# Research on the Influencing Factors of Consumer Purchase Decision in "Webcast+ E-commerce" Mode

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## Abstract

This study first summarizes the current development status of the "Webcast + e-commerce" mode, and expounds the three main operating modes that currently exist. Based on the technology acceptance model (TAM) and Howard-Sheth purchase decision model, a consumer purchasing decision model under the webcast platform was developed. Through questionnaires designed to conduct a descriptive analysis of the collected questionnaires, and then study the relationship between product factors, environmental factors, purchase sentiment, perceived risk and the willingness to buy. Finally, the research results show that in the "Webcast+ e-commerce" mode, product factors, environmental factors and buying sentiment have a positive impact on consumers' purchase intentions, and perceived risks have a negative impact on consumers' purchase intentions..

## Keywords

Webcast; Consumer purchasing decision; Influencing factors; Technology acceptance model.

## 1. Introduction

In recent years, the Internet has developed rapidly and mobile broadcasting has quickly become mainstream. Everyone can broadcast live, each store can publish product broadcasts, and each company can do live events. Major industries such as e-commerce, tourism industry, medical industry, catering and sports industry, financial industry, online education industry, game industry, etc. can enter the live broadcast field. The "Webcast+ e-commerce mode" is a live broadcast by merchants within the e-commerce platform to display merchandise or procurement sites. Live content is richer than graphics or video, and the information presented is real-time and real. This model allows consumers to watch and discuss products with the live viewers to create a group buying atmosphere. At the same time, it enables users to have a comprehensive and more intuitive understanding of the products they sell, so that consumers can trust products or services, thereby stimulating purchase behavior and effectively increasing the conversion rate and brand influence of products. "Webcast+ e-commerce" is different from the traditional e-commerce model. Under this new model, the consumer's consumer behavior and the factors influencing their purchase decisions will also be different, and the marketing strategy of businesses or companies must also be changed accordingly. Therefore, the main purpose of this paper is to study the influencing factors of consumer purchase decision under the "Webcast+ e-commerce" model, and to make some suggestions for e-commerce platform businesses or companies according to the research results.

Consumer purchase decision refers to the process to select reasonably products or services after fully considering and evaluating in order to satisfy ones' own needs. Engle[1] showed in the research that

the consumer's purchase decision initially starts from the requirement identification. The physiological requirement is the first step in the consumer's purchase decision. Then the consumer collects information, chooses evaluation, and makes purchasing decisions based on the collected information. Many scholars at home and abroad have conducted researches on consumer purchasing decisions and have come up with a series of theories and models. Cheng Hua and Bao Gongmin [2] found that consumers' perception of online shopping is useful, online shopping is convenient and safe are three key determinants of affecting consumer online shopping attitudes and intentions, and the perception of online shopping is useful will affect online shopping attitude and intention. Zeng Yong [3] summarized his research results into personal factors, product factors, convenience of shopping, safety and reliability, website factors and cultural factors. Chen Hui and Li Yuanzhi [4] believe that the main individual factors affecting online consumers' purchase decisions include attitudes, satisfaction, emotions, perceived risks, and shopping orientation. Environmental factors include price, brand, website design, and trust. Liu Bing [5] studies the internal factors of products and divides them into content, reliability, speed, service, and price. The research results of Li Shaohua and Yang Liu[6] show that in C2C WeChat shopping, the factors affecting consumers' purchase decisions are mainly the characteristics of products, the ability of micro-business services, relationships, and third-party supervision. Liu Yang [7] based on consumer purchasing decision models, overall network products, and technology acceptance models of domestic and foreign scholars, combined with the characteristics of Chinese consumers' purchase behavior under the O2O model, and analyzed the influence of perception and purchase intention respectively from the main products, information products, and product platform of the overall network products, and then constructed a consumer purchasing decision model under the O2O model. Geng Likai[8] studied the influence factors of online consumer purchase decision by selecting five groups of influencing factors: website, merchant, online review, logistics, and consumer experience for empirical analysis. Daniel Belancheet al. [9] found that interactive online media directly affects consumer attitudes. Guo Rong and Li Yan[10] constructed a theoretical model of how e-commerce live influent consumer' online shopping intention, and found that interaction, entertainment, preference, subjective norms, behavioral attitudes, and perceived behavioral control elements have a significant positive effect on consumers' online shopping willingness. From the perspective of domestic and foreign research, consumers' shopping decision research is also relatively mature, but there are not many researches on the factors affecting the consumer decision-making under the "Webcast + e-commerce" mode.

## 2. Theoretical basis

Davis[11] extended the relationship between attitude and behavior intention on the basis of rational behavior theory, and proposed the Technology Acceptance Model, which is the TAM model. There are two important determinants in the technology acceptance model: one is perceived usefulness and the other is perceived ease of use. Many scholars believe that it is appropriate to modify the TAM model and change the variables to study online consumer purchase behavior. In this paper, we mainly add perceived risk into the technology acceptance model, and study the impact of negative attribute variables on consumer behavior and purchase intention in the "Webcast+ e-commerce" mode when consumers use or accept the "Webcast + e-commerce" mode.

Howard-Sheth model considers input factors, external factors, internal factors, and output factors as the four factors that influence consumer decision making. Among them, the stimulation of purchase activity is external factors, which arise the consumer's purchase motivation and desire and present a series of alternative purchase options. At the same time, consumers are motivated by external factors that stimulate internal factors, and combine externally transmitted information with shopping experience, evaluate and judge different products, and thus generate bias or favor for a certain product. After this kind of bias or favor is generated, it will react with other external factors and influence consumers' purchase decision. The Howard-Sheth model plays an important role in the study of

consumer behavior, and as long as the model is slightly modified, it can be applied to other consumer spending patterns.

## 3. Model Construction and Assumptions

Based on the Howard-Sheth model and the technology acceptance model, this paper combines the above-mentioned research reports and the related literature on consumer purchase behavior to construct a consumer purchase decision model under the "Webcast + e-commerce" mode. The research model of this paper will study the impact of the four factors from product factors, environmental factors, purchase sentiment, and perceived risk on the output factors.

(1) Product factors: Product features such as product style, price, quality, function or utility, and Internet word-of-mouth have a varying degree of influence on consumers' online purchasing decisions for familiar or unfamiliar products. Product features can significantly affect the purchase intention of consumers in online shopping. Therefore, this study believes that product factors may be an important factor influencing consumers' purchase behavior in the "Webcast+e-commerce" mode, and hypothetical analysis is conducted below.

(2) Environmental factors: The live broadcast link is a special and important link in the "Webcast+ e-commerce". The anchor or the merchant conducts two-way exchanges with consumers to introduce and sell products. The service capability of an anchor or a merchant can have a direct impact on a consumer's purchase decision. The image and mental state of the anchor, the interactive skills mastered, and the live atmospheres created will all affect consumers' purchase.

(3) Purchase sentiment: Purchase sentiment refers to the emotional reactions made by consumers during the purchase process. It affects the purchase intention and purchase behavior of consumers to some extent. Studying consumer' purchase sentiment and carrying out necessary emotional management will help achieve differentiated "Webcast+ e-commerce" marketing and improve competitiveness.

(4) Perceived risks: In online shopping, there are many information that consumers cannot control. For example, consumers cannot perceive the quality of products and whether personal information will be leaked. Online shopping is more convenient for consumers than traditional shopping; however, there are potential risks in the variability of the network environment. New technologies will increase consumers' perceived risk and affect their willingness to buy [13].

Ajzen expressed in the study that the willingness is a decision before the behavior occurs and is a necessary process of the behavior [14]. Consumer purchasing have positive and negative intentions. When the willingness to purchase is positive, consumers will be interested in the products or services of the merchants and will increase the possibility of purchase. Conversely, if the willingness to purchase is negative, the consumers' sense of resistance to the products or services of the merchants will reduce the possibility of purchase. There is a close connection between consumers' purchase intention and purchase behavior, so this article will use purchase intention as a result variable of the study. Purchase intention refers to the likelihood of a consumer purchasing a particular product. Consumers' willingness to purchase includes their attitude towards the product or service and the probability of purchasing the product or service [15]. Based on the characteristics of consumption under the "Webcast+ e-commerce" mode and the theoretical basis and model constructed for the research model of this paper, the following assumptions are proposed, as shown in the following figure:

H1: Product Factors Positively Affect Consumers' Purchase Intention

H2: Environmental Factors Positively Affect Consumers' Purchase Intention

H3: Purchase Sentiment Positively Affects Consumers' Purchase Intention

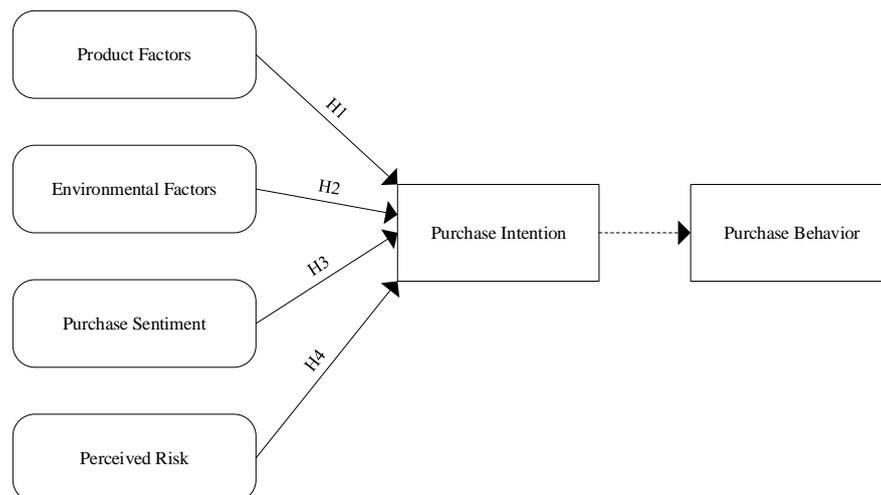H4: Perceived Risk Negatively Affects Consumers' Purchase Intention

Fig 1. Consumer Purchase Decision Model

## 4. Research Methods

Combining the research results of consumer purchase decision made by scholars at home and abroad, the internal and external stimulator in the Howard-Sheth model are adapted to the purpose of this research according to the characteristics of the "Webcast + e-commerce" consumption mode. Based on the analysis above, a questionnaire was designed to measure the relevant factors.

The questionnaire uses the common Likert 5 scale, and the problem options "very disagree" to "very agree" are set to 1-5. The lower the score, the lower the degree of consent of the survey respondents to the description of the item. On the contrary, the higher the score, the higher the degree of consent of the respondents to the item.

After the questionnaires were designed, they were put into all kinds of social applications. These questionnaires were mainly targeted at consumer groups who had contacted or understood the "Webcast + e-commerce" mode. Subsequently, a total of 224 questionnaires were received. After screening, 23 ineffective questionnaires were filled in, and a total of 201 questionnaires with research value were obtained. The effective recovery rate of the questionnaire was 89.7%.

The number of people in the survey was 201; the number of men was 106. Men are slightly more than women, but there was no significant difference. The proportion of 18-25 years old is the largest with a percentage of 76.5, accounting for more than half of all surveyed people. This group of young people has more contact with live e-commerce platforms and has a certain degree of economic ability, which is also the main force of consumption. The proportion of "undergraduate and above" is 78%. To a certain extent, the higher the education level, the higher the degree of acceptance of "Webcast + e-commerce" consumption. The number of people with income of 1001-3000 yuan accounted for 38%. The education level of the survey group is mostly at the undergraduate level, and the income level mostly below 3,000 yuan. From the survey results of the basic demographic and consumption habits of the sample, it is basically the same as those of the online survey and that means the sampling is reasonable.

## 5. Model Validation

Through the reliability and validity analysis of the questionnaire, the reliability coefficient of Cronbach's (α) is greater than 0.7, which indicates that the reliability of the research data is very good and all the contents of the questionnaire are reliable. The validity test first uses the KMO and Bartlett sphere tests. It is generally believed that when the KMO is greater than 0.7, it has a good structural validity, and the closer to 1 the value is more suitable for factor analysis; when the KMO is less than 0.5, it has no good effect and is not suitable for factor analysis. After analysis, the KMO test value of each variable is greater than 0.7, which has a good effect, and there are significant differences in the

significance of the Bartlett sphere test, which indicates that the correlation between variables is significant, and the data of questionnaires are suitable for factor analysis.

This article takes product factors, environmental factors, perceived risks, and purchase sentiment as independent variables, and uses purchase intention as a dependent variable for linear regression analysis.

Table 1. Regression Analysis of Factors and Purchase Intention

| | Non-standardized coefficient | | Normalization coefficient | t | p | VIF |
|---|---|---|---|---|---|---|
| | B | Standard error | Beta | | | |
| Constant | 0.523 | 0.221 | - | 4.105 | 0.000 | - |
| Product Factor | 0.473 | 0.081 | 0.328 | 4.116 | 0.000 | 2.759 |
| Environmental Factor | 0.114 | 0.067 | 0.004 | 0.066 | 0.017 | 1.656 |
| Purchase Sentiment | 0.425 | 0.070 | 0.580 | 8.216 | 0.000 | 2.170 |
| Perceived Risk | -0.105 | 0.085 | -0.118 | -1.364 | 0.012 | 3.267 |
| $R^2$ | 0.552 | | | | | |
| Adjusted $R^2$ | 0.543 | | | | | |
| F | 60.094** | | | | | |
| Dependent variable: purchase intention | | | | | | |
| * $p<0.05$ ** $p<0.01$ | | | | | | |

As can be seen from the above table, the R-squared value of the model is 0.552, which means that product factors, environmental factors, perceived risks, and purchase sentiment can explain the 55.2% change of purchase intention. Then perform an F-test on the model. Then perform an F-test on the model, the F-test result is F=60.094,P<0.05, which means that at least one of product factors, environmental factors, purchase sentiment, and perceived risks will affect the purchase intention. The model formula is:

Purchase Intention = 0.908 + 0.332 * Product Factors + 0.004 * Environmental Factors + 0.577 * Purchase Sentiment - 0.115 * Perceived Risks

In addition, the multicollinearity test of the model shows that all VIF values in the model are less than 5, which means there is no collinearity problem and the model is better. The regression coefficient of the product factors is 0.332, and the P value is 0.000, which is less than 0.01, which means that the product factors will have a significant positive influence on the purchase intention and the hypothesis H1 is verified again. The regression coefficient value of the environmental factors is 0.004, and the P value is 0.017, which is less than 0.05, which means that the environmental factors will have a significant positive influence on the purchase intention, and the hypothesis H2 will be verified again. The regression coefficient of purchase sentiment is 0.577, and the value of P is 0.000, which is less than 0.01. This means that purchase sentiment will have a significant positive effect on the purchase intention, and once again verify hypothesis H3. The regression coefficient of perceived risks is -0.115, and the value of P is 0.012, which is less than 0.05. This means that perceived risks has a significant negative effect on the purchase intention, and the hypothesis H4 is verified again. From the results, it can be concluded that product factors, environmental factors, and purchase sentiment have a positive impact on consumer purchase decision, while perceived risks have a negative impact on consumers' purchase decision.

## 6. Conclusion

Through empirical research, this article combined with the characteristics of "Webcast+ e- commerce" mode, and divided the influencing factors into4 categories: product factors, environmental factors, purchase sentiment, and perceived risks, and then analyzed deeply the process of consumers' purchase decision-making, build the consumer purchase decision model under the "Webcast+ e- commerce" model and explored the various influencing factors of consumer purchase decision. Finally, based on the analysis results, the following conclusions are drawn.

Product factors have always been the most important factor in consumer purchasing decisions. The quality, price, and performance of the product have the most direct impact on consumers. The environmental factors are mainly manifested in many aspects such as how to display products, service attitudes, whether they can grasp the appetite of the audience and create a purchasing atmosphere, and grasp the level of knowledge related to products. These factors can be directly perceived by consumers, and consumers' perception of service quality will in turn affect the purchase intention. Therefore, live broadcasters should pay attention to the enhancement of service capabilities in their live broadcasts to effectively increase the conversion rate and cultivate loyal customers. For consumers' purchase sentiment, live broadcasters should try to direct consumers' buying mood to the positive side. When it comes to live broadcasting, we must take into account the psychology of consumers and replace the live broadcast method according to the needs of consumers to eliminate consumers' negative emotions. The perceived risk of consumers will to a certain extent inhibit the willingness of consumers to purchase, so that consumers are hesitant to purchase products. Live business should establish a positive image, create a good reputation, so that consumers have a sense of trust, and product quality and service must have good protection.

This research also has some deficiencies. Because there are few channels to publish the questionnaire, so the questionnaire is mainly distributed through some popular social software. Most of the respondents are university students, and the number of surveys is not enough, which makes the research results appear to be one-sided and lack of certain representation.

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