

Key Characteristics and Driving Factors of Live E-commerce

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ABSTRACT. The wave of e-commerce live streaming in China not only cultivates a large number of emerging industries, but also makes products widely spread through the marketing model of live streaming sales. In this paper, Ridit test is used to analyze the key characteristics of live streaming e-commerce, contour analysis of the impact of industry cognitive changes, and analysis of live streaming driving factors of e-commerce based on structural equation model. The empirical analysis results show that the model of "star + business culture" plays a very strong role in promoting product sales; E-commerce live streaming practitioners are more respected; The effect of live broadcast is significant, and consumers have higher interest in the product and stronger purchase intention.

Keywords: Live e-commerce; key features; driving factors

1 INTRODUCTION

In recent years, the wave of e-commerce live broadcast in China has not only cultivated a large number of emerging industries, but also made products widely spread through the marketing mode of live broadcast sales. This upsurge has also spread overseas, all over Southeast Asia and European countries. "Live+e-commerce" mode will become the mainstream in the future^[1]. At present, the types of e-commerce live broadcast can be roughly divided into two types. One is e-commerce live broadcast based on the original e-commerce platform, that is, adding a new live broadcast function to the original e-commerce online shopping platform, showing and recommending the products sold on the platform, and attracting potential consumers to place orders. For example, Pinduoduo, Taobao, JD.COM and other major platforms have opened live broadcast functions, and consumers can click on the live broadcast of the products they are interested in while browsing the products on the platform. The other is social e-commerce live broadcast, that is, based on non-e-commerce shopping platforms such as short videos and social content, it carries out the marketing with goods during the live broadcast of the anchor, and adds shopping jump links to the products recommended by the live broadcast room through technical means to trigger consumers' consumption psychology and attract consumers to buy, such as live

broadcast platforms such as Aauto Quicker and Tik Tok. The operation of e-commerce mode needs the cooperation of various elements, among which the four most important elements are live broadcast platform, anchor with goods, consumers, products and brands^[2]. The liveliness, interactivity and authenticity of live video enhance consumers' purchase intention by influencing their sense of immediacy and trust^[3].

E-commerce live broadcasting has incomparable advantages over traditional TV shopping and online shopping. E-commerce live broadcasting, a new media marketing method, can bring traffic and sales to e-commerce platforms ^[4], but its live broadcasting delivery mode still has some problems to be improved. For example, e-commerce live broadcasting has more or less problems in content, technology, anchor, transformation effect and so on. The e-commerce live broadcasting industry is mixed, and the quality of broadcast content in many live broadcasting rooms is poor; The live broadcast contents are copied from each other and seriously homogenized; Many e-commerce live broadcasting effects are poor and the conversion rate is not ideal; The technology development level of some live broadcasting platforms is relatively low ^[5]. In addition, in the process of e-commerce live broadcast, entertainment stars and online popular anchors occupy more traffic, while other non well-known anchors have low traffic, have a weak impact on consumers, and the marketing effect of live broadcast is poor ^[6]; Due to the barrier free opening of the live broadcasting room with goods to the interaction and communication of consumers, some negative comments also appear on the bullet screen, resulting in the uncontrollable problem of negative information in the live broadcasting room ^[7]. In the new media environment, e-commerce live broadcasting has seen explosive growth, and the quality of goods recommended in the live broadcasting room is uneven, which makes it difficult to avoid inferior, dangerous or counterfeit products in e-commerce live broadcasting; There are also some anchor with goods who have no professional ethics and take the opportunity to bid up prices, or induce consumers to buy goods they don't need.

Based on the previous research results and combined with the actual situation of today's online e-commerce live broadcast, this paper draws conclusions through investigation and research and some empirical methods, such as "online Red marketing", "live broadcast fan stickiness", "head enterprise linkage e-commerce live broadcast drives its own and regional development", hoping to have a certain reference significance for the research on relevant aspects of e-commerce live broadcast and improve the theoretical research system of e-commerce live broadcast.

2 KEY CHARACTERISTICS OF E-COMMERCE LIVE BROADCAST BASED ON RIDIT TEST

2.1 Factors that buyers attach importance to e-commerce live broadcast

We use the Ridit test method to calculate the buyers' different attention factors and different flash points of live broadcast respectively. According to the Ridit score, it compares the attention of different factors in consumers' hearts and the praise of different flash points of e-commerce live broadcast. Here, we only show the positive score items. Using R software, we can get the results of two Ridit tests, as shown in Table 1.

Table 1. Ridit scores of buyers' different emphasis factors on live broadcasting.

factor	Ridit score	confidence interval	W	P value
Live broadcast form	0.3994	0.3272 0.4716		
Live content quality	0.5317	0.4595 0.6039		
product quality	0.6731	0.6010 0.7453	36.01	0.0000
Anchor influence	0.4639	0.3917 0.5361		
Broadcast time period	0.4319	0.3597 0.5040		

It can be seen that for live shopping, the most important influencing factors for buyers are product quality and live content quality, followed by anchor influence and broadcast time period, but they don't care about the form of live broadcast.

2.2 Advantages of e-commerce live broadcast recognized by consumers

Table 2. Ridit score of advantages of e-commerce live broadcast.

advantages	Ridit score	confidence interval	W	P value
More selectivity	0.4551	0.4027 0.5076		
High sense of buyer participation	0.5753	0.5228 0.6277		
Star settled	0.5458	0.4933 0.5983	23.92	0.0000
Show product effect	0.4182	0.3657 0.4707		
High cost performance	0.5056	0.4531 0.5581		

As shown in Table 2, most buyers are satisfied with the interactivity and sense of participation in live broadcast shopping. In addition, the entry of stars, the effect of products displayed, the high cost performance of products and more choices are also the reasons for viewers to watch live broadcast shopping.

3 IMPACT OF INDUSTRY COGNITION CHANGE BASED ON CONTOUR ANALYSIS

Figure 1 is the result of contour analysis by SPSS software. The horizontal axis is consumers' cognition and label of live broadcast industry. From left to right, they are mainstream, promising, high income, good welfare, high pay, hard work, bright, unstable, risky and capable. The ordinate from one to seven measures the degree of consumers' approval of this label, and the higher the approval, the higher the score. It shows consumers' opinions on practitioners in the live broadcast industry before and after watching and learning about the live broadcast (the blue line is before watching and the green line is after watching). After learning about live broadcast, consumers' impression of practitioners in the live broadcast industry has significantly improved. See Table 3 for the changes in label scores.

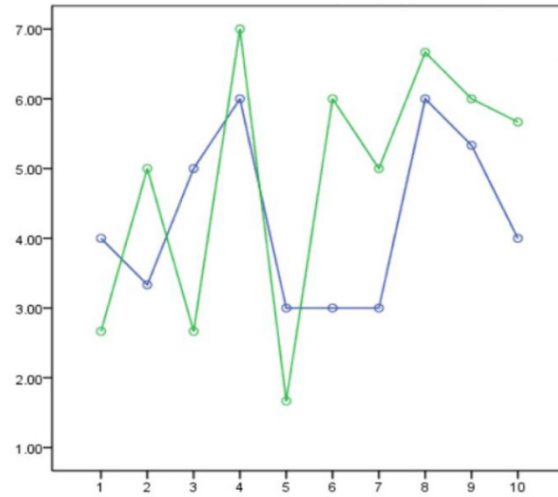


Figure. 1 Outline analysis of consumers' views on the live broadcast industry.

Table 3. Industry label scores.

Industry label	Average score before understanding the live broadcast of e-commerce	Average score after understanding the live broadcast of e-commerce
main stream	4.04	2.75
Promising	3.36	5.03
high-income	4.98	2.79
Good welfare and high treatment	5.99	6.97
Hard work	3.07	1.66
glamorous	3.07	4.88
unstable	3.07	4.89
High risk	5.68	6.46
Strong ability	5.26	5.76
low-income	4.13	5.46

4 DRIVING FACTORS OF E-COMMERCE LIVE BROADCAST

4.1 Construction of structural equation model

We used structural equation model to explore the relationship between nine variables including stickiness of live broadcast fans, sales of live broadcast products, audience participation, celebrity entry, professional degree of live broadcast content, popularity of live broadcast hosts, quality of live broadcast products, broadcast time and fun degree of live broadcast. The stickiness of live broadcast fans and sales of live broadcast products are latent variables, and the seven corresponding observed variables are significant variables. The maximum likelihood

estimation method is used to estimate the equation, and various methods are used to consider the goodness of fit of the simulation. This paper proposes the following hypotheses:

H1: The degree of consumer participation has a positive impact on the stickiness of live broadcast fans

H2: Celebrity entry has a positive impact on the stickiness of live fans

H3: The professionalism of live broadcast content has a positive influence on the stickiness of live broadcast fans

H4: The popularity of live streamers has a positive influence on the stickiness of fans

H5: The quality of live broadcast products has a positive impact on the stickiness of live broadcast fans

H6: Broadcast time has a positive impact on the stickiness of live fans

H7: The degree of fun of live broadcast has a positive impact on the stickiness of live broadcast fans

H8: The degree of consumer participation has a positive impact on the sales of live broadcast products

H9: Celebrity entry has a positive impact on the sales of live broadcast products

H10: The professionalism of live broadcast content has a positive impact on the sales of live broadcast products

H11: The popularity of live streamers has a positive influence on the sales of live broadcast commodities

H12: The quality of live broadcast commodities has a positive impact on the sales of live broadcast commodities

H13: Broadcast time has a positive impact on the sales of live broadcast products

H14: The fun degree of live broadcasting has a positive impact on the sales of live broadcasting products

4.2 Measurement of driving factors

Table 4. Modified model test and goodness of fit results.

Model	CMIN	P	CMIN/DF	CFI	NFI	IFI	RMSEA
Default model	38.369	0.000	1.668	0.922	0.938	0.943	0.011

Based on the established structural equation model, AMOS obtained the results in Table 4 below. As shown in Table 4, the p-value corresponding to the Chi-square statistic in the model is 0.000, which is not significant. Chi squared to degrees of freedom is less than 2. In addition, the values of CFI, NFI and IFI are close to 1, and RMSEA is less than 0.02. The above indexes all meet the requirements of model test and goodness of fit, indicating that the model has a very good fitting effect.

Table 5. SEM hypothesis test results.

Research hypothesis	Normalization coefficient	conclusion
H1: The degree of audience participation has a positive impact on the stickiness of live broadcast fans	0.587	Accept
H2: Celebrity entry has a positive impact on the stickiness of live broadcast fans	0.763	Accept
H3: The professionalism of live broadcast content has a positive influence on the stickiness of live broadcast fans	0.570	Not Accepted
H4: The popularity of live streamers has a positive influence on the stickiness of fans	0.776	Not Accepted
H5: The quality of live broadcast products has a positive impact on the stickiness of live broadcast fans	0.799	Accept
H6: Broadcast time has a positive impact on the stickiness of live fans	0.765	Accept
H7: The degree of fun of live broadcast has a positive impact on the stickiness of live broadcast fans	0.799	Accept
H8: The degree of consumer participation has a positive impact on the sales of live broadcast products	0.494	Accept
H9: Celebrity entry has a positive impact on the sales of live broadcast products	0.718	Accept
H10: The professionalism of live broadcast content has a positive impact on the sales of live broadcast products	0.732	Not Accepted
H11: The popularity of live streamers has a positive influence on the sales of live broadcast commodities	0.440	Not Accepted
H12: The quality of live broadcast commodities has a positive impact on the sales of live broadcast commodities	0.752	Accept
H13: Broadcast time has a positive impact on the sales of live broadcast products	0.728	Accept
H14: The fun degree of live broadcasting has a positive impact on the sales of live broadcasting products	0.752	Accept

As shown in Table 5, the original hypothesis H3, H4, H10 and H11 are not accepted at the confidence level of 5%, indicating that the professionalism of live broadcast content and popularity of live broadcast anchor have a significant positive impact on the stickiness of live broadcast fans and the sales of live broadcast commodities.

For the stickiness of live broadcast fans, the degree of fun of live broadcast has the greatest influence with a coefficient of 0.799, followed by the popularity of live broadcast hosts with a coefficient of 0.776. In addition, the degree of audience participation, celebrity entry and broadcast time all have a significant positive influence on the stickiness of live broadcast fans.

For the sales of live broadcast commodities, the quality of live broadcast commodities has the greatest influence with a coefficient of 0.752, followed by the professional degree of live broadcast content with a coefficient of 0.732. In addition, the degree of audience participation, celebrity entry and broadcast time all have a significant positive influence on the sales of live broadcast commodities.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Research conclusions

A. The mode of "public figures + e-commerce live broadcast" facilitates product communication

Structural equation model results show that the star live in live for fans of viscous and merchandise sales have a positive influence, the "public figures effect" to live a very strong "powder" role, as a result, star enterprises in live platform positive guidance and the fans to follow effect is one of the important supporting booster live electricity transmission breadth.

B. Eliminate discrimination in the industry and make relevant practitioners more respected

After watching e-commerce livestream, the average score of consumers who agree that the industry has a future increased from 3.36 to 5.03, and their perception of the treatment of e-commerce livestream users changed significantly. The average score for identifying as non-mainstream fell from 4.04 to 2.75; The negative impression of the employees of e-commerce livestreamer decreased. Therefore, e-commerce live broadcasting can eliminate industry discrimination to a certain extent and make relevant practitioners more respected.

C. The features of live broadcasting are significant, and consumers' sense of participation and consumption experience are significantly improved

Ridit results show that in the process of e-commerce live broadcasting, anchors have strong interaction with consumers and high sense of participation, which has the highest score (0.5753), followed by celebrity participation (0.5458), and ranked third in cost-effective (0.5056). This shows that consumer engagement and celebrity presence are highly evaluated. Meanwhile, the results of structural equation model show that the characteristics of live broadcast, such as celebrity entry and consumer participation, have a significant positive effect on the stickiness of live broadcast fans. In general, celebrity entries, strong interactivity and good consumption experience have a significant impact on the increase of fans' stickiness.

5.2 Recommendations

A. Accurately recommend suitable products

There is no essential difference between e-commerce business and traditional business. The purpose of both business is to sell the right goods to the right people at the right price. The traditional commerce has not solved the problem of commodity information adequacy. So how to identify the appropriate commodity is determined by the channel of the commodity, the brand positioning of the commodity and the marketing ability of the seller.

B. Reconstruct the dimension of brand and marketing capability

In the Internet era, the channel has been reconstructed. But the foundation of brand and marketing is still there, so many traditional brands still have a strong vitality. Of course, the dimensions of building brands and marketing capabilities have completely changed. The Internet mainly solves the problem of commodity information access. In the era of search e-commerce, the presentation of goods is static, bidding and customer experience feedback. This covers 85% of the user's needs. However, the problem is that bidding e-commerce is similar to a small market, messy, deep water, propaganda may be inconsistent with the actual, user

feedback can be manipulated by fraud, only by evaluation, users may not have a full grasp of the product. When it comes to choosing goods, trust cannot be created entirely in a short time. Therefore, e-commerce live broadcasting should adapt to the dimension of building brand and marketing ability to cope with the competition from Jingdong, Taobao and other traditional e-commerce platforms.

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