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Research on the Construction Mechanism of Consumers' Trust Intentions and Behaviors in the Context of Live Streaming Shopping

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ABSTRACT

As a new-type media form integrating text, image, video, and audio, live streaming itself is an excellent way of information-carrying and interaction. And the development of information technology makes the use of live streaming shopping easier and more convenient. At the same time, with the popularity of live streaming marketing, there are also some consumption traps, which not only harm the rights and interests of consumers but also affect its own development. Thus, how to build trust and improve the credit evaluation mechanism has become a common concern of academic and industrial circles. Anchored in the theory of planned behavior (TPB) and other research results, this paper expounds on the definition and connotation of trust intention in live streaming shopping in detail. From the perspective of consumers, the trust model of live streaming shopping is constructed based on the comprehensive consideration of social presence, consumers' personal attitude, and structural assurance. It adopts partial least squares (PLS) structural equation modeling (SEM) to evaluate the research model and hypothesis. On the basis of 259 samples, the result shows that consumers' trust behavior in live streaming shopping is mainly affected by live streamers' personalities, comment information, social presence, platform characteristics, usefulness, and structural assurance. The research result of this paper will play a positive role in building a more credible environment, improving the trust relationship with consumers, and promoting potential transactions. Meanwhile, it also lays a foundation for understanding consumers' trust behavior and related theories in the context of China.

Keywords: Trust, live streaming, online shopping, consumer behavior.

INTRODUCTION

As of June 2021, the number of live streaming users in China had reached 638 million, with an annual increase of 75.39 million and accounting for 63.1% of total netizens (China Internet Network Information Center, 2021). Among them, the number of e-commerce live streaming users was 384 million, which raised 75.24 million compared with 2020 and took up 38.0% of all Internet users (China Internet Network Information Center, 2021). In addition to traditional e-commerce platforms, TikTok, Kuaishou, and other platforms had also expanded their investment to the e-commerce live streaming business in the first half of this year (Guan et al., 2021). In April 2021, TikTok said it would support its partners in service ability assessment training, multi-dimensional incentives, and the provision of professional tools. On May 20th, Kuaishou initiated the mid-year promotion campaign and jointly launched live streaming marketing shows with local TV stations, attracting a total of 236 million viewers. At the same time, the e-commerce live streaming business on traditional platforms has also maintained a progressive trend. According to the data, the cumulative live streaming marketing volume during JD's 618 promotion activity increased by 161% year on year, and the trading volume of Taobao live streaming in the first hour of June 1 exceeded that of the day of last year (China Internet Network Information Center, 2021).

We have witnessed a strong development momentum of e-commerce live streaming, but some problems also come into being in the process, such as live streamers' wrong words and deeds, data fraud, the frequent occurrence of fake and shoddy goods, and so on (Song & Liu, 2021). In addition, the interactive live streaming platform also offers consumers more opportunities to participate in social e-commerce, including online shopping activities. Users are no longer passive information recipients. Instead, they can influence the purchase behavior of other users through real-time feedback, comments, and recommending products to other people on the live streaming platform (Chen et al., 2020). A number of empirical studies point out that the building of consumers' trust behavior in the process of live streaming shopping will be a crucial basis for the completion of transactions (Luo et al., 2021; Zuo & Xiao, 2021). This research defines trust behavior as consumers' willingness to trust products or services based on the live streaming platform in the specific live streaming shopping situation.

The existing online shopping studies indicate that consumers will reduce the risk of their own behavior by referring to the behaviors and word-of-mouth opinions of other consumers (Marriott & Williams, 2018; Salam et al., 2003; Wang & Chang, 2013). A prominent characteristic of the live streaming marketing model is that consumers are placed in an interactive and virtual online shopping situation participated by others (Guan et al., 2021). The real-time interaction has qualitatively changed the decision-making environment of consumers and the traditional B2C e-commerce model (Chen et al., 2020). According to the theory of planned behavior (TPB), people's activities are often influenced by others (Ajzen, 1991). Scholars have found that consumers' behaviors and decisions tend to be affected by family members, friends, salespeople, and even strangers in society (Dellarocas et al., 2007). Anchored in the current research results, scholars' research on live streaming mainly focuses on information technology and the application of live streaming (Hsu, 2019; Liu et al., 2020). And some scholars also pay attention to the current situation analysis, platform technology research, communication analysis, and legal norms of live streaming shopping (Yu & Lo, 2020; Zuo & Xiao, 2021). However, there are few studies on consumers' conformity behavior caused by real-time interaction and social presence in the live streaming environment, notably trust behavior. Besides, much of the current live streaming research is limited to the theoretical level, and there are relatively few empirical research outcomes. Furthermore, there are fewer research results on the influencing factors of live streaming users' trust behavior around the representative groups in the context of China.

Therefore, this research proposes the following questions: what factors determine consumers' trust behavior in the live streaming shopping environment? How do these factors affect consumers' truest intentions? To answer the above questions, this paper decides to explore the influence mechanism of social presence, personal attitude, and structural assurance on trust behavior based on TPB. This will help solve the above problems.

Taking TPB as the theoretical reference, this research builds consumers' trust model in the live streaming shopping environment, analyzes 259 sample data collected by partial least squares structural equation modeling (PLS-SEM), and then tests the research model and hypothesis proposed in this paper. The results of this research show that consumers will show a strong conformity consumption tendency in live streaming, and their initial attitude will be significantly affected by the personality of the live streamer and social presence in the live streaming environment. At the same time, the structural assurance of live streaming software, such as the characteristics of the platform and the usefulness of the software or platform, will play a crucial supporting role in consumers' trust behavior. These results will help readers have an overall understanding of the composition and development of consumers' trust behavior in the context of Chinese live streaming so as to provide some theoretical reference for the relevant research in the future.

The research ideas and contents of this paper are arranged as follows: firstly, it combs and summarizes the studies and results related to living streaming shopping and online trust. Secondly, based on TPB and the trust model of related literature, it puts forward the framework of this research and constructs the corresponding research hypothesis. Then the questionnaire is designed according to the scale of the existing literature. The relevant data are collected through online questionnaires, and the research model and hypothesis are evaluated and tested by PLS-SEM. Finally, the corresponding research conclusions and theoretical and practical significance are put forward. Of course, the limitations of this research and the direction of future research are also explained in this paper.

THEORETICAL BACKGROUND AND HYPOTHESES

Online trust is one of the primary reasons for consumers to participate in online trading activities. Scholars believe that the role of online trust is to improve the possibility of expected behavior, increase the predictability of behavior results, and reduce transaction costs (Wang & Emurian, 2005; Zhang & Zhang, 2005; Zhu et al., 2009). At the same time, online trust can also reduce the uncertainty of partners and speculation (Koufaris & Hampton-Sosa, 2004; Lim et al., 2006; Mou et al., 2017; Mukherjee & Nath, 2007; Wang & Emurian, 2005; Zhang & Zhang, 2005; Zhu et al., 2009). From the above research results, we can see that if enterprises can make consumers feel that online shopping is trustworthy, it will decrease consumers' perceived risk and uncertainty and contribute to the development of online transactions. Live streaming shopping can be viewed as a form of online shopping, and consumers' online trust will also have a significant impact on improving potential transactions (Lazaroiu et al., 2020; Rasty et al., 2021).

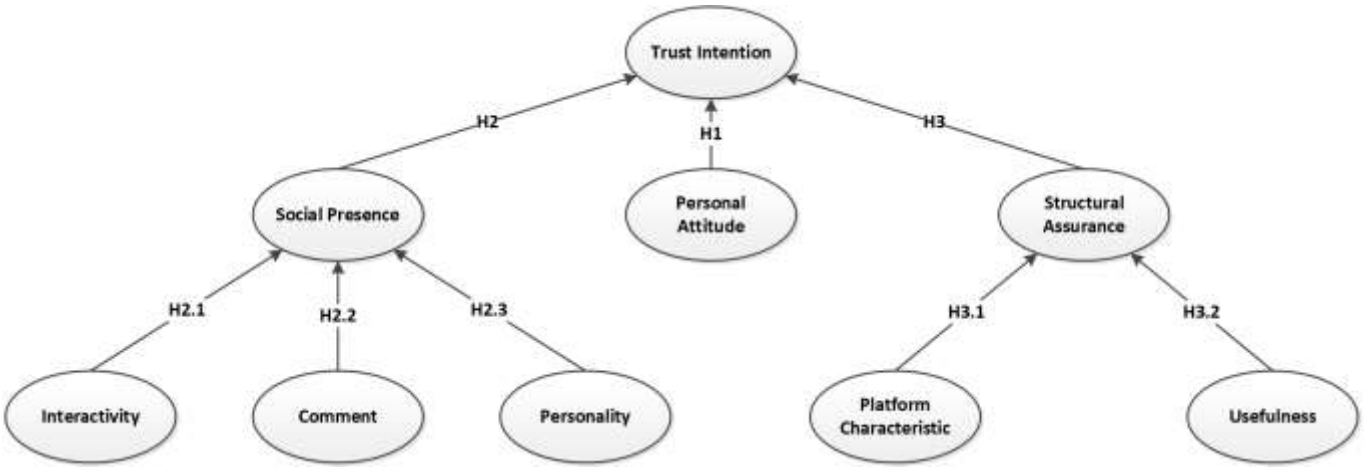
At present, few studies involve the trust behavior of live streaming shopping under the interaction of multiple factors from the perspective of consumers, and the relevant empirical studies are generally discussed from the personality of the live streamer. The current research shows that live streamers often serve as opinion leaders, and their recommended information is professional (Lim et al., 2020; Lu et al., 2018). Some scholars point out further that live streamers' behavior is interactive and attractive, which can make consumers have a pleasant and amusing shopping experience after buying and then increase consumers' added value in the process of purchase (Chen et al., 2020; Liu et al., 2020). However, it is undeniable that in the live streaming environment, high-frequency and forceful information transmission, as well as highly provocative language allow e-commerce live streamers to awaken consumers' purchase desire better.

As per the relevant research of psychology, the intrinsic state of consumers includes cognitive and emotional aspects (Hsu, 2019; Lazaroiu et al., 2020; Li, 2019). Cognition describes the intrinsic psychological process and state of consumers, including attitude and faith, while emotion has a tremendous influence on individual information screening and decision-making. Empirical research notes that the atmosphere of live streaming shopping will affect consumers' emotional and

cognitive states, thus affecting their purchase intention. The change of their emotions is more likely to affect impulse consumption (Lim et al., 2020; Meng et al., 2021).

Overall, the current research discusses the usefulness and accessibility of consumers' perception of live streaming platforms or software, as well as social media. It focuses on the impact of live streamers' personalities on consumers' online trust behavior. As a core component of live streaming marketing, the live e-commerce streamer highly restores the actual offline consumption situation with its own attributes, thus becoming the most influential spokesman of products or businesses and then continuously affecting consumers' online trust intention. However, the social expectation of individual consumers in the live streaming environment and the structural assurance of the live streaming environment will also cause a crucial impact on consumers' behavior. The empirical research in this area is insufficient. In particular, the current research rarely considers the joint action of the three factors.

TPB believes that any factor affecting behavior indirectly affects it by influencing attitude, subjective norm, and perceived behavior control (Ajzen, 1991). Concerning the trust problem of e-commerce, we can use this theory to research the relevant factors affecting consumers' behavior. Moreover, we can raise consumers' trust level by improving these factors and further promote potential consumers to produce actual purchase behavior. Most consumers are rational individuals. When they have time to think about the trust behavior they will perform, their behavioral intention will be the best way to examine trust behavior. According to the characteristics of the online live streaming environment, this research believes that trust intention is jointly determined by consumers' personal attitude towards trust behavior, social presence, and structural assurance, as shown in **Figure 1**. Social expectation represents the pressure perceived by a consumer about whether he should perform the corresponding behavior in the eyes of others. Structural assurance means whether consumers have the infrastructure or objective conditions to execute specific behaviors.



Source: This study.

Figure 1: A research framework.

According to TPB, a personal attitude refers to a person's positive or negative feelings when acting (Ajzen, 1991). An individual's attitude towards behavior is determined by his or her belief in the implementation of some behavior and the evaluation of the results (Sutanonpaiboon & Abuhamdieh, 2008; Walczuch & Lundgren, 2004). In the live-streaming shopping environment, consumers' personal attitude refers to a kind of subjective consciousness, which focuses on the possibility that the implementation of trust behavior will produce specific results. It can be predicted that a positive personal attitude will raise the intention of consumers' trust behavior. Thus, this study is hypothesized that:

H1. *Personal attitude has a significant positive impact on users' trust intention in live streaming shopping.*

Scholars define social presence in online shopping as a substitute for face-to-face communication (Cyr et al., 2007; Dash & Saji, 2008). As per their research, social presence can improve consumers' safety perception and purchase attitude in virtual shopping (Lu et al., 2016). Jiang et al. (2019) pointed out through research that the interactive characteristics of websites could promote consumers' social presence. Some scholars argue that social presence affects behavioral intention by affecting the sense of pleasure and usefulness (Hassanein & Head, 2007; Lu et al., 2016). In this paper, social presence refers to the extent to which live streaming media brings users a similar genuine offline shopping environment and the perceived degree of contacting others. Social presence significantly enhances the perception of online interpersonal interaction, which essentially turns personal consumption behavior into socialized consumption behavior. Therefore, this paper puts forward the following assumption:

H2. *Perceived social presence has a significant positive impact on users' trust intention in live streaming shopping.*

Interactivity can also be called real-time interaction, which means that consumers can communicate with information sources and feedback information and emphasizes the two-way dissemination of information (Men & Zheng, 2019; Xu et al., 2020). In the process of live streaming, in addition to receiving the live streamer's information, a consumer can also communicate with the live streamer or other consumers through "bullet chat." By sharing his/her shopping experiences and opinions, an atmosphere that everyone watches live streaming can be created to promote the group's purchase behavior. Interactive behavior can offer consumers positive feedback and enhance consumers' trust further. Hence, it is hypothesized that:

H2.1. *Perceived interactivity has a significant positive impact on users' trust intention in live streaming shopping.*

In the context of online shopping, consumers' trust usually depends on comment information to build (Liew et al., 2017; Malik & Hussain, 2020). However, due to the emergence of information overload and the existence of false comments, consumers often face difficulties in reading and screening helpful information (Cao et al., 2011; Fang et al., 2016; Liu et al., 2017). In the live-streaming shopping scenario, direct communication and contact with others can increase mutual trust. Consumers access information by chatting with others to enhance their sense of trust in other consumers' behaviors. Thus, the following research hypothesis is proposed:

H2.2. *Perceived comment has a significant positive impact on users' trust intention in live streaming shopping.*

E-commerce live streaming emphasizes sociality. Live streaming will make the virtual community environment become real. The personality of the live streamer enables consumers to establish an emotional bond with him/her, and the positive emotion makes consumers have a positive impression of the products recommended by him/her (Chen et al., 2020; Cheng, 2020; Hsu, 2019). The long-term interaction and accumulation make the live streamer more reliable, so consumers tend to believe that the goods or services they recommend are cheap and fine. Therefore:

H2.3. *The perceived personality of the live streamer has a significant positive impact on users' trust intention in live streaming shopping.*

Because consumers cannot grasp all the information about products and enterprises, they are likely to make wrong decisions and even give up transactions. At this time, if the enterprise can accurately transmit the signals containing its own advantageous information (such as convenient return and exchange policy, trustworthy qualification, and reliable after-sales service) to consumers, it can reduce the cost of consumers' information collection, lower their risk perception, promote the formation of trust, and may improve the ultimate transaction volume (Lu et al., 2018; Men & Zheng, 2019; Salam et al., 2003; Song & Liu, 2021). This research defines this positive signal transmitted by enterprises as structural assurance, that is, a protective mechanism or procedure to make consumers trust enterprises. It includes a guarantee, contract, regulation, commitment, legal aid, and so on. Hence, it is hypothesized that:

H3. *Structural assurance has a significant positive impact on users' trust intention in live streaming shopping.*

The live streaming platform used by consumers constitutes the basis of live streaming shopping, and the fear of unsafe and unreliable platforms is a significant reason why consumers do not trust this way of purchase (Chen et al., 2020; Cheng, 2020; Guan et al., 2021). The live streaming platform helps consumers form their cognition of commodities and allows consumers to have a general visual understanding through the goods presented on it. In addition, the platform enables the audience to understand the experience of other consumers via the interaction between the live streamer and the audience. The live streaming platform provides consumers with comprehensive information about commodities, helps consumers establish a complete commodity image, lowers consumers' risk perception, and enhances their purchase intention by building trust. Therefore, we propose the following hypothesis:

H3.1. *Platform characteristic has a significant positive impact on users' trust intention in live streaming shopping.*

In the process of online shopping, users' perceived risks are often offset by the potential benefits of convenience and accessibility provided by social websites. Users will evaluate the attractiveness of goods and services from different aspects, and perceived usefulness is a vital indicator (Koufaris & Hampton-Sosa, 2004; Zhu et al., 2009). Perceived usefulness reflects the extent to which users believe that the convenience and efficiency of shopping can be improved when conducting live streaming shopping. The current research suggests that perceived usefulness has a significant impact on personal use attitude. The more helpful users feel when using new technologies, the more positive they will become when using them. Therefore, this paper believes that:

H3.2. *Perceived usefulness has a significant positive impact on users' trust intention in live streaming shopping.*

RESEARCH METHODOLOGY

The scale design in this questionnaire takes the mature scales in the relevant literature as a reference and makes appropriate modifications and adjustments based on the characteristics of live streaming shopping. In the initial scale, except for the basic information of the interviewees, other questions are measured by a 7-point Likert scale. Specifically speaking, the questions

are valued with 1-7, with 1 indicating strong disagreement while 7 indicating strong agreement. After the completion of the initial questionnaire design, a small-scale pre-test was conducted in relevant fields. A total of 30 questionnaires were collected to check if the semantic and grammatical expressions of the options in the questionnaire are easy to understand and if the reliability and validity meet the requirements. Meanwhile, some expressions of the questionnaire were modified according to the feedback of the respondents, and finally, a formal questionnaire was formed.

The questionnaires were mainly distributed online through the Qualtrics questionnaire survey tool, and a total of 287 questionnaires were collected. After excluding those question questionnaires with excessively short answer time or over-concentrated selected options, 259 valid questionnaires were obtained. In addition, the most common rule for determining the sample size of PLS-SEM is the 10-fold principle. Therefore, in accordance with this principle, the minimal number of samples for this study is 90. The acquired data of 259 samples in this study could effectively improve the accuracy of PLS evaluation. As PLS-SEM imposes few limitations on the experimental data, this study decides to adopt this method to evaluate the research model and verify relevant assumptions. For instance, PLS features sound interpretation ability even in the case that the sample size is small. Besides, PLS has no requirement for the normal distribution of data. In addition, such an approach could handle the reflective & formative measurement model easily without the problem of identification.

The demographic characteristics of survey participants are shown in **Table 1**. Among all participants, men and women are distributed evenly. From the age structure of participants, the age group of the participants mainly concentrates at the range of 18-24, accounting for about 60% of the total. Moreover, most participants have received higher education, with about 56% of participants enjoying the undergraduate degree or above.

Table 1: The demographic profile of respondents (n=259).

Measure	Category	N	Percent
Gender	Male	132	50.97%
	Female	127	49.03%
Age	18-24	153	59.07%
	25-34	67	25.87%
	Over 35	28	15.06%
Education	College	115	44.40%
	Undergraduate	89	34.36%
	Postgraduate	55	21.24%

Source: This study.

RESULTS

Measurement Model

This study uses internal consistency reliability to test the reliability of each construct measurement method. As shown by **Table 2**, both the Composite Reliability (CR) and Cronbach's coefficient α (CCA) of each construct are larger than 0.7, which indicates that the measurement of each construct in this study has sound reliability of internal consistency (Fornell & Larcker, 1981; Hair et al., 2012).

The construct validity of this study is mainly evaluated by content validity, convergent validity, and discriminant validity. As the scales of this study are adapted from the existing literature, they feature content validity. As shown by **Table 3**, the standardized outer loadings of all indicators in their construct are larger than 0.820, and the Average Variance Extracted (AVE) of different constructs is larger than 0.5 in **Table 2** (Barclay et al., 1995; Chin & Newsted, 1999). Therefore, all constructs have sound convergent validity. As shown by **Table 4**, the square root of the AVE of any construct in the model is greater than the corresponding correlation values with other constructs. Moreover, as shown by **Table 3**, the standardized outer loadings of all indicators in their belonging constructs are larger than their cross-loadings. Such indicates that the measurement of different constructs in this study has sufficient judgment validity (Fornell & Larcker, 1981; Hair et al., 2012).

Table 2: The descriptive statistics for the constructs.

	Items	CR	CCA	AVE
Trust Intention (Inten)	2	0.956	0.908	0.916
Social Presence (Prese)	3	0.926	0.880	0.807
Personal Attitude (Attit)	3	0.950	0.921	0.863
Structural Assurance (Assur)	3	0.955	0.929	0.876
Interactivity (Inter)	3	0.964	0.944	0.899
Comment (Comme)	3	0.951	0.924	0.867
Personality (Perso)	3	0.928	0.884	0.812
Platform Characteristic (Platf)	3	0.970	0.954	0.916
Usefulness (Usefu)	3	0.982	0.972	0.947

Source: This study.

Table 3: The factor loadings and cross-loadings.

	Inten	Prese	Attit	Assur	Inter	Comme	Perso	Platf	Usefu
Inter.1	**0.997**	0.355	-0.107	0.118	0.345	-0.457	0.558	0.168	-0.106
Inter.2	**0.964**	0.332	-0.190	0.135	0.354	-0.434	0.531	0.213	-0.071
Inter.3	**0.901**	0.363	-0.174	0.115	0.346	-0.439	0.573	0.149	-0.113
Perso.1	-0.275	**0.890**	-0.573	0.113	0.544	-0.506	0.403	-0.273	-0.085
Perso.2	-0.240	**0.868**	-0.532	0.123	0.523	-0.464	0.485	-0.249	-0.098
Perso.3	-0.209	**0.821**	-0.541	0.058	0.515	-0.470	0.415	-0.360	-0.122
Attit.1	0.159	-0.104	**0.928**	0.072	-0.379	0.213	-0.576	-0.035	0.237
Attit.2	0.144	-0.152	**0.926**	0.060	-0.387	0.219	-0.547	-0.087	0.227
Attit.3	0.136	-0.149	**0.933**	0.077	-0.357	0.247	-0.572	-0.048	0.191
Assur.1	0.304	0.045	0.046	**0.940**	0.133	0.078	0.119	0.533	0.634
Assur.2	0.326	0.026	0.123	**0.928**	0.085	0.127	0.098	0.485	0.630
Assur.3	0.324	0.044	0.045	**0.940**	0.143	0.110	0.087	0.564	0.638
Inter.1	-0.497	0.355	-0.207	0.118	**0.945**	-0.457	0.558	0.168	-0.106
Inter.2	-0.464	0.332	-0.290	0.135	**0.954**	-0.434	0.531	0.213	-0.071
Inter.3	-0.401	0.363	-0.274	0.115	**0.946**	-0.439	0.573	0.149	-0.113
Comme.1	0.520	-0.252	0.631	0.115	-0.395	**0.934**	-0.483	0.143	0.294
Comme.2	0.556	-0.296	0.641	0.104	-0.460	**0.941**	-0.523	0.148	0.266
Comme.3	0.494	-0.277	0.612	0.095	-0.447	**0.919**	-0.479	0.114	0.192
Perso.1	-0.375	0.190	-0.573	0.113	0.544	-0.506	**0.903**	-0.273	-0.085
Perso.2	-0.340	0.168	-0.532	0.123	0.523	-0.464	**0.885**	-0.249	-0.098
Perso.3	-0.309	0.121	-0.541	0.058	0.515	-0.470	**0.915**	-0.360	-0.122
Platf.1	0.448	-0.252	-0.073	0.536	0.200	0.157	-0.323	**0.961**	0.365
Platf.2	0.449	-0.263	-0.049	0.539	0.161	0.134	-0.296	**0.950**	0.329
Platf.3	0.456	-0.257	-0.052	0.544	0.172	0.125	-0.322	**0.960**	0.364
Usefu.1	0.423	-0.143	0.221	0.680	-0.097	0.261	-0.087	0.353	**0.976**
Usefu.2	0.431	-0.173	0.257	0.651	-0.124	0.267	-0.126	0.336	**0.975**
Usefu.3	0.416	-0.147	0.210	0.645	-0.079	0.256	-0.120	0.388	**0.969**

Notes: Bold numbers indicate item loading on the assigned constructs.
Source: This study.

Table 4: The correlation between the dimensions.

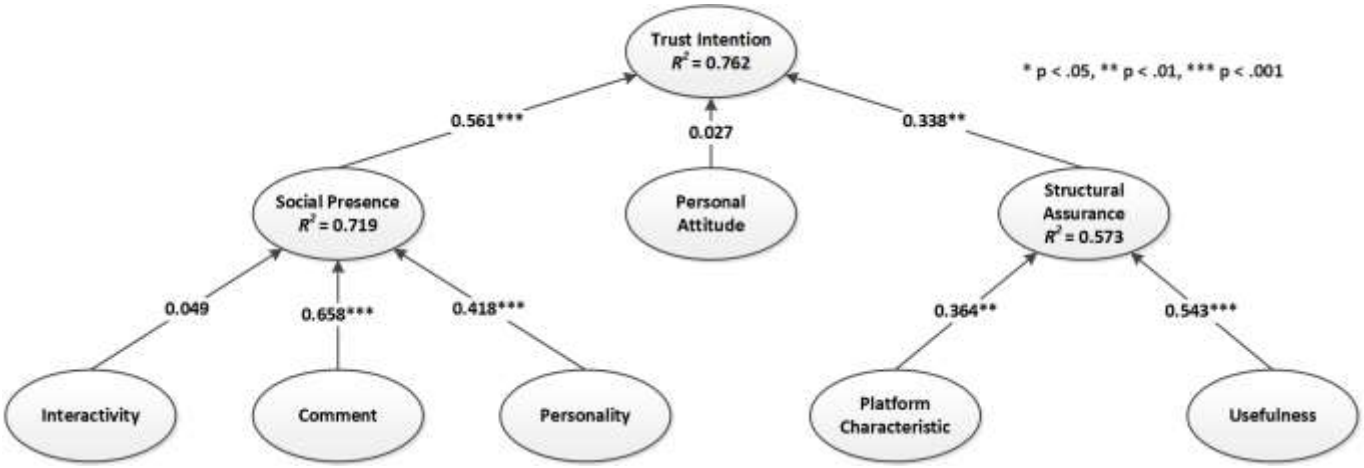
	Inten	Prese	Attit	Assur	Inter	Comme	Perso	Platf	Usefu
Inten	**0.957**								
Prese	-0.547	**0.898**							
Attit	0.496	-0.512	**0.929**						
Assur	0.340	0.041	0.075	**0.936**					
Inter	-0.620	0.486	-0.434	0.129	**0.948**				
Comme	0.563	-0.297	0.674	0.112	-0.468	**0.931**			
Perso	-0.549	0.670	-0.408	0.108	0.585	-0.532	**0.901**		
Platf	0.471	-0.269	-0.061	0.464	0.186	0.145	-0.328	**0.957**	
Usefu	0.435	-0.158	0.235	0.377	-0.103	0.268	-0.114	0.369	**0.973**

Notes: Boldface values on the diagonal are the square root of the AVE.
Source: This study.

Structural Model

This study tested the statistical significance of the t-value for the path coefficient in the research model through bootstrapping in SmartPLS 3.3.3. The number of original samples is 259. According to the general recommendations of PLS research, this paper set the bootstrap subsamples as 5000. The path coefficient and statistical significance test results are shown in **Figure 2**. Among the eight assumptions raised by this paper, six assumptions passed the statistical significance test. The empirical results show that live streamers' personalities, other consumers' comments, platform characteristics, usability, social expectation, and structural guarantee would exert significant influences on the generation of consumers' trust in the live streaming shopping environment. Besides, this study points out that the interaction with live streamers and consumers' personal attitudes at the very beginning does not have a significant influence on their trust behavior. At last, this research finds out that different factors

have different influences on consumers' trust in live streaming shopping. Among them, the comments are the most influential ones, followed by the social presence, usefulness, personality of live streamers, and platform characteristic.



Source: This study.

Figure 2: PLS-SEM analysis results.

The coefficient of determination (R^2) is the most commonly used coefficient in evaluating the structural model, which is used to evaluate the prediction ability of the model (Chin & Newsted, 1999). R^2 falls between 1 and 0. The higher the value it is, the greater the prediction ability would be. In general, when R^2 lies between 0.5-0.75, the interpretation ability is moderate. If R^2 is higher than 0.75, it means it has significant interpretation ability (Hair et al., 2012). In this study, the R^2 of the consumers' trust intention reaches a relatively high level of 0.762, which indicates that the model raised in this study has a good interpretation ability.

DISCUSSION AND IMPLICATION

Summary of Results

Based on the TPB and existing research results, this paper first expounded the definition and connotation of trust intention in live streaming shopping. Then, from the perspective of consumers, based on a comprehensive consideration of social presence, consumers' personal attitudes, and structural guarantees, it constructed a trust model for live streaming shopping. PLS-SEM was used to evaluate the research model and hypothesis. According to the survey of 272 samples, the results showed that consumers' trust behavior in live shopping is affected by various factors, mainly including anchor characteristics, information of comments, social presence, platform characteristics, usefulness, and structural guarantees. Moreover, the study also found that in the context of live streaming shopping, consumers' initial personal attitudes and their interactions with the anchor do not have a significant impact on their trust.

Based on the results of this empirical study, it can be concluded that live marketing is actually a type of trust-based marketing in a sense, and it is quite crucial to establish and maintain trust. In many cases of live streaming marketing, for the phenomenon of "instant sell-out," the consumer's trust in the anchor plays a crucial role. The establishment of such a trust is not a day's work but is the result of long-term efforts to cultivate. Therefore, to win the lasting popularity of consumers in live broadcast marketing, the key point is to establish a solid trust foundation with consumers. From this perspective, for live broadcast marketing, only by using trust as a link and fully straightening out the relationship among platforms, anchors, merchants, and consumers, can the market continue to inspire vitality.

Through the e-commerce platform, live streaming shopping can provide consumers with a shopping experience similar to that of physical stores (Chen et al., 2020; Liu et al., 2020). When watching the live broadcast, people can get authentic and detailed information about the product at any time, and ask the seller questions in real-time, or even communicate with other viewers. More importantly, consumers can also view the results of online product trials. Therefore, based on the characteristics of the live broadcast platform and consumers' perception of its usefulness, consumers' trust in live streaming shopping can be enhanced.

With the development of Internet technology, sellers are allowed to present their products in detail by publishing text and pictures. However, sometimes consumers still may not be able to obtain comprehensive information, which greatly increases the cost of consumers' judgment and decision-making. Then, the emergence of streaming media technology can solve this problem to some extent because it can realize live broadcast and video playback (Song & Liu, 2021; Xu et al., 2020). The products displayed by the seller in the video are all authentic, without any deliberate editing. The application of live broadcast technology also allows sellers and consumers from different spaces to gather in a virtual space, imitating the shopping scene of physical stores. The camera used by the seller to make the video can be regarded as eyes for consumers. Generally, consumers are more inclined to accept what they see than what the seller tries to tell them.

In the live broadcast, sellers display more information than traditional pictures and text. Moreover, through the anchor's verbal rendering and expression suggestion, as well as marketing methods such as time-limitation, quantity-limitation, and high cost-effectiveness, it creates shopping scenes with real atmospheres. By demonstrating the personal characteristics of e-commerce anchors and relying on the impact and authenticity of contextual factors, consumers' trust in online live shopping can be greatly improved (Lu et al., 2018; Luo et al., 2021; Men & Zheng, 2019).

Real-time interaction is another major feature of live streaming shopping (Liu et al., 2020; Men & Zheng, 2019; Zhang & Zhang, 2005). In the live broadcast, consumers can ask questions at any time, which is a continuation and upgrade of online communication between buyers and sellers. Through live broadcast, sellers not only create fun for consumers but also improve the effectiveness of communication and avoid misunderstandings caused by textual communication. Moreover, when buyers see that their questions are answered by sellers on the screen, it is conductive to increase their trust and acceptance in the information replied. However, the data analysis results of this study also indicated that consumers are more inclined to trust other buyers than sellers because usually, there is no conflict of interest between consumers. Generally speaking, before making a purchase decision, consumers are more inclined to search and refer to other consumers' comments. At the same time, consumers can interact in real-time. It means that when someone comments on a product, real-time interaction will prompt consumers to quickly share more details about the comment, which provides potential buyers with more comprehensive and reasonable references, rather than the simple response of "Good" or " Bad." In that way, the authenticity of user feedback is improved, and the level of trust intent of potential consumers is enhanced, thereby reducing the risk of their perception of unknown products.

On the other hand, sellers can actively encourage consumers to participate in live broadcast interactions by playing games and handing out red envelopes so as to enhance consumers' favorable impression of them. Although this type of interaction can bring closer the relationship between the anchor and the consumer, most consumers still tend to maintain a sober and rational attitude. Consumers enjoy maintaining good interaction with sellers, but at the same time, they still focus on the quality and value of the products instead of blindly following the seller's guidance.

Implication for Theory

The e-commerce industry is continuously developing. While providing consumers with a convenient online shopping environment, the entire industry also strives to eliminate various drawbacks as being compared with physical store shopping, such as trust issues. Therefore, relying on live broadcast technologies, e-commerce platforms strive to simulate the advantages of physical store shopping, such as providing the product details display, online product trials, and real-time communication with sellers. More importantly, some services they provide are not even available in physical stores. For example, potential consumers can discuss and exchange information with dozens or even hundreds of buyers. Based on the theory of planned behavior and previous research results, through the method of empirical research, this paper explored the construction process of consumers' truest intentions and behaviors in live shopping. The relevant research results are intended to lay a meaningful foundation for a deeper understanding of consumer behavior, as well as to promote the development of related theories.

In previous studies, the researchers investigated the current status of live stream shopping and also analyzed the platform’s technologies, the dissemination of information, and the e-commerce environment and legal status. However, there are few detailed discussions on the herd behavior caused by factors such as real-time interaction and social presence in the live broadcast environment. In particular, there are few studies on trust behaviors. Based on an attempt to synthesize various influencing factors, this research attempted to present the factors that affect consumers' trust intentions with a complete system structure. The result is intended to provide a more comprehensive perspective for understanding the trust behavior in live broadcasts. In addition, this study further explored the specific impacts of various factors on consumer behavior and expounded the differences of these impacts. It is considered to be helpful for researchers to further understand the internal mechanism of social presence and trust construction.

Implication for Practice

In recent years, the prevalence of live broadcasts has broadened the marketing channels of commodities to a certain extent and has driven economic development. The types of commodities involved in live broadcast marketing continue to increase. From food and daily necessities at the initial stage to the current real estate and automobiles, live broadcast marketing is in a period of ascent. With the increasing popularity, some consumption traps have also appeared in live broadcast marketing, which infringes on the rights and interests of consumers and hinders the healthy development of the industry. No matter how the technology is iterated and the channels are renewed, live streaming marketing is still a sort of marketing behavior, and it is supposed to adhere to the value orientation of integrity management. Correspondingly, based on the results of this empirical study, it proposed that sellers should disclose product or service information comprehensively, truthfully, and accurately, seriously perform related responsibilities, strictly control the quality of live products and services, and actively perform after-sales services in accordance with laws and regulations. In order to achieve the healthy development of the online live shopping industry, enterprises should adhere to the basic principles of integrity management. In this regard, it is necessary for all parties in the society to unite their efforts for coordinated governance. To this end, it requires the live broadcast platform to strengthen content review and improve the integrity evaluation mechanism. At the same time, the relevant regulatory authorities are supposed to severely crackdown on false marketing activities and increase the cost of infringement. The positioning of live broadcast marketing has never been a "one-time deal." Only by focusing on consumers' evaluation and their own reputation,

improving the quality of the platform, and establishing effective anchor personal characteristics can the entire industry achieve long-term development.

Limitations and Future Research

Although this study makes a beneficial discussion on the factors affecting consumers' perception and trust in the live streaming shopping environment, it suffers inherent limitations. It is necessary, therefore, in a future study to make further improvements. To begin with, the number of samples investigated in this study is 259. It satisfies the requirements of PLS-SEM on minimal sample size, but the larger sample size could enhance the accuracy of the study and evaluation by the model effectively (Barclay et al., 1995; Chin & Newsted, 1999). Then, over the process of this empirical study, it does not consider the function of product types and cultural differences in adjusting the trust behaviors of consumers. Some existing frontier researches pointed out that the difference in product type might change consumers' information processing approach. Therefore, the future study shall analyze the function of product type and cultural difference in adjusting the trust behavior of consumers in live streaming shopping in order to further enrich the results of this study.

CONCLUSION

At present, the scale of Chinese netizens continues to expand, the application penetration in various scenarios is accelerating, and the opportunities and advantages of digital consumption are prominent. On the one hand, the popularization of information technology has created convenience for consumers to access the Internet anytime and anywhere. On the other hand, new shopping methods represented by online live broadcast marketing have penetrated into consumers, and a variety of live broadcast applications have become important tools and are gradually accumulating commercial values. Only in the first half of 2021, short video, live broadcast, and e-commerce achieve mutual benefits, and platforms such as Kuaishou and Tik Tok have become important battlefields of e-commerce (China Internet Network Information Center, 2021). The online live broadcast is developing based on building the trust of potential consumers, relying on users and e-commerce content creators as the core, and establishing a trust relationship with users through the continuous content output of creators, so as to achieve the accumulation of traffic and increase the conversion rate of the e-commerce industry.

Compared with the characteristics of individual purchasing behavior in traditional consumption models, live streaming shopping actually reflects the public's inherent needs for social interaction and group affiliation during consumption (Chen et al., 2020; Guan et al., 2021; Luo et al., 2021). The dominance of live marketing depends not only on the innovation of business models but also on the understanding of consumers as human beings. With the continuous development of Internet technology and the e-commerce environment, consumers' expectations for live shopping have also shown a trend of individuation and customization. Therefore, it is necessary to adjust the transmission path of the mechanism that affects consumer trust and shopping intention in a timely manner. The current theoretical research mainly explored the impact of live shopping on consumers from the technical level, but there are still many issues worthy of attention on the level of individual trust behavior. Based on the method of empirical research, this paper used PLS-SEM to evaluate the research model and hypothesis. The research results showed that consumers' trust behavior in live shopping is mainly affected by anchor characteristics, information of comments, social presence, platform characteristics, usefulness, and structural guarantees. The research results of this paper are considered to be of a positive effect on enterprises building a more credible environment, improving trust relationships with consumers, and promoting potential transactions. Furthermore, it also laid a foundation for understanding consumer trust behavior and related theories in a specific context in China.

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