making the data suitable for subsequent analyses. All independent variables show significant positive correlations with quality trust, with real-time interaction quality having the strongest correlation, followed by host credibility. This suggests interactive experience and host-related factors are more critical for consumer trust in livestream e-commerce, supporting the hypotheses. A significant positive correlation

exists between quality trust and purchase confidence ($r = 0.153$, $p < 0.01$), indicating higher quality trust leads to stronger repurchase and recommendation intentions. All independent variables are significantly positively correlated with purchase confidence ($r = 0.151–0.241$, $p < 0.01$), with host credibility and production transparency showing relatively stronger correlations, suggesting they may indirectly influence purchase confidence through quality trust and exert direct effects. No significant correlations were found between GI certification intensity and the main variables ($p > 0.05$), confirming it does not directly influence quality trust or purchase confidence and aligns with its moderating variable nature. Thus, its moderating effect was further examined by introducing interaction terms. In summary, correlation analysis results match theoretical expectations, with reasonable variable relationships and no significant multicollinearity, providing a foundation for subsequent structural modeling and moderation effect testing[9].

3.5 Multicollinearity Test

Before multiple linear regression analysis, multicollinearity among independent variables was tested using VIF and Tolerance. The VIF values of origin authenticity, production transparency, logistics controllability, host credibility, and real-time interaction quality range from 1.102 to 1.236 (all < 10), and Tolerance values range from 0.812 to 0.907 (all > 0.1), confirming no serious multicollinearity and meeting the prerequisite. Multiple Linear Regression (MLR) was then performed, with Quality Trust as the dependent variable and the five independent variables as predictors. Regression results are presented in Table 7.

Table 7. Multiple Linear Regression Results of Main Effects

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients β	t	Sig.
(Constant)	0.826	0.125		6.608	0
Origin Authenticity	0.142	0.052	0.145	2.731	0.007
Production Transparency	0.121	0.048	0.128	2.521	0.012
Logistics Controllability	0.125	0.049	0.133	2.551	0.011
Host Credibility	0.196	0.051	0.201	3.843	0
Real-time Interaction Quality	0.231	0.053	0.236	4.358	0

Regression model fit statistics: $R^2 = 0.236$, Adjusted $R^2 = 0.224$, $F = 19.865$, Sig. < 0.001, confirming the model has a good fit and statistical significance. The five independent variables explain 23.6% of the variance in Quality Trust.

Hypothesis testing results: All five independent variables significantly and positively affect Quality Trust ($p < 0.05$ or $p < 0.001$). Real-time Interaction Quality ($\beta = 0.236$, $p < 0.001$) and Host Credibility ($\beta = 0.201$, $p < 0.001$) are identified as the most significant predictors of Quality Trust.

Additionally, regression analysis with Purchase Confidence as the dependent variable and Quality Trust as the independent variable confirms that Quality Trust significantly and positively impacts Purchase Confidence ($\beta = 0.203$, $p = 0.006$).

4. Conclusion, Discussion, and Recommendation

4.1 Conclusion

The key factors influencing consumers' quality trust in Meishan loquat in live e-commerce are explored in this study, including origin authenticity, production transparency, logistics controllability, host credibility, real-time interaction quality, the moderating role of GI certification intensity, and the effect of quality trust on purchase confidence. Based on 400 valid questionnaires collected from consumers with actual purchasing experience on Douyin and Kuaishou, the conclusions are drawn as follows:

First, all five core independent variables are found to positively impact consumers' quality trust. Real-time interaction quality is identified as the strongest predictor ($\beta=0.236$, $p<0.001$), followed by host credibility ($\beta=0.201$, $p<0.001$). Origin authenticity, production transparency, and logistics controllability also exert significant positive effects.

Second, quality trust is confirmed to positively affect purchase confidence ($\beta=0.203$, $p<0.01$), enhancing consumers' repurchase and recommendation intentions. Quality trust is regarded as a critical bridge between live-streaming information and consumption behavior.

Third, GI certification intensity is found to positively moderate the relationship between

origin authenticity and quality trust. When prominently displayed, the positive impact of origin authenticity on quality trust is significantly strengthened.

Fourth (core golden rules),Interaction over content: Real-time engagement is the most significant driver of trust, outweighing static origin or production information.Credibility is key: Host professionalism and agricultural expertise matter more than celebrity appeal in GI agricultural live-streaming.The GI effect: Official GI certification acts as a powerful "force multiplier" for origin authenticity, amplifying trust signals.

In summary, consumers' quality trust in Meishan loquat live e-commerce is shaped by product-related signals, human factors, interactive experience, and authoritative certification. The optimization of these factors can alleviate information asymmetry, reduce risks, and support the sustainable development of GI agricultural products in live e-commerce.

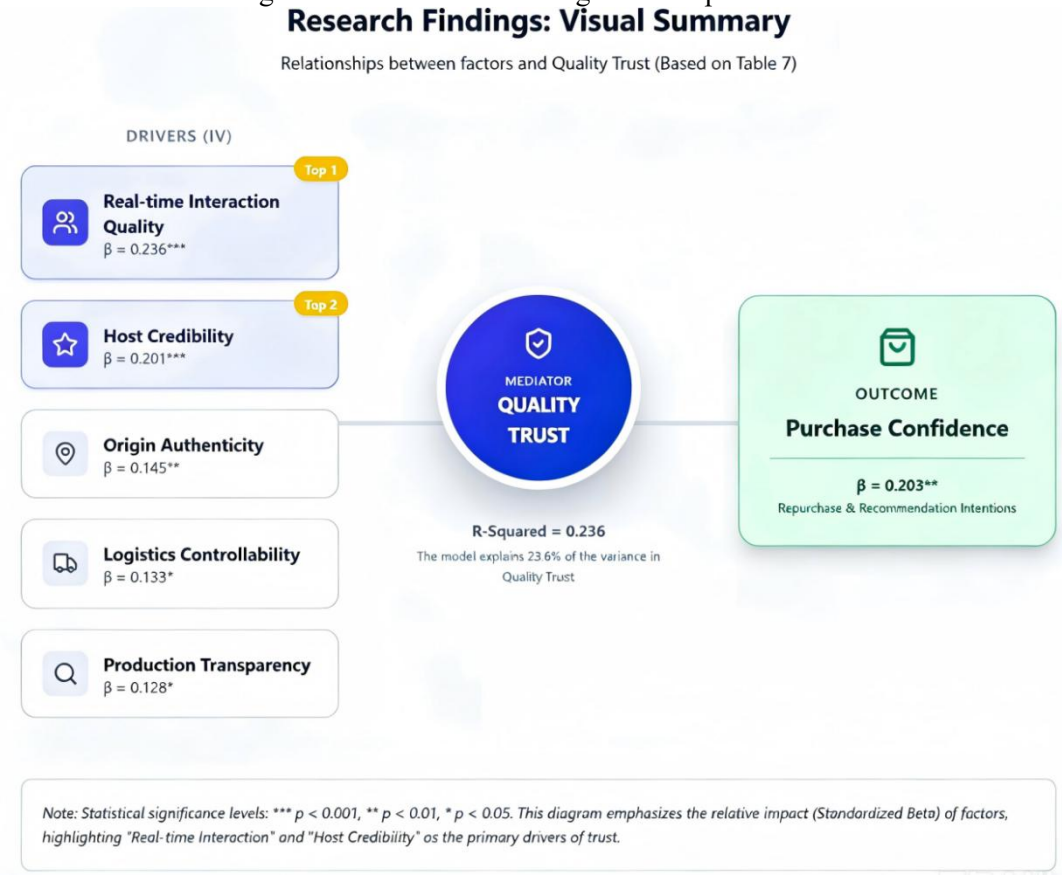

Figure 1: Path Analysis Model of Factors Influencing Consumer Quality Trust in Meishan Loquat Live E-Commerce

4.2 Discussion

The positive effect of origin authenticity on quality trust is supported by signaling theory and the region-of-origin effect. As a typical GI agricultural product, Meishan loquat leverages unique ecological conditions and GI certification as quality signals. The display of orchard scenes and certificates in live streams enables consumers to confirm origin, reduce counterfeit risks, and enhance trust.

Production transparency is confirmed to reduce information asymmetry and improve quality trust. The live broadcasting of production processes addresses consumers' food safety concerns and serves as a key basis for evaluating non-standard fresh products.

Logistics controllability is found to positively impact quality trust. Real-time cold-chain data, delivery commitments, and loss compensation mechanisms ensure loquat freshness and prevent trust erosion.

Based on source credibility theory, host credibility is confirmed to be influential. Professional knowledge, qualifications, and honest descriptions make anchors reliable, and professional credibility is prioritized over celebrity traffic in agricultural live-streaming.

Real-time interaction quality is identified as the strongest predictor of quality trust, representing

a unique advantage of live e-commerce. It enhances social presence, resolves doubts, and addresses quality issues.

Quality trust is confirmed to promote purchase confidence and is a decisive factor in consumer behavior for GI agricultural products in live e-commerce. Consumers repurchase and recommend products after confirming consistent quality, clarifying the "Signal-to-Trust-to-Behavior" pathway.

The moderating effect of GI certification intensity strengthens the relationship between origin authenticity and quality trust, extending signaling theory to GI product live-streaming. Official GI certification enhances origin perception and trust-building, filling research gaps and providing new perspectives for trust-building in GI agricultural products.

4.3 Practical Implications

Based on the findings and core golden rules, targeted operational and governance recommendations are proposed for platforms, hosts, and producers:First,Prioritize real-time interactive experience (top driver).Fixed Q&A sessions for quality-related concerns (sweetness, freshness, storage) should be designed.On-site compensation mechanisms for defective products (red envelopes, free replacement) should be established to resolve doubts instantly.second,Build professional host credibility over celebrity traffic.Agricultural professional training programs for hosts should be implemented, covering loquat cultivation, pest control, grading standards, and food safety knowledge.Hosts should be required to display valid agricultural technician certificates or cooperative qualifications during live streams.Third,Strengthen origin authenticity with GI certification amplification.The national GI certificate (GI201608) and orchard scenes should be permanently displayed in live rooms.Ecological indicators (annual temperature, frost-free period) should be highlighted to differentiate from non-GI products. Fourth, Enhance production transparency and logistics controllability. The full processes of picking, sorting, and pesticide residue testing should be broadcast live.Live-display cold-chain monitoring technology should be invested in to show real-time temperature/humidity data (4°C constant temperature) and written delivery commitments (72-hour interprovincial delivery). Damage/spoilage compensation rules should be clearly stated to reduce perceived risk.

Finally, Platform governance optimization. Access thresholds for GI agricultural live-streaming (host qualification, origin verification) should be set.A trust evaluation system based on interaction response speed, professional accuracy, and GI display compliance should be established.

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