

The Influence of Live Streaming on Irrational Consumption of Consumers

Qianqian Zou

Department of Public Relations and Corporate Communication, New York University, New York,
USA

qz2350@nyu.edu

Abstract. With the development of Internet information technology, live broadcasting has become a new technical means, and the e-commerce platform has gradually entered the bottleneck under long-term development. With the combination of live streaming means and e-commerce platforms, a new way of shopping - live streaming with goods has become an industry tuyere in the e-commerce industry. Due to the various characteristics of live streaming, it can induce consumers' irrational consumption behavior more than offline marketing. This paper discusses how live streaming affects consumers' irrational behavior by means of a questionnaire survey and auxiliary application of SPSS and other technologies.

Keywords: Live broadcast with goods; Irrational consumption behavior; E-commerce anchor.

1. Introduction

The psychological motivation of consumers can be divided into two types. One is "high price regret" caused by missing the price reduction due to impulse purchase; The second is the "regret of being out of stock" caused by waiting for price reduction and delaying purchase. These psychological motives will encourage consumers to conduct "irrational" consumption behavior beyond rational thinking [1]. Irrational consumption behavior is the phenomenon of dissimulation of consumption behavior. It is a kind of unhealthy consumption behavior that is opposite to rational consumption behavior. According to the definition of rational consumption behavior, irrational consumption behavior can be understood as the purchase behavior of individuals who lack consideration of commodity utility maximization under the unhealthy consumption concept to satisfy their timely hedonic psychology.

In the public's daily life, irrational consumption behavior is typical, but the degree is different. Comparing consumption and conformity consumption are the most severe irrational consumption behavior. The specific manifestations are as follows: people who make irrational consumption usually lack a severe review of their real needs, do not have a clear and specific purchase goal, are easily stimulated and interfered with by the external environment, and only focus on short-term psychological experience without long-term planning for the future. This is a kind of psychopathic phenomenon caused by a psychological backlog. This kind of person pursues a particular pleasure after consumption.

E-commerce live streaming belongs to the vertical subdivision of network live streaming. As e-commerce live streaming is still new, there is no authoritative definition of live streaming in academia and industry. In this paper, the author defines it as a business model that is based on an e-commerce platform and utilizes network broadcast, anchors show products to users in the form of live broadcast, interact with users in real-time, and stimulates users' purchasing power in a variety of ways, and combine users with product sales [2].

2. Hypothesis

2.1 E-commerce promotion characteristics and irrational online consumption

Compared with traditional marketing media, the multiplier effect of online product promotion is more prominent. On the one hand, price is necessary for consumers to consider when shopping. Online discounts and benefits help merchants to take advantage of marketing competition and directly hit the price pain points of customers. On the other hand, in comparison, the marketing scenario of online platforms is often based on “one-to-many”, and the price stimulus effect can be fully reflected, which makes it easier to create a win-win situation between merchants and individuals. Incentives such as flash sales and gift distribution in live streaming can help stimulate fans to maintain great attention and interest in preferential products so that they can make quick purchase decisions under the set time constraints and induce a uniform increase in the number of viewers and buyers.

The opinion leader theory in communication emphasizes the guiding role of individual characteristics on consumption behavior. In live streaming, unique features such as appearance, language, personality, talent, and preference of anchors are easily transmitted online, and then they are regarded as opinion leaders by sure fans [3]. It can be said that attractive Internet celebrities can exert influence on their fans during live streaming, especially to arouse brand identity with their preferred personal characteristics and play the role of opinion leaders. According to the research of Eleanor et al., Internet celebrities are individuals who continuously display differentiated characteristics and deliver professional content to Internet users. They act as opinion leaders guiding online consumption and will “infect” their preferred products and attitudes toward social groups [4]. Accordingly, as fans prefer certain gatekeepers [5], when anchors output “recommendations”, consumers are likely to have a strong interest in the product and try to use the feature like Internet celebrities. A particular brand of goods produces “shopping tips” following behavior. Therefore, the personal charm of Internet celebrities is a critical variable in promoting consumers’ purchasing behavior.

Interactivity is the two-way information interaction between the online shopping platform and the participants with the help of the Internet and modern technology. In the online shopping environment, the organism and response are similar to the shopping experience in the traditional (offline) shopping environment. However, the stimulation in the online shopping environment is different, and the environmental stimulation involves many complex factors. Eroglu introduced the SOR model into online shopping for the first time and found that a specific online store atmosphere impacts consumer behavior, which varies with different consumer personality characteristics [6]. Liu Yang, Li Qi, and Yin Meng proposed in the Stimulating Effect of Online Shopping Festival Atmosphere on Consumers’ Impulse Shopping Behavior that online shopping platforms can quickly respond to consumers’ information needs through online celebrities’ live streaming, and consumers can freely choose browsing content and information display methods. Merchants can promptly respond to the questions consumers raise, and communication and information exchange among consumers can stimulate shoppers’ emotional reactions. Good interaction and communication can make consumers have positive emotions [7]. It can be seen that interactivity can stimulate the body and thus promote irrational consumption behavior.

2.2 Overconfidence and irrational online consumption behavior

Overconfidence will lead consumers to believe in the accuracy of their judgment and only focus on price information, which will inevitably reduce the quality of decision-making. In terms of consumer behavior, it will affect the purchase intention of promotional products and give consumers confidence in the correctness of their decisions. Since consumers are likely to interpret material benefits provided in sales promotion as obvious opportunities, they will ignore potential risks and emphasize the benefits of shopping.

Dodds believes that perceived value refers to consumers’ perception after balancing the possible benefits and the costs to be paid when making decisions, affecting consumers’ final purchase intention.

Studies by Grazioli and Wang (2001) and Jarvenpaa (2000) support this view. Zeithaml (1988) proposed the method of using perceived value to measure customers' purchase intention, and the research found that customers' purchase intention depends on the level of perceived value. Therefore, when consumers' perceived value is high, it is easy to produce impulsive purchase behavior [8].

According to the theory of interpretation level, whether individuals will make immediate decisions depends on how long they think they have to think about the problem. When there is enough time, they will fully consider the event. When time is limited, consumers may consider information about an area of interest [9]. Therefore, in the case of promotion, consumers can only consider part of the information of the commodity, which makes the price-sensitive consumers only pay attention to the price, which may lead to the risk of neglect.

Thompson and Yu (2005) pointed out that consumers' perceived risk impacts purchase intention. The higher the perceived risk, the more conservative consumers are. On the contrary, when perceived risk is low, consumers will like the positive stimulation of new products and evaluate them more positively. Therefore, when consumers ignore perceived risk, impulsive buying behavior will increase [10].

Based on the above analysis, five hypotheses made in this paper are summarized as follows:

H1: Commodity price incentive mechanism is positively correlated with online irrational consumption behavior.

H2: Opinion leaders are positively correlated with online irrational consumption behavior.

H3: User perceived interaction is positively correlated with online irrational consumption behavior.

H4: Exaggerated perceived benefits are positively correlated with irrational online consumption behavior.

H5: Ignoring perceived risk is positively correlated with online irrational consumption behavior.

3. Research method

All the scales used in this study are mature scales widely recognized and verified by scholars at home and abroad, with high reliability and validity. The questionnaire was divided into three parts: background introduction, basic personal information, and related questions on the influence mechanism of impulsive online buying. The specific variables and measurement items in this paper are shown in Table 1.

Table 1. The specific variables and measurement items

Variables	Detailed variables	Measuring item	Number
Commodity price incentive system (promotion time pressure)	Limited offer mechanism	I will buy the goods due to the limited number of live broadcast items	A1
	Live broadcast exclusive mechanism	I'll be watching for coupons, gifts, or raffles from live streaming	A2
Key Opinion Leader	The degree of dependence on information stimulation brought by anchors	Will I choose to watch or buy whatever my favorite host is broadcasting	B1
	Recognition of anchors' expressive ability	Because of the excellent cargo carrying ability of anchors, I will consume the goods that I have no desire to buy	B2
User aware interaction	Interactivity with the anchor	I think interacting with anchors in the studio will help me buy the products I like	C1

Exaggerating perceived benefits	Interaction with merchandise	I think watching live streaming can make it easier for me to understand the functional features of commodities	C2
	Interaction with consumers	In the broadcast room, people will buy along with others because of the purchase behavior	C3
	External stimulus guidance	I feel that if I don't buy, the goods will be sold out quickly, so I will make the purchase	C4
	Price sensitive	When shopping in the broadcast room, I feel that the promotional goods purchased are very cost-effective.	D1
	The opportunity cost	When shopping in the studio, I will be happy to buy/grab the goods in the studio	D2
Ignoring perceived risk	Competence trust of opinion leaders	When shopping in the broadcasting room, I believe that the goods provided by the anchor must be of high quality	D3
	Trust	I don't think there will be any problem with the goods purchased in the live broadcast room, so I don't worry about spending time negotiating with the merchants to return or exchange them	E1
	Price sensitive	I'm not worried that the promotional prices offered by this studio are higher than those offered by other studios	E2
Irrational online consumption behavior	Utility to ignore	I won't worry about buying something I don't really need in the studio	E3
	Irrational purchase	I decided to buy it in the studio without any prior planning	F1
	Consumer concerns	I bought the product in the studio without any careful consideration	F2
	Psychology of timely satisfaction	When I'm on the studio, I buy goods based on the mood of the moment	F3

4. Data analysis and model validation

After sorting out and counting the valid questionnaires in this survey, the descriptive statistical analysis of the sample is as follows: Among the online shopping consumers who participated in this survey, the proportion of males (44.9%) was slightly lower than that of females (54.6%); In terms of student living expenses, students with 1000-2000 yuan accounted for 80.7%, students with less than 1000 yuan accounted for 9.1, students with 2000-3000 yuan accounted for 5.1%, students with 3000-5000 yuan accounted for 1.7%, and students with more than 5000 yuan accounted for 3.4%; In terms of the time for respondents to watch live e-commerce broadcasts per week, 96% of college students spend 5 hours or less, 2.3% spend 6-10 hours per week, 2.3% spend 6-10 hours per week, 1.1% spend more than 21 hours. It shows that most college students have limited personal time. In terms of the frequency of watching live streaming, 72.16% of college students watch it no more than three times, 21.59% of them watch it 2-3 times per month, 4.55% of them watch it 2-3 times per week, and 1.7% of them watch it almost every day. In terms of the years that respondents have been exposed to online shopping, 54.6% of the students have been exposed to online shopping for more than four years, 31.8% of the students have been exposed to online shopping for two to four years, and 13.7% of the students have been exposed to online shopping for two years or less. This indicates that most college students have been exposed to online shopping for a long time and have a relatively good understanding of online shopping.

In terms of the types of live broadcasts preferred by the sample, the questionnaire gives seven types of e-commerce live broadcasts, which are: Food, clothes, cosmetics, jewelry, electronics, sports equipment, and others, after statistics, like the food and clothing, can be drawn from the sample proportion is the largest, followed by cosmetics and electronic products, is jewelry class again, last few audiences prefer watching sports equipment class live electrical contractor, detailed data shown in Table 2.

Table 2. The types of live broadcasts preferred

Types of live streaming	People counting	Proportion
clothing	110	62.5%
cosmetics	84	47.7%
jewelry	26	14.8%
electronic products	53	30.1%
exerciser	19	10.8%
others	22	12.5%

(1) Reliability analysis. The minimum value of the reliability coefficient of each scale was more significant than 0.7, which indicated that the reliability quality of the research data was high. For the “item deleted α coefficient”, after any item is deleted, the reliability coefficient of the corresponding scale will not increase significantly, which indicates that the item should not be deleted. For CITC value, the CITC value of the analysis items is all greater than 0.4, indicating a good correlation between the analysis items and a good reliable level.

(2) Analysis of EFA. Validity research analyzes whether the research items are reasonable and meaningful. Validity analysis is conducted using factor analysis, a data analysis method. The KMO value, joint degree, variance explanation rate value, factor loading coefficient value, and other indicators are comprehensively analyzed to verify the validity level of the data. KMO value is used to determine whether effective. The common value is used to eliminate unreasonable research items. The explained variance rate value is used to a level of information extraction. The factor loading coefficient measures the factor (dimensions) and item. All the research item of the corresponding values were higher than 0.4, so the research item of information can be effectively extracted. In addition, the KMO value is 0.932, which is greater than 0.6, indicating the validity of the data. In addition, the variance explanation rate values of the three factors were 49.67%, 8.08%, and 7.21%, and the cumulative variance explanation rate after rotation was 64.96% & GT. 50%. It means that the information on research items can be extracted effectively. Finally, the factor loading coefficient is combined to confirm whether the relationship between the factor (dimension) and the research item is consistent with the expectation. If so, it indicates the validity; otherwise, it needs to be adjusted again. When the absolute value of the factor loading coefficient is more significant than 0.4, it indicates that the options and factors have a corresponding relationship.

(3) CFA Analysis (Confirmatory Factor Analysis). Confirmatory factor analysis (CFA) was conducted for 6 factors and 17 analysis items. The effective sample size of this analysis was 177, which was 10 times more than the number of analysis items, and the sample size was moderate. Confirmatory factor analysis (CFA) was performed for six factors and 17 analysis items. As seen from the above table, the AVE values corresponding to a total of 6 factors, except for user-perceived interaction, are all greater than 0.5, and the CR values are all higher than 0.7, indicating that the analysis data have good convergent (convergent) validity.

According to the discriminant validity analysis, the minimum AVE square root value corresponding to the six factors was 0.647, which was more significant than the maximum value of the correlation coefficient between factors, 0.575, indicating that the study data had good discriminant validity.

(4) Correlation analysis. SPSS25.0 software was used to calculate and analyze the mean value, standard correlation coefficient, and AVE value of all latent variables involved in the sample to understand the overall characteristics of each latent variable involved in the model and their mutual influence relationship. The correlation of variables in the model is shown in Table 3.

Table 3. Correlation analysis

	T he m ea n	The stan dard devi atio n	Commodity price incentive system	Key Opinion leaders	User aware interaction	Exaggerating perceived benefits	Ignoring perceived risk	Irrational online consumption behavior
Commodity price incentive system	2. 71 0	0.97 9	1					
Key Opinion leaders	2. 21 3	0.94 8	.538**	1				
User aware interaction	2. 80 0	0.77 1	.632**	.641**	1			

Exaggerating perceived benefits	3. 02 3	0.96 6	.656**	.497**	.725**	1		
Ignoring perceived risk	2. 60 8	0.89 9	.494**	.502**	.664**	.614**	1	
Irrational online consumption behavior	2. 38 3	0.91 0	.534**	.584**	.641**	.545**	.689**	1

** . At 0.01 level (two-tailed), the association was significant.

As can be seen from the correlation analysis results in Table, after Pearson correlation analysis, variables involved in this study, namely commodity price incentive system, opinion leaders, user perceived interaction, exaggerated perceived benefits, ignored perceived risks, and online irrational consumption behavior variables, are all significantly and positively correlated. Therefore, the relevant hypotheses of this study have been preliminarily verified.

(5) Hierarchical regression analysis. This involved two hierarchical regression analysis model, the independent variables in model 1 for sex, the cost of living, contact online time, watching live band frequency. The model on the basis of model 1 to 2 commodity price incentive system, opinion leaders, user interaction, perception exaggerated perceived benefits, perceived risk, the dependent variable of the model is: the irrational consumer behavior online.

The gender, living expenses, online shopping time, and frequency of watching live streaming goods are taken as independent variables, while online irrational consumption behavior is taken as dependent variable for linear regression analysis. It can be seen from the above table that the R-square value of the model is 0.125. This means that gender, living expenses, online shopping time, and frequency of watching live streaming can explain 0.125 percent of the change in irrational online consumption behavior. The F-test of the model found that the model passed the F-test ($F=6.096$, $P<0.05$), that is to say, gender, living expenses, online shopping time, and frequency of watching live streaming will have an impact on irrational online consumption behavior, so we can specifically analyze the impact of independent variables on the dependent variable.

Specifically, the regression coefficient value of the frequency of watching live streaming with goods is 0.436, showing significance ($t=4.153$, $P=0.000<0.01$), which means that the frequency of watching live streaming with goods will have a significant positive impact on online irrational consumption behavior.

For Model 2, after adding commodity price incentive system, opinion leaders, user perceived interaction, exaggerating perceived benefits and ignoring perceived risks on the basis of model 1, the change of F value showed significant ($P<0.05$), which means that the immersion of virtual environment, the construction of anchor image, the interaction of user perception and the attraction of commodity price have explanatory significance to the model. In addition, the R-square value increases from 0.125 to 0.599, which means that commodity price incentive system, opinion leaders, user perceived interaction, exaggerated perceived benefits, and ignored perceived risks can explain 47.4% of online irrational consumption behavior.

Specifically, the regression coefficient value of commodity price incentive system is 0.110, and presents a significant value ($t=1.666$, $P=0.098<0.01$), which means that commodity price incentive system will have a significant positive impact on online irrational consumption behavior.

The regression coefficient value of opinion leaders is 0.179, showing significance ($t=2.784$, $P=0.006<0.01$), which means that opinion leaders will have a significant positive impact on online irrational consumption behavior.

The regression coefficient value of user-perceived interaction was 0.186 and showed significant ($t=1.814$, $P=0.072<0.01$), which means that user perceived interaction will have a significant positive impact on online irrational consumption behavior.

The regression coefficient value of exaggerated perceived revenue was 0.014, and showed no significance ($t=0.185$, $P=0.854>0.05$), which means that excessive perceived benefits have no significant impact on irrational online consumption behavior. Compared with the other four

independent variables, the regression coefficient value and significance of exaggerated perceived return are significantly lower. Its influence on the dependent variable, as far as this study is concerned, is not as great as the other four factors.

The regression coefficient value of ignoring perceived risk was 0.406 and showed significant ($t=5.754$, $P=0.000 < 0.001$), which means that user-perceived interaction will have a significant positive impact on online irrational consumption behavior.

5. Conclusion

The analysis shows that commodity price incentive systems, opinion leaders, user perceived interaction, and ignoring perceived risk positively impact online irrational consumption behavior. Among them, ignoring the perceived risk has a greater impact on the audience's online irrational consumption behavior.

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