

Factors Influencing Consumer Purchase Intention in Live Streaming Sales Environment in Hebei, China

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Received: February 22, 2025. Revised: April 15, 2025. Accepted: June 25, 2025

Abstract

The objectives were to study: 1) the relationship between five factors of consumer perception (perceived usefulness, perceived ease of use, product price concessions, interactivity experience, and opinion leaders) and consumer purchase intention, and 2) the relationship between platform reputation and customer purchase intention. This research was a quantitative study. This study was quantitative research. The population of this study consisted of 2,561 consumers who had watched the live-streaming sales at least once. The sample size of 345 customers' purchase intention in the live streaming sales environment in Hebei, China, was determined by the Taro Yamane formula. The research instrument was a 5-point rating scale questionnaire. Statistics used for data analysis included percentages, frequencies, means, standard deviations, and multiple regression.

The results of the study revealed that: 1) the five factors of consumer perception, perceived usefulness, perceived ease of use, favorable product price, and opinion leaders positively and significantly influence consumer purchase intention, and 2) the reputation of the platform has no significant impact on consumers' purchase intention.

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Keywords: Live streaming sales; Consumers' willingness to buy; TAM Technology Acceptance Model

Introduction

In recent years, with the rapid development of the Internet, the significant reduction of network traffic tariffs, innovative breakthroughs in terminal products such as tablet computers, smartphones, wearable devices, and the rise of short-video platforms and live streaming platforms with the nature of social entertainment, the convergence of traffic has gradually given rise to a new business model - live streaming sales. Live streaming sales have been in the public eye since 2016 and have continued to grow rapidly, with the market size reaching 19 billion yuan in 2017 and reaching a new high in 2019, when the live streaming market size reached 433.8 billion yuan, representing a 21-fold increase in two years. According to the China Live E-Commerce Industry Research Report 2023, published by Avery Consulting (2024), China's live e-commerce market reached RMB 4.9 trillion in 2023, with a year-on-year growth rate of 35.2%. Although the industry's growth rate has declined somewhat compared to the early stages of industry development, the market performance in 2023 indicates that the industry is still releasing growth signals.

Despite the relatively slow development of the real economy and traditional e-commerce, live streaming sales have shown good momentum and become a new way to promote the internal cycle of China's economy. Since 2019, live streaming sales have experienced explosive growth. To encourage and support the development of live streaming sales, the Chinese government has continued to formulate and adjust policies related to live streaming sales. The General Office of the

State Council issued the Opinions on Accelerating the Development of New Consumption Led by New Industry and New Modes in September 2020. On the development of the live streaming industry, it is proposed to encourage entity businesses to use new technologies and new marketing models to carry out new commercial activities, such as "cloud shopping", to encourage and promote the development of the live streaming industry, to meet the people's needs for consumption upgrading and the development of the country. Meanwhile, to create a better business environment for enterprises, the China General Chamber of Commerce released the first nationwide standard for live streaming in 2020, the Live Streaming Marketing Service Specification, which regulates the entire live streaming industry chain.

However, with the proliferation of enterprises and practitioners in the industry, the problems of homogenization in live streaming sales, lower consumer conversion rates, and low customer stickiness in the live room are becoming increasingly severe. In this paper, we study the impact of six factors (usefulness, ease of use, platform reputation, product price concessions, interactivity experience, and opinion leaders) of live streaming platforms on consumers' willingness to buy by examining their impact on consumers' purchase intentions, as well as combining with the practical experience of live streaming in real life. It is expected that, on the one hand, it will provide reference opinions for small and medium-sized enterprises in the new media publicity sector, and on the other hand, it will offer a specific direction for the future development trend of live streaming with goods.

Research Question

1. Do the five factors of consumer perception (perceived usefulness, perceived ease of use, product price concessions, interactive experiences, and opinion leaders) influence consumer purchase intentions?
2. Does platform reputation influence consumers' purchase decisions?

Research Objective

1. To study the relationship between the five factors of consumer perception (perceived usefulness, perceived ease of use, product price concessions, interactivity experience, and opinion leaders) and consumer purchase intention.
2. To study the relationship between platform reputation and customer purchase intention.

Research Hypothesis

H1: Consumers' perceived usefulness, ease of use, price concessions, interactivity experience, and influence from opinion leaders for a product or service combine to influence consumers' purchase intentions.

H2: Good reputation of platforms positively influences consumers' purchase intention.

Literature review

Theory and concept of the 4P theory

The 4P theory is a fundamental concept in marketing. The theory suggests that a complete and successful marketing campaign involves selecting the right product, setting the right price, choosing the appropriate

sales channel, and offering suitable incentives for a specific market (Meng Jinrui, 2020). The theoretical content contains: product strategy, enterprises judge and design products according to the market demand, require products to have unique functions and efficacy, put the product's statement in the first place, the connotation of the product are: services, products, organizations, concepts, etc. (Han Gang, 2011); Price strategy refers to the development of different pricing strategies depending on the customer's market position, discounts and payment periods when purchasing a product or service, with the main influencing factors being: demand, cost and competitors; Channel strategy, is the sum of the links and driving forces that companies focus on in the process of transferring to consumers through the establishment of channels such as distributors and networks: The coverage of sales channels, the setting up of different outlets and the unblocking of storage and transportation channels related to the distribution activities of the company and adjusted to its own situation; Promotion strategy, specifically refers to the company's use of reasonable and effective means of communication, through the media publicity to stimulate consumers, to achieve short-term sales growth strategy, such as: price reductions, lucky draws, red packets, gifts, limited-time discounts and so on.

Theory and concept of the 4C theory

4C theory, as one of the key theories in modern marketing, proposes the concept of consumer-centered marketing. It subverts the product-centered approach of the traditional 4P theory, emphasizing that the formulation of marketing strategies should begin with meeting consumers' needs and expectations.

Firstly, the "Consumer" element in the 4C theory requires enterprises to gain a deep understanding of and insights into consumers' needs,

including their expectations of product functions, sensitivity to price, requirements for purchasing convenience, and preferences for communication methods. This consumer-centered approach enables companies to more accurately position their target markets and develop products and services that better meet the needs of consumers.

Secondly, the element of "Cost" refers not only to the price of the product but also encompasses all costs involved in the process of purchasing and using the product or service, including the costs of time and energy. Enterprises need to optimize their production processes, improve service efficiency, and reduce the cost of consumer purchases to enhance the cost-effectiveness of their products, thereby improving market competitiveness.

Again, the element of "Convenience" emphasizes that enterprises should fully consider consumers' convenience needs when providing products or services. This includes providing convenient purchase channels, flexible payment methods, and fast delivery services, among other measures, to enhance the consumer's purchasing experience and satisfaction. By providing a convenient shopping experience, companies can attract more consumers and build stable customer relationships.

Finally, the "Communication" element requires the establishment of an effective communication mechanism between enterprises and consumers. This includes interacting with and exchanging information with consumers through various channels and methods to understand their feedback and needs, and to adjust product strategies and service methods promptly. Effective communication can not only enhance the trust relationship between enterprises and consumers but also help enterprises better understand market dynamics and competitors, thereby developing more effective marketing strategies.

In summary, the 4C theory emphasizes that consumer demand is the core, achieved by satisfying consumer demand, reducing purchase costs, providing purchase convenience, and implementing effective marketing communication to enhance market competitiveness and brand image for enterprises. This theory is of great significance in guiding enterprises to develop effective marketing strategies in today's competitive market environment.

Theory and concept of the Technology Acceptance Model

The TAM Technology Acceptance Model was proposed by American scholar Davis in the 1980s, which began as a way of predicting and interpreting an individual's acceptance attitudes toward a technology-based product, thoughts about wanting to utilize it, and specific behaviors when using it (Chen, 2020). Perceived usefulness as well as perceived ease of use are the two variables proposed by Davis in his theoretical study on the basic research of consumers regarding the emergence of new technologies. Perceived usefulness indicates an individual's perception that the use of a particular information system enhances his or her life performance, i.e., whether or not the adoption of an information system product can bring about efficiency gains in the actual workplace; Perceived ease of use indicates whether an individual can get started and learn quickly when using it, emphasizing the ease of learning and operation (Xiang Chen, 2018). In the original model, consumers' behavioral intentions are influenced by their attitudes toward the use of new technologies, which in turn are influenced by the two basic research variables mentioned in the model: perceived usefulness and perceived ease of use. After analyzing and arguing, Davis developed the Technology Acceptance Model in the 1980s. The Technology Acceptance Model (TAM) considers both individual perceptions and the impact of external environmental

variables on consumers, and has been widely applied in practical research. The technology acceptance model is shown in Figure 1:

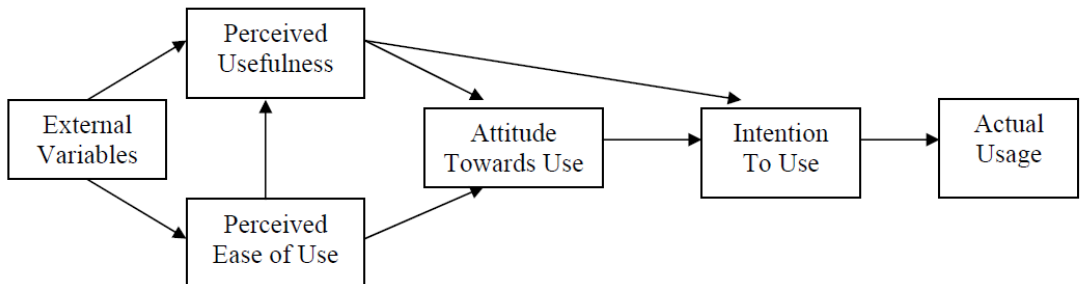


Figure 1: Technology Acceptance Model (TAM)

In 2000, Davis and another scholar in the study of information systems found that perceived usefulness and perceived ease of use can directly affect behavioral intentions, while the correlation between attitude toward use as a mediator variable and consumer behavioral intentions is not apparent, and finally removed the term of attitude toward use as an intermediate variable, and obtained the improved TAM model (Davis, 1985), as shown in Figure 2.

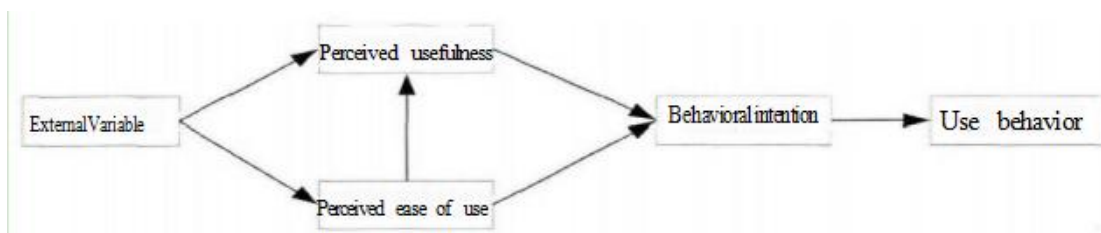


Figure 2: Improved Technology Acceptance Model (TAM)

As online shopping is inherently tied to computer technology, many scholars outside of China draw on the TAM model to study consumer attitudes and behaviors during the online shopping process. As the TAM model has been widely used in online shopping research, it will be

modified and variables added or subtracted according to the different research objects and usage scenarios.

Comprehensive research on the live streaming sales industry, as mentioned above, has revealed that, after nearly five years of rapid development, the new business model of live streaming sales has penetrated various industries. The rapid development of the industry has led to a significant increase in economic benefits, but at the same time, it has also uncovered some hidden dangers that could hinder the industry's benign development. For example, serious homogenization of live streaming sales, decline in consumer stickiness, lower conversion rates in the later stages, and other issues. The current research on live streaming sales primarily consists of brief reports or business model studies, which mostly remain at the argumentation stage, and are less involved in empirical data research. The dissertation research is to extract some influencing factors from the above literature review: shopping safety, platform reputation, after-sales protection, opinion leaders and other research variables, quantify the above factors by combining with the research of previous scholars, design a scale for the research, and quantitatively analyze the influence of each factor on consumers' purchasing intention using a survey questionnaire.

About Live streaming platforms

Live streaming sales refers to the use of live streaming platforms to users watching live streaming sales to promote and sell goods sales model, in the live streaming sales process by the anchor to introduce the characteristics and advantages of the promoted goods, to attract users watching live streaming to buy goods, to achieve the marketing effect of a new type of marketing method. A live streaming platform with goods refers to the live streaming platform itself becoming a sales channel,

cooperating with commodity producers or suppliers, and facilitating the circulation of commodities by participating in the production and packaging of products, and selling them directly to consumers through the live streaming platform.

Conceptual framework

The paper summarizes the factors affecting customers' purchase intentions based on previous scholars' research. It proposes and establishes a new model of live streaming bandwagon consumers' purchase intentions, drawing on the Technology Acceptance Model (TAM). Specifically, this paper will empirically investigate whether the five factors of consumer perceptions (perceived usefulness, perceived ease of use, product price concessions, interactivity experience, and opinion leaders) and platform reputation affect consumers' purchase intentions. The research framework diagram is shown in Figure 3.

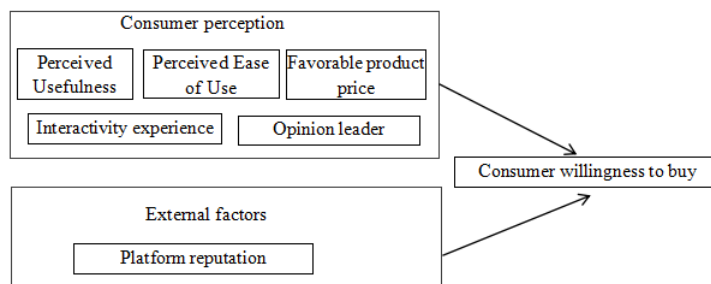


Figure 3: Conceptual framework

Variables

This paper primarily relies on the Technology Acceptance Model to investigate the impact of consumer-perceived factors and external factors on consumer purchase intention. The consumer-perceived factors comprise five variables, with one variable included under external factors.

1. Independent variables: Consumer perception, Platform reputation
2. Dependent variable: consumer purchase intention factors

Methodology

1 Population and sample

The population of this study consisted of 2,498 consumers who had watched the live-streaming sales at least once. The sample size of 345 customers' purchase intention in the live streaming sales environment in Hebei, China, was determined by the Taro Yamane formula.

The sample size was 400, calculated using Yamane's (1973) formula with a 95% confidence level and a margin of error of ± 5 for this study.

2 Research instrument

The research team first draws on the content of previous scholars' research design and the team's understanding to design the questionnaire; then combines the research context of this paper and the results of the pre-survey questionnaire to make corresponding adjustments to the questionnaire, and ultimately obtains the scale on the influencing factors of consumers' willingness to buy in the process of live streaming sales. For the design of the questionnaire, the questionnaire begins with an expression of gratitude and a clear statement of confidentiality. Then the personal information of consumers was counted, including gender, age stage, education level, occupation, average monthly disposable amount and other information, to make a basic understanding of the interviewees, and at the same time, screening questions were set up to filter the interviewees by asking whether they had the experience of watching live streaming sales, to improve the accuracy of the questionnaire. The central part of the questionnaire is designed to measure the variables of the dissertation, ensuring the validity of the measurement by including at least three items for each variable. The Likert scale 190 is used to measure the

attitudes of the respondents: 1 means "Strongly Disagree", 2 means "Disagree", three means "Neutral", four means "Agree", five means "Strongly Agree", the details of the questionnaire and its corresponding scales are shown in the appendix.

3 Data Collection

The thesis research employs a "questionnaire star" design questionnaire, with an initial sample of 90 questionnaires, to facilitate a preliminary understanding of the research object, aid in follow-up of the questionnaire, and enhance the accuracy of the results. Moreover, analyze the reliability of the initial 90 questionnaires recovered (using SPSS software), found that some of the options reliability is low, and then invited 10 respondents to communicate, to find out the reasons for the questionnaire respondents to add a screening option, and then issued and recovered 68 questionnaires, the questionnaire reliability is greatly improved.

4 Data analysis

This paper obtains the consumer purchase intention situation in the live streaming sales environment through the questionnaire star platform, and then carries out descriptive statistical analysis, scale reliability and validity test with the help of SPSS software to ensure the reliability of the data collected in the article; and carries out correlation and regression analyses, to get the empirical relationship between the five factors of consumers' perception (perceived usefulness, perceived ease of use, preferential price of the product, interactivity experience, and opinion leader), the platform reputation, and the consumers' purchase intention.

Results

Based on the research design and questionnaire survey, the research team obtains the influencing factors of consumers' purchase intention in the live streaming sales environment. and focuses on the descriptive statistical analysis, scale reliability and validity test of the results of the questionnaire analysis to ensure the reliability of the data collected in the article; Correlation and regression analyses were conducted to obtain empirical relationships between the five factors of consumer perception (perceived usefulness, perceived ease of use, product price concessions, interactivity experience, and opinion leaders), platform reputation, and consumer purchase intention.

Descriptive statistical analysis

The first step of data analysis is to use SPSS software to conduct a simple descriptive statistical analysis of the 343 valid survey samples collected, in order to have an overall understanding of the questionnaire situation and analyze it in the light of the actual situation of the research, in order to pave the way for the subsequent management insights.

Gender-specific variables

Table 1: Gender Characterization Variables

gender	sample size	percentage
man	157	45.77%
women	186	54.22%

Analysis of the data shows that the proportion of men and women is 45.77% and 54.22% respectively, with a slightly higher proportion of women. Considering that in previous studies, most researchers default women in the field of shopping to occupy the leading position, the proportion of women in the research is higher, this research deliberately in the preliminary questionnaire recovery control of the male to female

ratio of about 1:1, through the screening has not seen the live streaming sales, as well as part of the invalid questionnaire, the proportion of women is slightly higher than that of men, but the difference is not significant, and the previous perception of the domestic e-commerce live audience for the majority of women to have a difference.

Age-specific variables

In terms of age, 2.93% of the respondents were under 20 years old, 33.41% were between 21 and 25 years old, 37.7% were between 26 and 30 years old, 19.86% were between 31 and 40 years old, and 6.09% were 40 years old and above. Live streaming sales is a new product. Following the leading viewing group, research data analysis reveals some of the age characteristics of current online shopping consumer groups, with a certain degree of representativeness, aligning with the audience situation of the live band.

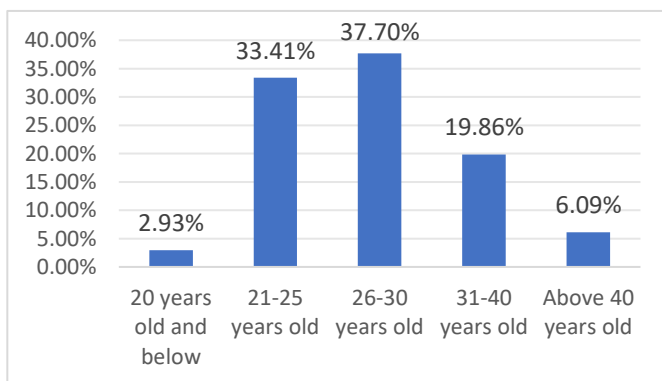


Figure 4: Age Characterization Variables

Table 2: Variables characterizing monthly disposable amounts

Disposable amount (months)	sample size	percentage
1000 yuan and below	13	3.79%
1001—2000yuan	84	24.49%
2001—3000yuan	50	14.57%
3001—5000yuan	46	13.41%
5001 yuan and above	150	43.73%

From the average monthly disposable amount of research subjects, the proportion of respondents with a budget of 1000 yuan or less is 3.79%, the proportion of respondents with a budget of 100-2000 yuan is 24.49%, the proportion of respondents with a budget of 2001-3000 yuan is 14.57%, the proportion of respondents with a budget of 3001-5000 yuan is 13.41%, and the proportion of respondents with a budget of 5001 yuan or more is 43.73%. Combined with the 39.05% of the student group, it is easy to see that the disposable amount of the student group is increasing; considering their situation, most of their friends have already joined the workforce, so the proportion of 5001 yuan and above is relatively high, reaching 43.73%. This data can be further explored to determine if this group has a strong willingness to buy and to verify whether it is reasonable for some researchers to suggest that the majority of the live streaming sales audience is from a low-income group.

Reliability and validity tests

The results of the reliability of the overall questionnaire of the dissertation study and the reliability tests of the different dimensions are presented in Table 3

Table 3: Results of the overall reliability test of the questionnaire

item count	sample size	α confidence coefficient
30	343	0.943

The research subjects were analyzed for reliability, and from the table, we can see that the overall reliability test result of the sample of this study is 0.943, indicating that the sample of this questionnaire has a high degree of authenticity, which means that the internal consistency of the questionnaire is perfect.

Hypothesis testing

1. Correlation analysis

From the results below, it can be seen that there is a significant positive correlation between consumers' willingness to buy and the independent variables of the model, in which the correlation coefficients of product price preference and perceived usefulness are relatively large, which are 0.621 and 0.607, respectively—preliminary verification of hypotheses H1-H6.

Table 4: Correlation Analysis between Consumer Purchase Intention and Independent Variables

variable name	Consumers' willingness to buy	Platform reputation	perceived usefulness	Perceived Ease of Use	Favorable product price	Interactivity experience
Consumers' willingness to buy						
Platform reputation	0.408**					
perceived usefulness	0.607**	0.292**				
Perceived Ease of Use	0.515**	0.312**	0.632**			
Favorable product price	0.621**	0.470**	0.513**	0.461**		
Interactivity experience	0.502**	0.466**	0.456**	0.447**	0.576**	
opinion leader	0.510**	0.591**	0.390**	0.396**	0.534**	0.561**

2. Repressive analysis

This paper uses linear regression to test the relationship between consumer purchase intention and six independent variables. The results of the correlation analysis indicate a positive correlation between consumers' willingness to buy and the six independent variables, and several related research hypotheses are preliminarily verified. To further clarify the relationship between consumers' willingness to buy and each independent variable, regression analysis was employed to investigate the relationship between the two types of variables. The results of the regression analysis are presented in the table below.

Table 5: Results of Regression Analysis of Consumer Purchase Intention

variable name	Non-		Standar		t-value	p	R ²	Adjusted R ²	F
	standardized coefficient	standard	dized coefficient	t					
Constant	0.658	0.498		1.321	0.187				
Perceived usefulness	0.229	0.034	0.305	6.775	0.000**				
Perceived Ease of Use	0.091	0.043	0.094	2.129	0.034*				F (6,436)
Favorable product price	0.222	0.034	0.296	6.571	0.000**	0.533	0.526		=82.846,
Interactivity experience	0.042	0.037	0.051	1.140	0.255				p=0.000
Opinion leader	0.106	0.034	0.143	3.127	0.002**				
Platform reputation	0.045	0.044	0.043	1.014	0.311				
D-W values:2.013									
*p<0.05**p<0.01									

According to the analysis of the data in the table, it can be observed that the value of adjusted R² is 0.526, indicating that the six independent variables can jointly explain 52.6% of the variation in consumers' willingness to buy. The value of D-W is equal to 2.013, which indicates that the model is better off without correlation between the independent variables.

Conclusion

Based on the research of previous scholars, this dissertation study analyzes consumers' willingness to shop on live streaming sales platforms and provides some management insights with practical experience from enterprises. Based on the variables of the original TAM technology acceptance model, and combining with the literature research, four independent variables are added, namely, product price preference, interactive experience, opinion leader, and platform reputation. The data

were primarily collected through the distribution of questionnaires, and subsequently, the data were processed using SPSS software to verify the research hypotheses of the thesis. The following conclusions are drawn:

Perceived usefulness, favorable product price, perceived ease of use, opinion leader, interactivity experience, and platform reputation all positively and significantly affect consumers' purchase intention, except for interactivity experience and platform reputation, which have a positive but insignificant effect.

In addition to the variables underlying the TAM technology acceptance model, the highest correlation was found between product price concessions and consumer purchase intention. This shows that the live streaming sales platform, which is rich in commodities, efficient in shopping, and has a friendly platform page and easy operation, is a factor to consider when generating purchasing behavior. However, at present the live streaming sales program homogenization is serious, the goods are very similar, consumers watch live streaming sales, to a large extent, is to rush to the "lowest price of the whole network" to go, the price of the product preferential to become an important factor affecting the live streaming sales platform consumer willingness to buy.

In addition to the variables underlying the TAM technology acceptance model, the correlation between opinion leaders and consumers' willingness to buy is also high. This suggests that live streaming sales, as a new online shopping model, currently has a relatively single factor influencing consumer purchase intentions on live streaming sales platforms, and that opinion leaders have a greater influence. Opinion leaders play a guiding role in consumer shopping, influencing consumers' purchasing decisions through their expertise, product familiarity, and industry connections.

Besides, interactive experience and platform reputation do not have a significant effect on consumers' purchase intention, which may be because there are some overlapping features in the factors included in the interactive experience and opinion leader scales, and there is a specific competitive relationship, which leads to a decrease in the significance; As for the issue of platform reputation, at present the live streaming sales platform is mainly a few Internet giants in the making, the reputation is relatively good, and there is rarely a return without a door. Hence, the consumer's perception of this factor is relatively weak.

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