

Research on the Influence and Mechanism of Web Celebrity Live Broadcast on Consumers' Purchasing Intention

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Abstract: In the booming integration of internet celebrities' livestreaming with e-commerce, livestreaming by internet celebrities has shown explosive growth. Against this backdrop, this study examines the factors influencing consumers' purchase intention in internet celebrities' livestreaming, and explores the underlying mechanisms. The study finds that attractiveness has a significant positive impact on consumers' purchase intention, with interactivity playing an intermediary role. Expertise has a significant positive impact on consumers' purchase intention, with perceived quality acting as an intermediary. Ethical reputation has a significant positive impact on consumers' purchase intention, with perceived social value acting as an intermediary.

Keywords: Live Streaming by Internet Celebrities; Purchase Intention; Influencing Factors; Mediating Variables; Empirical Research.

1. Introduction

Internet celebrities, generally referring to individuals who are active on the internet and have traits such as attractive appearance, expertise, and moral values. They are adept at tapping into commercial value and converting their fan base into a powerful purchasing force, facilitating the transformation of marketing methods online[1]. In the past few years, the combination of internet celebrity-driven sales and e-commerce live streaming has shown explosive growth. In 2020, the sudden outbreak of the COVID-19 pandemic gave rise to new economic models such as the stay-at-home economy and contactless economy, propelling the rapid advancement of live streaming e-commerce. According to the "Statistical Report on the Development of China's Internet" published by CNNIC, as of September 2020, the number of online shoppers in China reached 749 million, and the number of live streaming e-commerce users reached 309 million, accounting for 41.3% of online shoppers and 55% of live streaming users. Taking a closer look, mainstream internet celebrities like Li Jiaqi and Viya have demonstrated unparalleled fan engagement and monetization capabilities in their live streams. Li Jiaqi, known as the "Lipstick King," achieved the incredible feat of selling out 14,000 lipsticks in just one minute, while top Taobao live streamer Viya generated over 2.7 billion yuan in sales during the 2019 Double 11 shopping festival. 2. The Technical Theoretical Origins of the Integration of Vocational Education Qualifications.

2. Literature Review

The phenomenon of internet celebrities live-streaming for sales has also attracted the attention of many scholars, who have primarily discussed it from the following perspectives:

First, it focuses on exploring the connotation of internet celebrity marketing, highlighting issues and transformation methods. Wang & Xu (2016) found that in the process of cross-border e-commerce development, internet celebrities are the main driving force, pursuing a decentralized community model. Platforms such as Jumei.com and NetEase

Koala rely on internet celebrity communities to drive traffic and consumption[2]. Zhu (2017) believes that internet celebrity marketing is a new marketing method bestowed by the times. Unlike traditional portal website marketing, this marketing method has incomparable advantages in terms of cost, marketing precision, and conversion rate. To achieve a transformation in internet celebrity marketing, it is necessary to carry out internet celebrity marketing with purpose, selectivity, and quality[1]. Zhai(2020) studied the analysis of online user consumption behavior and found that internet celebrity marketing and digital marketing need to be closely integrated, using big data technology for data analysis and organization before, during, and after marketing, to strengthen marketing effectiveness[3].

Second, empirical research methods are used to investigate the influence of internet celebrity attributes on consumer attitudes and behaviors. Yang et al. (2018) found that the information source attribute of internet celebrities affects their purchasing willingness[4]. In this influence process, the consistency between internet celebrities and the product image has a moderating effect, and consumer identification plays an intermediary role. Che et al. (2019) found that consumer attitudes towards brands depend on the fit type between internet celebrity bloggers and the brand, and different fit types have different effects[5]. Tao Jinguo and Zi (2017) found that product quality, online store professionalism, and the role of internet celebrities have a strong impact, and based on this, they proposed suggestions for internet celebrity e-commerce, such as focusing on product quality, meeting personalized consumer needs, leveraging the role of opinion leaders, and multi-channel marketing[6]. Wang et al. (2019) proposed four dimensions of internet celebrity attributes based on literature, and found that internet celebrity attributes promote value co-creation through emotional experience, suggesting the need to enhance the qualities of internet celebrity anchors, optimize the user environment, and improve access to live streaming platforms[7]. Lu & Zhang (2020) considered the impact of perceived risk on consumers' intention to continue purchasing from internet celebrities, and argued that internet celebrities

should reduce consumer perceived risk by improving product quality, optimizing logistics and delivery, and providing better service[8].

Third, it focuses on discussing the current situation, development mechanism, and innovative strategies of live-streaming e-commerce. Zhong(2020) comprehensively discusses the current development of live-streaming e-commerce and believes that the key elements of live-streaming e-commerce are “people, products, and scenes”[9]. The necessary conditions for the sustained development of live-streaming e-commerce in the future will be continuous process optimization, value improvement, and the creation of irreplaceable new models. Xu &Xiao (2021) conducted research on the influence of live-streaming e-commerce on college students' consumption behavior, considering college students as the research subjects[10]. Their study found that college students' live-streaming consumption behavior is driven by material factors such as price, while their participation in live-streaming is mainly driven by spiritual factors such as information, knowledge, and pleasure. Zhu(2021) focuses on the dilemma of retail live-streaming e-commerce and proposes an innovative strategy of “5G+ live-streaming” to overcome the challenges, with breakthroughs needed from multiple angles including the marketing industry chain, diverse social scenes, and anchor discipline[11].

In summary, although the aforementioned studies have extensively explored the marketing strategies of internet celebrities and the transformation and development of e-commerce, they have two main shortcomings. Firstly, they did not clearly reveal the influence of internet celebrity live-streaming on consumers' purchase intention. The internet celebrity model is not synonymous with the live-streaming e-commerce model, as the two are experiencing explosive growth through integration. The impact of internet celebrity live-streaming on consumer behavior will become more complex and varied. Secondly, they have not classified the influence of internet celebrity attributes on consumer behavior or unraveled the underlying mechanisms of different influencing factors. This study categorizes the impact of internet celebrity live-streaming on consumers' purchase intention into the “attractiveness effect”, “talent effect”, and “character effect”. and examines the corresponding mechanisms of influence for each category.

3. Research Hypothesis

3.1. The Impact of Attractiveness on Consumers' Purchase Intention

The attractiveness effect refers to the economic benefits formed by internet celebrities using their attractiveness to attract and influence consumers. Based on the Stimulus-Organism-Response (SOR) theory, there is a close connection between stimulus, organism, and response. Through the attractiveness stimulus, consumers' emotions and cognition can be aroused and stimulated, influencing their purchasing behavior and decision-making. In internet celebrity livestreaming rooms, consumers are attracted by the well-proportioned figures and delicate makeup of the internet celebrity anchors. In dynamic scenes, viewers can see the anchors' timely responses and also participate in the process. In such highly interactive environments, anchors receive generous tips, which can be seen as a type of body-oriented consumption while also providing consumers with relevant information about the products. Interaction plays a significant

role in emotional connection, and interactive communication forms a participatory companionship between fans and idols, continuously deepening fans' immersion and forming an intimate relationship established in the online space. Thus, this study proposes the following hypotheses:

H1a: Attractiveness has a significant positive impact on consumers' purchase intention.

H1b: Interactivity plays a mediating role between attractiveness and consumers' purchase intention.

3.2. The Impact of Expertise on Consumers' Purchase Intention

The talent effect refers to the provision of professional knowledge or practical experience by internet celebrities in a particular field, from which fans can gain professional recognition. The talent effect enables influencers to continuously win the support and trust of fans, bridge the gap between them, and increase fans' purchase intention. If influencers have a deep involvement with the products, possess a high level of product knowledge breadth and depth, and have rich personal experiences with the products, the level of information received by their audience will be higher, leading to a greater impact. The professional competence of internet celebrities, the completeness and accuracy of the product information they convey, can reduce perceived risks and uncertainties, ultimately resulting in consumer perception of the quality of the products. The attitude consumers have towards products is actually a reflection of their perceived quality. The recognition of factors such as product specifications, functionalities, and details are a key factor in consumer purchasing decisions. Based on this, the following hypotheses are proposed in this study:

H2a: Expertise has a significant positive impact on consumers' purchase intention.

H2b: Perceived quality mediates the relationship between expertise and consumers' purchase intention.

3.3. The Impact of Expertise on Consumers' Purchase Intention

The phenomenon of personal reputation refers to the social influence of internet celebrities' moral reputation on consumer shopping behavior. Based on the theory of social identity, people strive to maintain or pursue a positive social identity. If people fail to obtain the social identity that aligns with their desires, they will attempt to actively separate themselves from their social group. Internet celebrities with a poor moral reputation receive decreased evaluations from people, and may even face negative evaluations. This negative evaluation affects their fans and consumers, directly influencing consumers' willingness to make purchases. In essence, the consumer process is not only a process of satisfying daily life and production needs, but also a process of social communication and performance. People often use consumption as a basis to convey and express certain information or meaning to the audience. The unique characteristics of internet celebrities attract fans and consumers, who pursue the behaviors of internet celebrities and perceive the same social expressions and values reflected in the products, ultimately affecting their purchase intention. Based on this, the following hypotheses are proposed in this study:

H3a Moral reputation has a significant positive impact on consumers' purchase intention.

H3b Perceived social value plays a mediating role between

4. Research Design

4.1. Data Source

Referencing Wang et al. (2019) research methodology, this study focused on consumers who engaged in purchasing behavior during live streaming sessions by internet celebrities. An online survey was conducted from March to November 2022. The research team distributed questionnaire star links through various means, including joining fan groups, fan forums, and fan circles, to collect the required data. In total, 305 questionnaires were collected, out of which 35 invalid questionnaires were excluded, resulting in 270 valid questionnaires with an effective rate of 88.5%.

4.2. Variable Measurement

The survey questionnaire is divided into two parts: demographic variables, including gender, age, income, educational background, etc., and mature scales. Attractiveness, interactivity, and professionalism primarily refer to the scales used by Zhou et al. (2019) and Wang et al. (2019) [7,12]; perceived quality refers to the scale used by Gao et al. (2019) [13]; perceived social value and moral reputation primarily refer to the scales used by Ganganee Chandima Samaraweera et al. (2014) [14]; and purchase intention primarily refers to the scale used by Yang et al. (2019) [4]. All scales use a 5-point Likert scale, where 1 represents "strongly disagree" and 5 represents "strongly agree". After the design of all scales in the questionnaire is completed, three marketing professors are invited to revise the questionnaire scales and conduct a pre-survey. Based on the results of the pre-survey, the questionnaire items are repeatedly modified to ensure the quality of the questionnaire.

5. Data Analysis

5.1. Basic Characteristics of the Sample

The survey results show that in terms of gender, females

account for 66.3% and males account for 33.7%. Females engage in live shopping more frequently, which is consistent with the reality. In terms of age distribution, live shopping is more popular among younger age groups. Below 18 years old accounts for 3.7%, 18 to 26 years old accounts for 68.15%, 27 to 34 years old accounts for 18.15%, and 35 years old and above accounts for 10%. In terms of educational level, live shopping is more concentrated among those with a college degree or above. Below high school level accounts for 2.59%, college degree accounts for 13.33%, bachelor's degree accounts for 78.52%, and master's degree or above accounts for 5.56%. In terms of monthly income, live shopping consumers have relatively lower income levels. Below 4000 yuan accounts for 44.44%, 4000 to 7000 yuan accounts for 28.89%, 7000 to 10000 yuan accounts for 18.89%, and above 10000 yuan accounts for 7.78%.

5.2. Reliability and Validity

First, reliability tests were conducted to ensure that the questionnaire data analysis results are reliable. All Cronbach's α coefficients in Table 1 are greater than 0.7, indicating good internal consistency in this study. Additionally, all CR values are greater than 0.8, indicating good composite reliability. Secondly, the structural validity of the main variables in this study was analyzed through exploratory factor analysis, using principal component analysis and maximum variance method for factor rotation. The results showed that the KMO values of almost all variables were above 0.7, indicating that the data is suitable for factor analysis and meets the requirements for structural validity. Furthermore, for further discriminant validity analysis, the common practice in academia was followed, which is to assess whether the square root of Average Variance Extracted (AVE) is greater than the correlation coefficients between all other variables. The results are shown in Table 1, which further demonstrates good discriminant validity among the measurement variables.

Table 1. Test results of reliability and validity

Variable	Factor Loading	Cronbach's α	KMO	AVE	CR
Attractiveness	>0.7	0.862	0.857	0.65	0.902
Expertise	>0.7	0.903	0.893	0.722	0.928
Moral reputation	>0.7	0.864	0.732	0.788	0.918
Interacitivity	>0.7	0.862	0.822	0.708	0.906
Perceived quality	>0.7	0.864	0.725	0.788	0.918
Perceived social value	>0.7	0.915	0.882	0.746	0.936
Purchase intention	>0.7	0.931	0.930	0.745	0.897

5.3. Correlation Analysis

Pearson's correlation analysis was conducted on the main variables as shown in Table 2, and all main variables showed significant correlations at the 0.01 level, indicating suitability for regression analysis. It should be noted that the coefficients of the independent variables are relatively large, therefore, further testing for multicollinearity was performed using the variance inflation factor (VIF). All threshold values were found to be below 10, indicating the absence of multicollinearity issues.

5.4. Hypothesis Testing Results

Initially, multiple regression analysis was conducted to verify the impact of attractiveness, expertise, and moral reputation on consumer purchase intention. Subsequently, the mediating effects of interactivity, perceived quality, and perceived social value were tested. The hypothesis testing results are presented in Table 3: attractiveness has a significant positive effect on consumer purchase intention ($\beta=0.136$, $p<0.05$), confirming H1a; expertise has a significant positive impact on consumer purchase intention ($\beta=0.556$, $p<0.05$), confirming H2a; moral reputation has a

significant positive influence on consumer purchase intention ($\beta=0.184$, $p<0.05$), confirming H3a. After including Interactivity, the impact of attractiveness on consumer purchase intention remains significant ($\beta=0.309$, $p<0.05$), confirming H1b; after including perceived quality, the

influence of expertise on consumer purchase intention remains significant ($\beta=0.373$, $p<0.05$), confirming H2b; after including perceived social value, the impact of moral reputation on consumer purchase intention remains significant ($\beta=0.467$, $p<0.05$), confirming H3b.

Table 2. Correlation analysis and discriminant validity

	1	2	3	4	5	6	7
Attractiveness	0.806						
Expertise	0.539**	0.850					
Moral reputation	0.580**	0.696**	0.888				
Interactivity	0.542**	0.757**	0.649**	0.841			
Perceived quality	0.556**	0.823**	0.736**	0.744**	0.887		
Perceived social value	0.529**	0.695**	0.642**	0.728**	0.767**	0.864	
Purchase intention	0.612**	0.771**	0.762**	0.727**	0.791**	0.759**	0.863

Table 3. Regressive analysis

Variable	Purchase intention	Interactivity	Perceived quality	Perceived social value	Purchase intention	Purchase intention	Purchase intention
Attractiveness	0.136**	0.542**					
Expertise	0.556**		0.823**				
Moral reputation	0.184**			0.642**			
Interactivity					0.309**		
Perceived quality						0.373**	
Perceived social value							0.467**
R ²	0.711	0.294	0.677	0.412	0.596	0.670	0.705
Adjusted R ²	0.708	0.291	0.676	0.409	0.592	0.667	0.702
F	187.369	95.677	483.128	161.193	168.821	232.850	273.388

6. Conclusion and Recommendations

This study systematically reviewed the research on live-streaming e-commerce by internet celebrities (or KOLs) and constructed a hierarchical framework to investigate the influence of internet celebrities on consumer purchase intention, as well as the underlying mechanisms. The empirical findings indicate that attractiveness has a significant positive impact on consumer purchase intention, with interactivity playing a mediating role; professionalism has a significant positive impact on consumer purchase intention, with perceived quality acting as a mediator; and ethical reputation has a significant positive impact on consumer purchase intention, with perceived social value serving as a mediator.

To further leverage the advantages of internet celebrities in promoting the development of live-streaming e-commerce industry and facilitating the circular flow of domestic circulation, the following recommendations are proposed based on the research findings:

Firstly, internet celebrities should strengthen their self-image management and enhance their personal charm. The image of internet celebrities is a product of various factors, such as individual characteristics, values, and national policies. In the new era, internet celebrities need to break away from negative images, such as flaunting wealth, being materialistic, and exhibiting vulgarity, and instead, shape personalized IPs that match their own image, strengthen the association between personal image and brand image, align

their personal image with the image of the city they represent, continuously enhance their cultural taste, convey the core socialist values, spread positive energy, promote the main theme, and showcase their true charm through interactions with fans.

Secondly, it is essential to improve the professionalism of internet celebrity marketing and enrich marketing content. Issues such as illegal content, pyramid schemes, and the sale of inferior or counterfeit products still exist in live-streaming e-commerce, which greatly damages consumer emotions and legitimate rights. Therefore, internet celebrities should strengthen the management of product content quality and ensure the overall quality from production to sales, such as the reliability of raw materials, advanced production techniques, compliance with manufacturing processes, and the ability to provide after-sales services. At the same time, content marketing quality should be enhanced to eliminate vulgar and sycophantic content. Internet celebrities need to create a new type of online space called the "people-product-scene" by leveraging diverse technologies such as images, videos, VR, big data, and 5G to provide consumers with an immersive experience, enhance consumer experience and willingness to purchase.

Thirdly, it is necessary to maintain ethical reputation and fulfill social responsibilities. Internet celebrity anchors often violate social ethics, speak without thinking, and undermine the positive atmosphere in the online space, all for the sake of money and traffic. Strengthening the regulation of internet celebrities' live-streaming activities is imperative. Currently,

the National Cyberspace Administration, the National Office Against Pornographic and Illegal Publications, and other departments have carried out special rectification and regulation in the field of online live-streaming, achieving significant progress and good results. Internet celebrities need to learn from these experiences, thoroughly study and implement relevant regulations and requirements, strengthen self-discipline, strictly require and regulate their own behaviors, adhere to moral bottom line, and actively assume social responsibilities, shaping a healthy online live-streaming ecosystem and promoting the high-quality development of the internet celebrity live-streaming industry.

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