

# A Study of Factors Influencing Consumer Purchase Behavior on Xiaohongshu Platform Based on Conjoint Analysis

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**Abstract.** Social e-commerce, as an emerging form of electronic commerce, has garnered widespread attention. As one of China's most popular social e-commerce platforms, xiaohongshu has successfully attracted users through user-generated content and community interaction, creating a unique ecosystem for social e-commerce. Understanding and analyzing the factors that influence consumers' purchasing decisions on xiaohongshu platform is crucial for operators to formulate effective marketing strategies. This study employs conjoint analysis to examine consumers' preferences for factors such as product quality, brand recognition, and key opinion leaders, providing valuable insights for the management of xiaohongshu platform. By analyzing consumers' preferences for these factors, the platform can better meet user needs, enhance user experience, strengthen brand influence, and effectively drive consumer purchasing behavior.

**Keywords:** conjoint analysis; attributes; xiaohongshu platform; influencing factors.

## 1. Introduction

### 1.1 Research Background

Social e-commerce, as an emerging form in the field of e-commerce, has attracted extensive attention and research due to its combination of social networks and e-commerce. Among them, the xiaohongshu platform, as an important representative in the Chinese social e-commerce market, has a large user base and strong purchasing power, exerting a significant influence on consumer purchase decisions.

With the popularity of mobile internet and smartphones, an increasing number of consumers are engaging in shopping and consumption activities through mobile applications. As one of the most popular social e-commerce platforms in China, the xiaohongshu has attracted a large number of users and formed a unique social e-commerce ecosystem through user-generated content and community interaction<sup>[1]</sup>.

However, despite the tremendous success of the xiaohongshu platform in the market, consumer purchase decisions still face uncertainties and challenges. Understanding and analyzing the factors influencing consumer purchase decisions on the xiaohongshu is of great significance for platform operators and brand merchants in formulating effective marketing strategies.

### 1.2 Research Objectives

The research aims to explore the factors influencing consumer purchasing behavior on the xiaohongshu platform using the conjoint analysis method. The specific objectives are as follows:

1.2.1 Identify the key factors influencing consumer purchasing behavior on the xiaohongshu platform

Utilize conjoint analysis to analyze and evaluate the impact of different factors on consumers' purchase decisions on the platform. This will help uncover the drivers and preferences behind consumer purchasing behavior.

1.2.2 Examine the relative importance of different influencing factors

Through conjoint analysis, compare and rank the different influencing factors to determine their relative importance in influencing consumer purchase decisions. This will aid in understanding the factors that consumers prioritize when making purchasing choices.

#### 1.2.3 Provide practical recommendations and managerial insights

Based on the research findings, offer practical recommendations and managerial insights for the operators and managers of the xiaohongshu platform. The research results can be utilized to optimize product or service design, promotional activities, and enhance user experience to increase consumer willingness to purchase and loyalty on the xiaohongshu platform.

## 2. Principles and Steps of Conjoint Analysis

### 2.1 Principles of Conjoint Analysis

Conjoint analysis is a commonly used market research method for measuring consumer preferences and importance of different product or service attributes. It is based on the idea that consumers make purchasing decisions by considering multiple attributes and uses experimental design and statistical analysis to reveal consumer preferences for different combinations of attributes<sup>[2]</sup>.

### 2.2 The General Steps of Conjoint Analysis

#### 2.2.1 Attribute selection

Identify the product or service attributes to be studied, such as brand, price, functionality, etc., and determine the levels for each attribute (e.g., multiple brand names).

#### 2.2.2 Experimental design

Design a set of hypothetical products, where each product is composed of different levels of attributes. Use statistical design methods (e.g., orthogonal design) to ensure that different attribute levels appear evenly across different combinations.

#### 2.2.3 Questionnaire survey

Present the designed hypothetical products to respondents and ask them to rank, rate, or choose among these products. Collect consumer response data through the questionnaire.

#### 2.2.4 Data analysis

Analyze the collected data using statistical methods such as regression analysis, preference measurement, etc. Calculate importance indicators for the attributes, such as relative importance, utility values, etc., to understand consumer preferences for different attributes.

#### 2.2.5 Result interpretation

Interpret consumer preferences based on the analysis results and provide recommendations and inferences for market strategies. Further decision-making can be conducted, such as market segmentation, product pricing, attribute optimization, etc.

## 3. Research Design

### 3.1 Design of Attributes and Attribute Levels

#### 3.1.1 Attribute selection

By reviewing relevant literature, this study initially identified eight factors influencing consumer purchasing behavior on the xiaohongshu platform, the influencing factors mentioned here correspond to the attributes in the conjoint analysis method. These factors are as follows: user-generated content, brand awareness, website information, opinions from friends, opinions from community influencers, price and promotion activities, product quality, and evaluations from other users. Subsequently, based on the nature of the research question and the factors typically

considered important by university students, these eight factors were classified into three categories: product quality, brand awareness, and influencers. Influencers, a term used in online contexts, refer to individuals who through sharing or recommending products or services, generate interest or desire to purchase in others and influence their purchasing decisions.

### 3.1.2 Determination of attribute levels

Based on the analysis of the aforementioned attributes, the following levels were assigned to each of them:

#### 3.1.2.1 Product quality

High: This refers to products that are of excellent quality and meet or exceed consumer expectations. Examples of high-quality brands include Rolex watches and Apple iPhones.

Medium: This refers to products that have an acceptable level of quality and can meet consumers' basic needs and expectations. Examples of medium-tier brands include Samsung smartphones, Sony televisions, and Adidas sportswear, which strike a good balance between quality and price.

Low: This refers to products that have poor quality and do not meet consumer expectations. These products may have manufacturing defects, inferior materials, or a lack of essential features. Examples of low-quality products include generic or counterfeit brands, low-quality electronic products, and counterfeit fashion items.

#### 3.1.2.2 Brand awareness

High: this refers to brands that are widely recognized and highly reputable in the market. Examples include internationally renowned brands such as Apple and Nike, which enjoy a high level of brand awareness among consumers.

Medium: this refers to brands that have some level of recognition and acceptance in the market, but their awareness is relatively limited compared to highly recognized brands. Examples include local well-known brands like Xiaomi and Huawei, which have a certain level of brand awareness in the Chinese market but relatively lower international recognition.

Low: this refers to brands with relatively low awareness in the market. Consumers may have little to no knowledge about these brands. They could be emerging, small-scale brands or brands with limited awareness in the overall market but with some recognition in specific fields. Examples include startup brands or brands that focus on niche markets, which may have limited brand awareness among consumers.

#### 3.1.2.3 Influencer

These levels can be based on factors such as their influence on social media, number of followers, quality of content, and collaborations with brands.

High: typically well-known individuals with a large and loyal following, who have significant influence on social media platforms.

Medium: may have slightly lower influence and follower counts compared to high-level influencers.

Low: individuals with smaller influence or those who are just starting to establish their social media presence.

## 3.2 Orthogonal Design

Based on the aforementioned attributes and their levels, if a full coverage approach is followed, there would be 27 ( $3 \times 3 \times 3$ ) combinations, which is a large number and inconvenient for questionnaire surveys. In this study, the orthogonal design module in the SPSS software was used to conduct an orthogonal design of attribute level combinations and select 9 representative combinations, as shown in Table 1.

Table1. Orthogonal experimental design

Combination	Product quality	Brand awareness	Influencer
1	High	High	High
2	High	Medium	Medium
3	High	Low	Low
4	Medium	High	Medium
5	Medium	Medium	Low
6	Medium	Low	High
7	Low	High	Low
8	Low	Medium	High
9	Low	Low	Medium

### 3.3 Questionnaire Design and Survey

Based on the orthogonal design, this study developed a survey questionnaire consisting of two parts. The first part collected basic information about the respondents, including gender, age group, and education level. The target population for distributing the questionnaire was primarily college students, including associate, undergraduate, and graduate students. Other groups were not within the scope of this study. The second part used a Likert scale with 7 levels, asking respondents to rate the 9 combinations presented in the questionnaire based on their preferences. The rating scale ranged from 1 (strongly dislike) to 7 (strongly like), indicating increasing preference levels.

## 4. Data Analysis and Results

A total of 150 questionnaires were distributed for this survey, with 102 valid responses. The respondents were all college students, including 26 male samples, accounting for 25.49% of the total sample, and 76 female samples, accounting for 74.51% of the total sample. The age of the respondents ranged from 18 to 25 years old, with undergraduate education accounting for 85.23% of the total. Since the majority of users of the "Little Red Book" app are female, the gender ratio in the questionnaire ensures the representativeness of the analysis results. The following presents the data analysis results using conjoint analysis.

### 4.1 Correlation Analysis

Calculating the Pearson correlation coefficient and Kendall correlation coefficient can assess the fit of the conjoint analysis model, with a higher correlation coefficient indicating a better fit. In this study, the collected questionnaire data were analyzed using SPSS software, resulting in a Pearson correlation coefficient of 0.912, with a two-tailed significance level of 0.000, and a Kendall correlation coefficient of 0.833, with a two-tailed significance level of 0.001. These findings indicate a high overall fit of the conjoint analysis model and a high credibility in analyzing the factors influencing consumer purchasing behavior on the xiaohongshu platform.

### 4.2 Overall Consumer Preference Analysis

By analyzing the 102 questionnaires using conjoint analysis, the relative importance of each attribute and the utility values of each attribute level were obtained. These reflect consumer preferences for each attribute and their varying preferences for different attribute levels, as shown in Table 2.

Regarding the relative importance of each attribute, among the factors influencing consumer purchasing behavior on the xiaohongshu platform, product quality is considered the most important

factor, with a relative importance of 37.798%. Brand awareness is the second most important factor, with a relative importance of 32.317%. Lastly, influencer level is the third most important factor, with a relative importance of 29.885%.

Table 2. Utility Values of Attribute Levels and Relative Importance of Attributes

Attribute	Level	Utility Values	Importance Values (%)
Product quality	High	-0.601	37.798
	Medium	0.506	
	Low	0.096	
Brand awareness	High	0.512	32.317
	Medium	0.056	
	Low	-0.568	
Influencer	High	0.258	29.885
	Medium	0.326	
	Low	0.086	

For attribute levels, moderate quality is the most preferred within the ‘product quality’ factor, which may align with the expectations for product performance. Moreover, for college students, products of moderate quality are considered more cost-effective. Additionally, High brand awareness is the most preferred within the ‘brand awareness’ factor, this may be related to brand awareness, trust, and brand image, as higher brand recognition often comes with quality assurance. Furthermore, moderate influencer rank is the most preferred within the ‘influencer rank’ factor, this may be because for high-ranking influencers, such as film and television stars, they often serve as brand ambassadors or partners, and their accounts and content may be subject to management and supervision by official or talent agencies. This means that their evaluations and recommendations may not be solely based on personal authentic experiences and perspectives but influenced more by commercial collaborations. Therefore, influencers who possess both expertise and moderate levels of fame are considered more genuine and trustworthy.

## 5. Implications for the Management of the Xiaohongshu Platform Operations

Based on these conclusions, the following management insights can be derived for xiaohongshu platform:

### 5.1 Emphasize Product Quality

Xiaohongshu platform should focus on ensuring that the products sold have good quality and reliability. This includes strict product screening and regulations to ensure that high-quality products are offered to consumers. generally speaking, the higher the product quality, the greater the impact it has on consumer purchasing decisions. High-quality products can meet consumer needs and expectations, provide a better user experience, and are more likely to be chosen and purchased by consumers. High-quality products can also establish brand reputation and credibility, gaining consumer trust and loyalty.

### 5.2 Enhance Brand Awareness

On the xiaohongshu platform, brand awareness and image can be effectively enhanced through strengthened brand promotion and marketing. By establishing a positive brand image, it can provide valuable information and a favorable shopping experience for consumers. Additionally, combining brand visibility with product quality and user reviews can generate greater influence. Consumers tend to prefer brands with higher visibility and reputation when making purchase decisions, as they

believe these brands can offer quality products and services. Therefore, actively improving brand visibility is an important strategy to promote brand development and enhance market competitiveness.

### 5.3 Pay Attention to Influencer Rank

Xiaohongshu can collaborate with high-ranking influencers to enhance their influence and credibility on the platform. Additionally, encouraging users to provide authentic and trustworthy product reviews and recommendations can enhance social trust on the platform. In addition, it is necessary to take various measures to strengthen the supervision of influencers, regulate their behavior, and create a clean and positive online shopping environment.

## 6. Limitations and Suggestions for Further Research

This study's sample only includes consumers who are college students, which may limit the generalizability of the research findings to the entire consumer population. Future research can focus on increasing sample diversity, including consumers from different regions, age groups, genders, and consumption habits. Additionally, researchers can consider studying a wider range of attributes to enhance the representativeness of the research findings and gain a more comprehensive understanding of the factors influencing consumer purchasing behavior.

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