Research on Symbolic Interaction in E-Commerce Live Streaming

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Abstract

E-commerce live streaming has become a new trend in people's online shopping. A variety of live streaming platforms provide people with means of communication and communication. E-commerce live streaming stimulates consumption, greatly promotes economic development, and enables people to understand the world and observe society from different angles. Among them, the application of information symbols has become the bottleneck for the sustainable development of e-commerce live broadcast. Through the analysis of symbol interaction in e-commerce live streaming, this paper holds that e-commerce live streaming not only meets people's shopping needs, but also plays a certain role in leisure and entertainment and emotional companionship. It also puts forward some strategic suggestions to promote the sustainable and healthy development of e-commerce live streaming by creating lively and interesting interactive content symbols and building scene symbols that accompany audiences to "pick goods, recognize goods and buy goods".

Subject Areas

Electronic Commerce

Keywords

Symbolic Interaction, E-commerce Live Broadcast, Network Effects, Communication Strategy

1. Introduction

"Sign" is the most basic element in symbolic interaction theory. It represents something meaningful, and this meaning is endowed by people. From the perspective of symbolic interaction, e-commerce live streaming creates an immersive shopping scene with information interactive significance, and the symbolic sys-

tem composed of characters, content and situation runs through the whole process.

1.1. Research Background

With the rapid development of modern information technology and network technology, the forms of media change rapidly. Information media technology extends people's sense of vision, hearing, touch and so on infinitely, and quietly changes people's ways of communication and shopping. In 2015, the form of network live broadcast became popular in China and presented a blowout development. Under this background, e-commerce live streaming was born.

The year 2016 is known as the first year of e-commerce live streaming. In this year, Mogujie took the lead in transformation by establishing its own e-commerce channel and launching e-commerce live streaming business. Other large e-commerce platforms also quickly followed suit, such as Taobao, Suning, Jingdong and other online live streaming functions. In 2018, the sales volume of e-commerce live streaming on Taobao exceeded 100 billion yuan, a year-on-year growth rate of 400 percent. Short video platforms Douyin and Kuaishou quickly followed up, launched shopping cart and store functions, and continued to expand e-commerce business. The "content + e-commerce" mode of planting grass has deeply influenced users' consumption habits. Planting grass: an Internet term used to share and recommend a product through content introduction, display, etc., to inspire others to buy it. From 2020 to 2021, there were more than 10 million livestreams of e-commerce in China, with 309 million users.

According to the 50th Statistical Report on Internet Development in China released by CNNIC, as of June 2022, the number of Chinese netizens was 1.051 billion, and the Internet penetration rate reached 74.4%. The number of webcast users reached 716 million, accounting for 68.1 percent of the total Internet users. Among them, the scale of e-commerce live streaming users was 469 million, up 5.33 million from December 2021, accounting for 44.6% of the overall Internet users. In the first quarter of 2022, the total value of Kuaishou e-commerce transactions reached 175.1 billion yuan, up 47.7% year on year, among which the self-established e-commerce system "Kuaishou Xiaoshop" contributed more than 99% of the transaction volume. From May 2021 to April 2022, there were more than 9 million livestreams on Douyin's platform every month, and more than 10 billion items were sold, with the total transaction volume increasing 2.2 times year-on-year. In the last half year, 27.3% of online shopping users only consume on traditional e-commerce platforms, and 49.7%, 37.2%, 32.4% and 19.6% of online shopping users consume on short video live streaming, fresh food e-commerce, community group buying and Wechat, respectively [1].

According to the analysis of AliResearch, the overall scale of e-commerce live streaming is close to 2 trillion yuan by 2021, a 54.5 times increase compared with 2017.

Against the backdrop of the pandemic, live streaming apps have played a full

role in marketing and entertainment. At the same time, the continuous progress of live broadcast technology and the increasingly perfect regulatory system continue to promote the healthy and orderly development of all related business forms of network broadcast [1]. Nowadays, e-commerce live streaming has changed people's online shopping form, and the information interaction symbols in e-commerce live streaming have also entered the vision of researchers.

1.2. Research Status and Problems

1.2.1. Symbolic Interaction Theory

Symbolic interaction theory is a sociological theory that focuses on individual behavior under interaction. It originated from American sociologist George Herbert Mead. According to him, "the self is produced in the interaction with the whole society, that is, in social experiences and activities, and is not innate" [2]. Symbolic interaction theory was formally put forward by Blumer in the 1930s. Its symbol, is the core point of the main research all the symbolic elements in meaning in the process of social interaction, the human own meaning as determined by the present environment to understand things, with the instinct of symbolic things, constantly revised these interactive significances of symbols, on the basis of gradually used in our daily life [3]. Blumer puts forward that symbolic interaction theory can work on three important premises: 1) People's social behavior is based on meaningful and targeted activities; 2) People give meaning to things in their interactions with other members of society; 3) This meaning will be improved and modified in constant communication and interaction [4].

Later, Cooley put forward the "mirror me" theory, which Goffman further advanced in his research, explaining the interaction behavior as the "drama" effect, and proposing the concepts of "foreground" and "background". Charles Horton Cooley, the founder of American sociology, put forward the "Mirror me" theory. Cooley's research focuses on the detailed explanation of the activities of social individuals from the micro level, and this direction of research has played a direct impact on the development of symbolic interaction theory represented by Mead. The essence of the "mirror Me" theory lies in that the evaluation, views and opinions of others who interact with an individual in high frequency and density are an important basis for the formation of an individual's self-concept. Goffman put forward the concept of "dramatic theory", also known as "dramaturgy theory". The core idea of this idea is that social life is like a giant stage, and all members of society are performers on the stage [5].

Human social activities are the communication and coordination among social members. Therefore, the form of communication content is information, and information must be reflected based on the information symbols created by people, that is, people need to communicate the meaning of things through the interaction of information symbols, so as to achieve the purpose of communication, so that members of the society understand each other's purpose, ideas and attitudes.

1.2.2. Research on E-Commerce Live Broadcast

Foreign e-commerce live streaming is mainly concentrated on Facebook, Ins, YouTube and other social media, and the content of e-commerce live streaming is relatively rough. In China's livestreaming industry: platforms, politics, and precarity, Stuart Cunningham, David Craig, Junyi Lv analyzed China's e-commerce platforms from the perspective of creater-centered research on key media industries, believing that livestreaming in China enjoys greater opportunities than livestreaming in the West. In Understanding influence power of opinion leaders in e-commerce networks: An opinion dynamics theory perspective, the author analyzes the interaction mechanism among groups in e-commerce community (or e-commerce social network), and believes that in order to maximize the influence of e-commerce, it is necessary to improve the credibility of opinion leaders [5].

Li Junrong studied the literature of China National Knowledge Infrastructure (CNKI) database by using Bradford zoning theory and found that among the core topic research fields of China's e-commerce live streaming research, e-commerce live streaming and e-commerce live streaming platform are still the research hotspots in this field. In terms of marketing model research, it mainly studies "live streaming + virtual gift, live streaming + service, live streaming + advertising, live streaming + e-commerce" and other models. In recent years, "live streaming + e-commerce + agriculture" has become increasingly popular [6]. The marketing model of "live streaming + e-commerce" is a new marketing model, which not only enriches consumers' shopping channels and improves their consumption experience, but also opens a new sales channel for goods with guaranteed quality and service [7]. In the future, e-commerce network broadcast research will still focus on the core themes of network broadcast, live broadcast platform and e-commerce broadcast, marketing models and countermeasures [6].

1.2.3. E-Commerce Live Streaming and Symbolic Interaction Theory

E-commerce live streaming is a fast consumption network ecological model in today's society [8]. Relevant theories of symbolic interaction theory advocate observing and analyzing individual behaviors from the interaction of people's social activities. Such a social interaction mode between groups and individuals is formed in the form of e-commerce live streaming.

Chen Jian explored the significance of various symbols in network broadcast for scene construction from the perspective of symbolic interaction theory, and deeply analyzed the specific application and role of Mead and Cooley theory in network broadcast [9].

According to Hou Yue, there are two main factors that attract audiences in the process of network broadcast: first, the network anchor's conversation under the influence of age, social experience and life experience; second, the language expression and the interaction mode between the audience and the live broadcast [10].

In the study of e-commerce live streaming from the perspective of symbolic interaction theory, Tan Chan pointed out that the process of e-commerce live streaming itself is a process of interaction with symbols, which will also form an immersive shopping situation. Anchors constantly reshape their image in the interaction to cater to the audience and deliberately create a situational atmosphere through various non-verbal symbols to attract the audience to place orders and consume [11].

Wang Dan studied the image construction of e-commerce anchors from the perspective of symbolic interaction theory. This paper focuses on the problem of constructing self-image between e-commerce anchors and audiences through symbolic interaction. E-commerce anchors construct their ideal self-image through interactive situation creation, self-image presentation and cognitive reflection of both sides, which is conducive to personal IP building [12].

On the basis of enriching the theory of symbolic interaction, the domestic research on the theory of symbolic interaction of e-commerce live streaming is further explained and explained based on the national conditions, social environment and hot phenomena of our country.

1.3. Problems to Be Solved in This Paper

E-commerce live streaming originates from the interaction between individuals and social others, including words, body movements, appearance, clothing and scenes. The specific interactive form of e-commerce live broadcast creates a relatively closed virtual space for the host and the audience. Anchors understand themselves and reconstruct themselves through interaction with audiences, and audiences understand themselves through real-time interaction with anchors, such as bullet screen, and obtain psychological and spiritual satisfaction such as "companionship" and "entertainment" to enhance their sense of participation.

This paper will combine the theory of symbolic interaction to explain the interactive behavior of e-commerce live broadcast with the theory of symbolic interaction, study the composition of symbolic interaction in e-commerce live broadcast and the significance of symbolic interaction to the participants of e-commerce live broadcast, and put forward some symbolic interaction strategies for the sustainable and healthy development of e-commerce live broadcast. For example, by creating lively and interesting interactive content symbols, building scene symbols that accompany the audience to "pick goods, recognize goods, buy goods" and so on.

1.4. The Innovation and Contribution of This Paper

Network effect is a common phenomenon in network economy, and it also exists in e-commerce live streaming. This paper analyzes the value embodiment of e-commerce live streaming from the perspective of network effects. It is believed that the basic value of e-commerce live streaming is to promote shopping consumption, but e-commerce live streaming also has obvious and strong network

effects, that is, e-commerce participants, including anchors and audiences, can also obtain the synergy value of leisure and entertainment, companionship identification, self-promotion and other spiritual needs in e-commerce live streaming. Based on this theory, this paper proposes an interactive symbol construction strategy that can not only meet the consumption of e-commerce live streaming shopping, but also meet the collaborative value gain of e-commerce live streaming participants and strengthen the network effect of e-commerce live streaming. It has a certain theoretical research value of e-commerce live broadcast, a certain theoretical contribution to the construction of e-commerce major, and a corresponding practical value for the training of business talents.

2. Symbol Interaction System in E-Commerce Live Broadcast

The interactive relationship between individuals and social groups reflected in the online real-time communication and interaction consumption mode of e-commerce live streaming is worthy of attention. It is also necessary to explain this Internet behavior with symbolic interaction theory. E-commerce anchors attract the audience's attention with exaggerated performances, arouse the audience's resonance, and carry out constant psychological hints to the audience to arouse the audience's desire for consumption. Goffman's "drama theory" well explains the scene of e-commerce live broadcast, which is a "drama" in which the audience directly participates. The interaction between the anchor and the audience must be completed through certain information symbols, no matter linguistic symbols or non-verbal symbols (including words, pictures, etc.), which are filled with the whole e-commerce live broadcast. And the audience is the symbol consumer, but also the symbol producer.

In e-commerce live broadcasting, anchors, audiences, interactive forms and scenes constitute an interactive symbolic interaction system, namely, character symbols, language symbols, non-verbal symbols, scene symbols and interactive content symbols.

2.1. Character Symbols

Character symbol is the most distinct symbol interaction system. As an important figure in live broadcasting, the image of the anchor directly affects the audience's attitude towards commodities and the effect of live broadcasting. The character symbols of anchors are reflected in their appearance, dress, makeup, posture and even voice and expression, which will change according to the information content of commodities.

2.2. Language Symbols

Language is the most flexible system symbol. People communicate various meanings to others through oral language and body language to realize interpersonal communication and exchange.

American scholar Samwa *et al.* stated in Cross-cultural Communication that,

fundamentally speaking, language is actually a symbol system with internal organizational structure and conventions used to express specific regions or cultural groups. Different cultures in the world have developed different languages, characters and ways of behaving. Different peoples have different names for the same things because different groups have different names based on different cultures [13]. Language symbols are an important bridge for anchors to communicate with audiences, and play an important role in content dissemination in e-commerce live streaming.

2.3. Non-Verbal Signs

In the book Cross-cultural Communication, Samwa *et al.* define non-verbal symbols as: Non-verbal communication is the stimulation produced by people and the surrounding environment to individuals in addition to the stimulation of language, which has certain information value for both the sender and the recipient of information [14].

Non-verbal symbols in e-commerce live streaming mainly include various physical gestures such as applause, cheers and instructions. The host's rich and exaggerated body movements, exaggerated tone and intonation create a "real" scene atmosphere, which makes the audience participate and immerse in it. The "lucky draw, follow, like" button, link, shopping cart on the screen, as well as the bullet screen presented by text, special symbols (such as emoji), pictures, etc. are the most common forms of nonverbal symbols in the symbolic interaction system. They also enhance the audience's sense of participation and presence.

2.4. Situational Symbols

According to the symbolic interaction theory of sociologist Owen Goffman, drama theory, we can view e-commerce live broadcast as a drama, and situational symbols assist and foil the atmosphere of e-commerce live broadcast, strengthening the effect of interaction between anchors and audiences. "Situational symbols" mainly refers to the specific environment in which individuals use one or more symbols for understanding and communication, including scenes and groups in activities, which play an important role in limiting and explaining interactions [15].

Merowitz developed Goffman's behavior model of anterior and posterior zones from the perspective of dynamic and fusion, and defined those new behaviors appearing in the mixed scene as "middle zone behavior" [16]. The anchor is the leading actor in front of the screen, and the audience in the broadcast room is the natural audience, which together with the decoration, lighting, decoration and other scene symbols of the broadcast room build a virtual stage. The behavior of the front zone requires anchors to fully show their professional ability, sell more goods and attract more viewers in the live broadcast room. With the increasing diversification of e-commerce live streaming, the uniqueness and attraction of live streaming lies in its more "posterior bias" [17].

Meanwhile, the live broadcast scene of e-commerce is becoming more transparent and daily, and it has also been transferred from the professional broadcast room to the workplace and life scene, such as product production factories, fields and farms.

2.5. Interactive Content Symbols

The purpose of e-commerce live broadcasting is to complete the audience's interaction with the commodity information content, so the symbolic interaction system will carry out the interaction around the commodity information content. While the anchor outputs the content to the audience, he is also receiving the feedback from the audience. Verbal and non-verbal symbols are the main symbol carriers for e-commerce live broadcast to spread commodity information content to audiences. Interactive content symbols are realized through speech symbols, non-verbal symbols and scene symbols. Through the interaction of content symbols, anchors and users also complete the interaction of language, emotion and other contents.

3. Network Effects in E-Commerce Live Streaming

In e-commerce live streaming, the emotional resonance in the deep heart of the audience is activated through symbolic interaction, and the products with use value are finally purchased, and additional synergistic value is also obtained.

3.1. The Role of Leisure and Entertainment

Network broadcast itself is a way of recreation and entertainment, a fleeting "visual feast", which gives people a sense of closeness and familiarity. In fact, e-commerce live streaming is also a kind of entertainment live streaming. People tend to watch and participate in e-commerce live streaming with the purpose of leisure and entertainment. While watching e-commerce live streaming, people find happiness and satisfaction in the happy atmosphere delivered by anchors, which relieves the pressure of work and life. Its entertainment decompression function has also been enlarged to a certain extent.

3.2. Emotional Companionship

With the rapid development of social economy today, the pace of people's work is getting faster and faster. At the same time, with the acceleration of urbanization, the distance between people is getting farther and farther. While digital technology is constantly narrowing the distance between people, it is also expanding the distance between people infinitely. Online intensive virtual social communication has replaced offline daily face-to-face interpersonal communication, resulting in people's sense of loneliness. Various and timely bullet screen comments in e-commerce live streaming provide consumers with a direct channel to express their feelings. They use virtual identities to communicate with millions of strangers in the broadcasting room, easing the loneliness of the In-

ternet era, meeting the need for social interaction and obtaining emotional companionship.

4. E-Commerce Live Streaming Strategy Based on Symbolic Interaction

Whether e-commerce live streaming can attract audiences, arouse their resonance and drive commodity sales mainly has two influencing factors: first, the character image, language expression and body language application of anchors; Second, the interactive use of anchors' symbols and the interactive mode between anchors and audiences; Third, the content symbols meet the needs of the audience. Based on the symbolic interaction analysis of e-commerce live streaming, the following strategies are proposed for e-commerce live streaming.

4.1. Establish the Character Symbol of being Frank and Sincere

Human is a visual animal, good visual feeling has a strong attraction to people. Anchors are the core of guiding e-commerce live broadcast, and their characters and symbols form the first impression of the audience. Therefore, the establishment of the anchor character symbol and the establishment of the person is the first consideration for a successful e-commerce live broadcast.

The anchor image with good face and excellent temperament is the key point to attract the audience. At the same time, anchors wear appropriate clothes in line with the symbols of commodity content, with sincere voice, tone, expression and body language, which constitute a reasonable person.

4.2. Design and Apply Professional Language Symbols that Are Easy to Understand

E-commerce anchors should have a certain level of professional knowledge, both in the application of language symbols and the application of body language in the display and recommendation of commodities.

The professionalism of anchors' language symbols is the key to impress the audience. Simple and rapid language can deliver more effective information, while the easy-to-understand professional language symbols can enable the audience to obtain relevant professional knowledge and information, gain recognition from the audience, and recognize the products.

4.3. Create Lively and Interesting Interactive Content Symbols

E-commerce live streaming can design rich and diverse, lively and interesting interactive forms, excavate variety elements, create lively and interesting interactive content symbols, strengthen audience's sense of participation, and meet audience's leisure and entertainment needs.

Different from the general live streaming, where you sit in front of the camera to buy and compete for a second, the live streaming of e-commerce is more like watching a variety show, which is relaxed and pleasant and can share some cul-

tural knowledge. E-commerce live streaming is not only about anchors, but also about inviting audiences to participate in live interaction like entertainment programs, such as on-site trial and tasting, competition, game interaction, or product presentation in the form of sketches and crosstalk. It can even use 3D animation to construct interactive content symbols.

4.4. Construct Situational Symbols that Accompany the Audience to "Pick Goods, Recognize Goods and Buy Goods"

At present, just like advertising and marketing, most e-commerce live broadcasts recommend and market products to the audience, which is easy to cause the audience's disgust and resistance and affect the audience's emotions.

E-commerce live streaming should change the traditional thinking. Instead of promoting products to audiences, it should accompany them to know and select products. E-commerce live streaming can attract audiences through the interpretation of commodity background and cultural connotation by constructing commodity story scene symbols with cultural connotation, and lead audiences to know, understand and get familiar with commodities so as to purchase commodities.

E-commerce live streaming can dig commodity stories, write commodity story scripts, tell good commodity stories, and construct commodity stories and cultural connotation scene symbols by anchors and audiences, so that audiences can further deepen their knowledge and understanding of commodities. Through the construction of product production, production, processing process of interactive symbols, deepen the audience's understanding of product quality. It can also build scene symbols for the audience to participate in the selection of commodities, so as to help the audience correctly select and use commodities.

Chen Liang, the host of CNG, showed the tea garden environment of Yunwu Tea in Yingshan, Hubei Province and the tea picking process of tea pickers. The whole process of manual tea frying by tea makers is filmed directly, the temperature and time of tea frying are understood, and the steps and details of tea processing are explained in detail, so as to immerse the audience in the production scene constructed by e-commerce live streaming. The interaction between the audience in the broadcasting room constructs the consumption scene. Shu Yuanhua, deputy head of Yanliang District, Shaanxi Province, took the local characteristic melons and taught the process of "picking melons, cutting melons, smelling melons and tasting melons" in the broadcast room, which greatly opened the eyes of the audience in the broadcast room [18].

5. Conclusion

As a new way of shopping and consumption in the era of network economy, e-commerce live streaming has obvious network externalities. While driving social consumption, it will also become a new way of interaction and communication between people. Through the construction of rich symbol interaction in

e-commerce live broadcast, a new social scene platform has been formed, which meets people's needs for recreation and social communication while shopping and consumption.

Fund Projects

Conflicts of Interest

The authors declare no conflicts of interest.

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