

Research on the Countermeasure of Live Streaming Carry-out Disorder based on AHP Model

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Abstract

With the rapid development of economy, live delivery goods as a new economic growth point "born", but as a new e-commerce marketing mode, in the industry competition and the pursuit of interests, leading to the existence of "live delivery goods" false publicity, after-sales service system is not perfect, poor quality and other chaos. This project uses AHP model analytic hierarchy process, questionnaire survey and secondary data and other methods to evaluate the standardization of live streaming with goods process, analyze the influencing factors at all levels, and put forward some feasible countermeasures, and through the way of mathematical modeling, to evaluate the existing reasons, find out the policy focus, so that the live streaming with goods industry to get better sustainable development.

Keywords

Live Streaming Carry-on; Mathematical Modeling; Quantitative Analysis; AHP Model.

1. Introduction

With the rapid development of Chinese economy, the progress of Internet technology, the improvement of people's income, the network "live delivery" industry has developed rapidly. As a new e-commerce marketing model, live streaming has not only promoted consumption and production, but also created a large number of new jobs, becoming one of the driving forces of innovation-driven development in China.

Based on the year-on-year growth rate of the industry, it is predicted that China will have 524 million users watching live streaming in 2022, and the market size may reach 900 billion yuan. However, there are some problems in online "live streaming", such as false publicity, imperfect after-sales service system, inferior quality, inadequate department supervision, and imperfect laws and regulations. The platform 12315 received 20,400 complaints about live streaming in 2020, an increase of 357.74 percent over the previous year, making it the hardest hit for consumer complaints. In the past year, there were frequent chaotic events in live streaming. The typical incident was Simba Bird's Nest in sugar water, which used sugar water bird's nest to defraud consumers and was fined one refund and three compensation, with a total compensation of more than 60 million yuan. This completely revealed the inside story of live streaming. In this paper, by analyzing the current situation and existing problems of the chaos in the online "live streaming" industry, optimization countermeasures are proposed for the sustainable development of the industry.

2. Existing Problems

2.1. False Publicity of Products and Promotional Activities

At present, the industry can be divided into three parts: the first part is the merchant and anchor part, the second part is the distribution part, and the third part is the consumer part. In these three parts, although the consumer has the right to choose, the merchant and anchor can guide the choice of the consumer. In order to achieve the purpose of selling products and anchors to obtain high remuneration, in the process of guidance, according to the consumer psychology and consumption needs of consumers, the merchants and anchors carry out false publicity to the products, resulting in the propaganda and product do not match, there is a phenomenon that the product is very different from the publicity map. At the same time, the merchants will launch their own activities according to the preferential shopping activities launched by the platform in major festivals or other shopping festivals. By changing the price and calculating the discount amount, they will deceive the consumers. The anchors will exaggerate the publicity and guidance in the broadcast room, so that the consumers will have the eager shopping psychology, in order to achieve the purpose of selling products and the anchor to obtain high remuneration. On the one hand, the "superb technology" of merchants and anchors can deceive and guide consumers to the traps dug for them; on the other hand, consumers' consumption psychology and lack of discrimination.

2.2. Imperfect after-sales Service System and Weak Consumer Rights Protection

As a kind of shopping and consumption method that has become widely known recently due to the epidemic, live streaming can exist as a new e-commerce, but it is different from traditional e-commerce. The difference lies in the increase of anchors, so that the flow of anchors can be realized and consumers can have more understanding of the products, thus expanding the sales of products. But at present, live streaming with goods exists both in the traditional e-commerce platform, and in the new short video platform, in the traditional e-commerce platform, the after-sales service system is relatively more perfect, consumer rights also have channels, but in the new short video platform live streaming with goods, their after-sales service system is incomplete, there are all kinds of problems, such as no door to return or exchange goods, no door to complain and other problems, And the consumer rights protection is relatively weak. The reason for these problems is that the new short video platform and the new live streaming delivery platform came into being relatively late and their development is relatively imperfect. At the same time, the government is relatively inexperienced and lacking in means to supervise these platforms. In addition, the commodities sold on live streaming delivery are generally various daily necessities with relatively low price and value. As a result, consumers will give up after the initial after-sales service and rights protection cannot be satisfied.

2.3. The Goods are There to Make Up the Number, and the Quality is Uneven

The commodities in the live streaming belt mainly include daily necessities, food, clothing and all kinds of small electronic products. Most of these commodities are produced by small factories and workshops, many of them belong to unknown brands, and many of the commodities have not passed the relevant national industry standards. All kinds of commodities are there to make up the number, and there is no shortage of high-quality and cheap commodities. But all kinds of inferior quality, fake and shoddy, toxic and harmful commodities are also among them, and the good and bad of all kinds of commodities are mixed. The reason is that in order to earn profits, anchors for their own high remuneration, can only be compressed in the cost of commodities, resulting in various commodities of varying quality and quality. At the same time, it is also the relevant laws and regulations are not perfect, the policy system is not perfect to give these good and bad goods can take advantage of.

2.4. The Laws and Regulations of Live Streaming with Goods are not Perfect and the Policy System is not Perfect

Live streaming delivery, as an emerging business model, has developed rapidly during the epidemic period and "conquered the territory". Many problems only appeared after the rapid development, which resulted in the short lag of laws, regulations and policy system.

3. Analysis of Influencing Factors of Live Streaming Cargo Chaos

As a new e-commerce marketing model, live streaming with goods appears for a short time, the platform's services are not perfect, the lack of management of merchants and anchors, the relevant national laws and regulations and policy system has not caught up, consumers lack of awareness of this marketing model, it is the above reasons that lead to the live streaming with goods chaos.

According to AHP method, a hierarchical analysis model for evaluating the primary and secondary reasons is established. The framework diagram of the AHP model is shown in Figure 1.

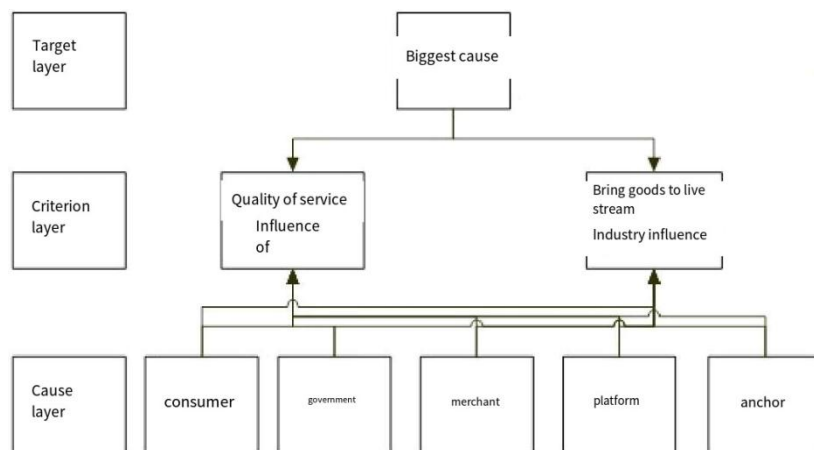


Figure 1. AHP model framework

The AHP model first constructs the judgment matrix, and forms the judgment matrix according to the importance comparison of the five influencing factors under the criterion layer. After constructing the judgment matrix, it is necessary to carry out the consistency test on the judgment matrix, find out the maximum characteristic root of the judgment matrix, then calculate the consistency index C_1 and the consistency ratio C_r . When $C_r < 0.1$, it has a good consistency. The weight vector of the corresponding index is equal to the characteristic vector corresponding to the biggest characteristic root of the matrix. The calculated characteristic vector is that the weight coefficient can be obtained to characterize the importance of the factors of this layer relative to the factors of the upper layer. Then the weight vector of the upper index and the factor of the total weight normalization vector can be calculated through the weighted sum of the weight value. Among them, the stage corresponding to the maximum weight value is the largest factor.

The formula for calculating the maximum characteristic root is:

$$\lambda_{\max} = \sum_{i=1}^n \frac{(AW)_i}{nW_i} \quad (1)$$

Where, AW is the product of the judgment matrix A and the eigenvector W ; $(AW)_i$ is the i th component of AW ; W_i is the i th component of the eigenvector W .

Consistency index C_1 formula:

$$C_1 = \frac{\lambda_{\max} - n}{n - 1} \quad (2)$$

Consistency ratio C_r formula:

$$C_r = \frac{C_1}{R_1} \quad (3)$$

Where, $\lambda_{\max}$ is the maximum eigenvalue of the matrix; n is the order of matrix; R_1 is a random consistency index, and the corresponding value can be obtained by looking up the table.

The formula for calculating the feature vector W is:

$$AW = \lambda_{\max} W \quad (4)$$

Normalization formula of total weight:

$$S_i = \sum_{j=1}^n S_j W_j \quad (5)$$

Where, S_j is the weight vector value of scheme layer to criterion layer; W_j is the weight vector value of the criterion layer against the target layer.

The weight vector of the upper index can be calculated comprehensively by the weighted summation of the weight values. Obtain the factor that S_i is the total weight normalization vector S , where the stage corresponding to the maximum weight value is the optimal stage.

In this paper, the five aspects of the reasons, the merchant side as plan 1, anchor as plan 2, platform as plan 3, consumer as plan 4, government as plan 5. As this paper studies how to improve the consumer experience and the sustainable development of the live streaming delivery industry, and then takes the impact on the quality of service and the impact on the development of the live streaming delivery industry as the criteria. Then according to the questionnaire survey of consumers and subjective and objective conditions to build the criterion moment importance matrix, with the python software to achieve the establishment and operation of the AHP model, find the results in Table 1.

Criterion matrix:

$$\begin{bmatrix} 1 & 3 \\ \frac{1}{3} & 1 \end{bmatrix}$$

Consistency matrix:

$$\begin{pmatrix} 1 & 2 & \frac{1}{2} & 3 & 1 \\ \frac{1}{2} & 1 & \frac{1}{2} & 2 & 2 \\ 2 & 2 & 1 & 3 & 1 \\ \frac{1}{3} & \frac{1}{2} & \frac{1}{3} & 1 & 1 \\ 1 & 1 & 1 & 1 & 1 \end{pmatrix} \begin{pmatrix} 1 & 2 & \frac{1}{2} & \frac{1}{3} & \frac{1}{2} \\ \frac{1}{2} & 1 & \frac{1}{3} & \frac{1}{2} & \frac{1}{2} \\ 2 & 3 & 1 & \frac{1}{2} & \frac{1}{2} \\ \frac{3}{2} & 2 & 2 & 1 & \frac{1}{2} \\ 2 & 2 & 2 & 1 & 1 \end{pmatrix}$$

The calculation results of Table 1 can be obtained by calculating the criterion matrix and two consistency matrices, as shown in Table 1.

Table 1. Calculation results of AHP model

Criterion layer	Maximum characteristic value 2.00000, CR=0.00000, pass the test							
Criterion layer weight	[0.75, 0.25]							
Scheme layer	Scheme One	Plan 2	Plan 3	Option 4	Plan 5	Maximum eigenvalue	CR	Consistency check
Guideline 1	0.232	0.161	0.304	0.161	0.304	5.224	0.045	TRUE
Guideline 2	0.129	0.099	0.197	0.099	0.197	5.281	0.056	TRUE
Target layer	0.207	0.146	0.277	0.146	0.222			

According to the calculation results of AHP model, it can be concluded that in order to solve the problems in the live streaming industry, the focus should be on the platform, government, merchants, anchors and consumers. According to the focus of these problems, we put forward relevant solutions.

4. Solutions

4.1. Strengthen the Supervision of the Platform and Improve its Own Construction

Live delivery platform plays a role of left-linked consumers and right-linked merchants. In the new mode of live delivery, which relies heavily on the Internet, the platform plays an important role and plays a great role. The platform must be the button in the live delivery industry. The platform should constantly improve its own model, improve the strength of the service, on the other hand, the government should strengthen the supervision of the platform, so that the platform can play its own button role.

4.2. The Government Should Improve the Laws, Regulations and Policy System of the Livestreaming and Delivery Industry

As the regulator, guide and supervisor of the socialist market economy, the government should regulate, guide and supervise the new models and new phenomena in the economic life so as to give play to the promoting role of the new model to the socialist market economy. In the live streaming industry, the government should improve laws and regulations, build a policy system, strengthen the supervision of the platform, and increase the protection of consumers' rights and interests. In 2022, the State launched a series of "Clear" special actions, jointly carried out by Cyberspace Administration of the CPC Central Committee, the State Administration of Taxation and the State Administration for Market Regulation, to rectify chaos in the field of live streaming and short videos. On March 25, 2022, the three ministries and commissions jointly issued the Opinions on Further Regulating Profit-making Activities of Network Live Broadcasting to Promote the Healthy Development of the Industry. On May 1, 2022, the Measures for the Supervision and Administration of Online Transactions formulated and promulgated by the State Administration for Market Regulation was officially implemented, which clearly stipulates the responsibilities and obligations of all parties involved in livestreaming.

4.3. Merchants Should Reasonably Publicize Their Products and Sell High-Quality and Affordable Products

As the supplier of goods in the live streaming industry, the kind of goods provided by the business basically determines the quality and level of the goods in the live streaming industry. At the same time, due to the use of the Internet for sales, consumers can not see the goods, the understanding of the goods are all based on the introduction of the merchants. Therefore, businesses should reasonably promote their products and provide high-quality and affordable goods.

4.4. Anchors should Strictly Abide by Their Professional Ethics

Anchors, as public figures with traffic and popularity, should abide by professional ethics and be responsible for their fans. Anchors should not help businesses to make illegal profits, so as to cheat consumers as the capital for their own profits. At the same time, anchors should abide by national laws and regulations, actively pay taxes, and do not do illegal behavior.

4.5. Consumers should Improve Their Discernment Ability, Establish Correct Consumption Concept and Rights Protection Awareness

As the source of vitality of the socialist market economy, consumers are the soil of economic development, which requires consumers to have discerning ability when they consume, to establish a correct concept of consumption, do not covete small and cheap. When the right rights and interests of consumption are infringed, they should protect their rights in time.

5. Conclusion and Suggestions

Previous articles did not focus on solutions based on consumers and the actual situation of the industry. This paper uses AHP model to make a reasonable analysis of qualitative problems by combining subjective and objective methods, and uses mathematical modeling to find out the key points to solve the problems. First of all, it should focus on improving the platform construction, realizing clear responsibilities, improving the after-sales service system and improving the merchant settlement system. Secondly, the government should strengthen the guidance, guidance and supervision of the industry of live streaming with goods. Secondly, merchants and anchors should abide by professional ethics and industry ethics, and consumers should improve their ability to discriminate and awareness of rights protection.

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