



Research Paper

Investigating the Factors Influencing Consumer Perception of Social Group Buying: A Case Study Based on Kuaituantuan Mini Program

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ABSTRACT:

BACKGROUND INFORMATION&PROBLEM STATEMENT: With the development of internet technology, group buying in communities has gradually gained attention as an emerging consumption model. This study aims to investigate consumers' perceptions of community group buying and its influencing factors, using the Kuaituantuan Group Buying Mini Program as a case study to explore its impact on consumers' purchasing decisions.

MOTIVATION: Community group buying not only changes traditional shopping methods but also enhances interaction among consumers through social networks. Therefore, understanding consumers' perceptions is crucial for optimizing platforms, improving merchant services, and enhancing consumer experiences.

RESEARCH METHOD: This study employs the critical incident technique, a qualitative research method, by conducting surveys to collect key incidents of satisfaction and dissatisfaction encountered by consumers who have used the Kuaituantuan Group Buying Mini Program, and conducting qualitative analysis to summarize the main influencing factors.

FINDINGS & CONCLUSION: The study finds that consumers' perceptions of the Kuaituantuan Group Buying Mini Program are influenced by the platform's user experience, merchants' service quality, and consumers' own social needs. Recommendations include optimizing the platform's user interface to improve operational convenience, merchants need to focus on product quality and after-sales service, and consumers actively participating in social interactions to enhance the group buying experience. Improving these aspects can significantly boost consumer satisfaction and loyalty.

KEYWORDS: Community Group Buying, Kuaituantuan Group Buying Mini Program, Consumer Perceptions

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I. INTRODUCTION

With the development of the internet and social networks, community group buying has emerged as a new shopping method that caters to consumers' price sensitivity and enhances their social interaction experience. As one of the major community group buying mini programs, Kuaituantuan Group Buying Mini Program has attracted many consumers through its unique operational model. This paper employs critical incident techniques to explore the key events that consumers experience, both satisfactory and unsatisfactory, while using the Kuaituantuan Group Buying Mini Program. It aims to deeply understand consumers' perceptions, attitudes, and satisfaction towards the mini program, as well as to uncover the factors influencing their experiences. This research provides references for enhancing the competitiveness of the Kuaituantuan Group Buying Mini Program and formulating effective marketing strategies.

II. LITERATURE REVIEW

2.1 Research on Community Group Buying

Community group buying is a shopping method in which a group of consumers, organized via social media platforms or offline communities, collectively purchase certain goods or services to obtain better prices and service experiences. As a new retail model, community group buying leverages the connections among

community members and the organization of group leaders to achieve collective purchasing[1]. Romm (1997) proposed that online communities are groups of people who communicate, share information, and have common interests through the internet[2]. In 2000, Horn and Gustafson pointed out that online group buying utilizes the internet to gather geographically dispersed consumers with common purchasing intentions, forming purchasing alliances to negotiate more favorable prices with suppliers and buy products or services at lower costs[3]. Online communities use e-commerce platforms for interaction, enabling merchants to quickly offer high-quality, reasonably priced products and services, conduct transactions swiftly, and obtain feedback. Meanwhile, consumers, due to their trust in e-commerce platforms, are not limited by geography or immediate needs and can participate in community group buying at more affordable prices.

2.2 Research on Factors Affecting Consumer Perceptions

Consumer perception refers to the overall impression and experience that consumers form during the purchase, use, and evaluation of products or services. Its importance lies in directly influencing consumers' purchase intentions, decisions, brand loyalty, and satisfaction.

Product characteristics, including quality, design, functionality, and innovation, directly affect the usage experience. Valarie A. Zeithaml stated that high-quality products are more likely to receive positive evaluations from consumers, forming favorable perceptions[4]. Brand image, including awareness, associations, and loyalty, represents consumers' overall cognition and emotional response to a brand. Aaker noted that a strong brand image can enhance trust and emotional attachment, making consumers more willing to pay a premium for well-known brands, thereby influencing perceptions and purchase decisions[5]. Pricing strategy is one of the important factors affecting consumer perception. According to Kahneman and Tversky's prospect theory, consumers' perception of price not only includes the actual price but also the relationship between price and product value. Reasonable pricing strategies and promotional activities can enhance the perception of product value and improve perceptions[6]. Marketing communication strategies (advertising, promotions, public relations) play a key role in shaping perceptions. Kotler and Keller indicated that effective advertising and promotional activities can enhance consumers' awareness and preference for products and brands[7]. Social media facilitates frequent interactions between brands and consumers, with feedback and evaluations directly impacting brand image. Shang et al. explored factors affecting purchase intentions in social networks and found that closeness of relationships, social norms, and product utility significantly influence purchase intentions[8]. Park pointed out that high-quality reviews should provide authentic product experiences and novel information, be logical and persuasive, enhance trust, and positively influence perceptions and purchase intentions[9].

2.3 Development of Kuaituantuan Group Buying Mini Program

Kuaituantuan Group Buying Mini Program, a WeChat community group buying app under Pinduoduo, was launched in 2020 during the COVID-19 pandemic when offline shopping was restricted and the concept of social e-commerce platforms was gradually emerging. Through its WeChat community group buying model, Kuaituantuan Group Buying quickly attracted a large number of users. In 2021, its transaction volume exceeded 60 billion yuan, supported by Pinduoduo's supply chain and over 1 billion yuan in subsidies. These initiatives enabled Kuaituantuan Group Buying to surpass its leading competitor in the group buying mini program sector, "Qunjielong," further enhancing its market competitiveness. During the pandemic, Kuaituantuan Group Buying actively responded to national policies by organizing community residents to form WeChat groups, where group leaders were responsible for purchasing and distributing essential supplies.

Merchants can publish products on Kuaituantuan Group Buying and negotiate commissions with distribution group leaders. Once an agreement is reached, group leaders will sell the products using the Kuaituantuan Group Buying Mini Program within their WeChat communities. Combining WeChat's social and payment features, this provides users with a convenient, safe, and personalized group buying experience. The mini program supports both online and offline sales. Online, users can browse and complete the purchasing process; offline, Kuaituantuan Group Buying cooperates with physical stores, allowing users to purchase offline goods or services through the mini program, offering a more comprehensive shopping experience.

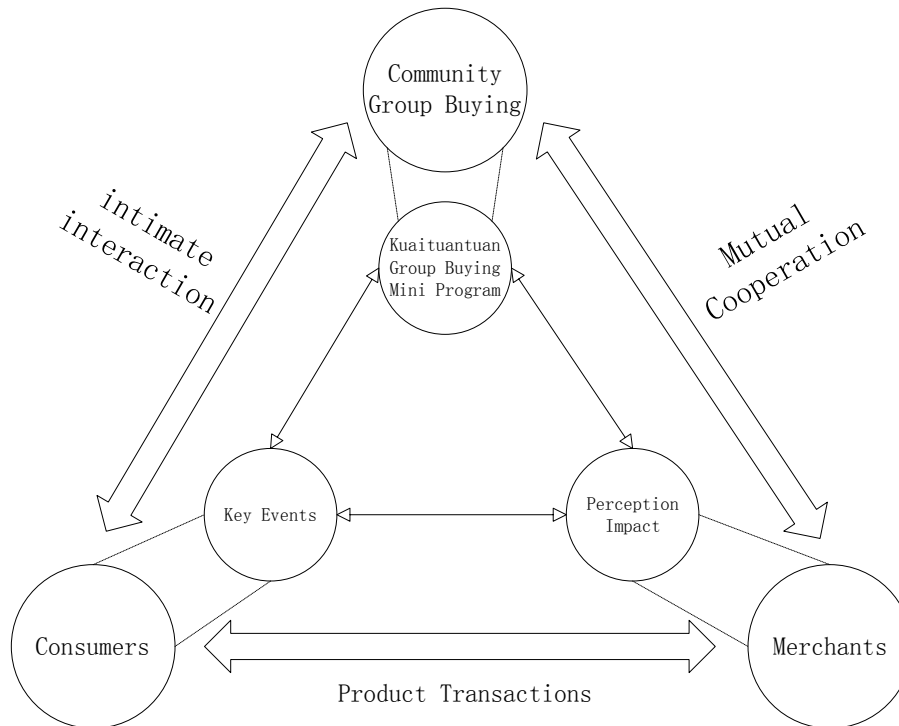


Figure 1:Community Group Buying Interaction Relationship Diagram

III. RESEARCH METHODS AND DESIGN

3.1 Critical Incident Technique

The Critical Incident Technique (CIT), proposed by renowned American psychologist Flanagan in 1954, is a qualitative analysis method. Researchers collect stories and incidents specific to a theme or field, classify and analyze them through content analysis methods to extract effective information and draw conclusions. This method is considered a bridge between research and practice, aimed at promoting the development and improvement of practice[10].

The procedure for studying the Critical Incident Technique mainly includes five steps: clarifying the overall objectives, developing plans and standards for collecting relevant factual incidents, collecting data, analyzing the data, and finally interpreting and reporting the relevant information[11].

3.2 Research Design

The overall objective of this study is to determine the direction and scope of the research, including defining the research subjects and identifying key incidents. The main target subjects of this study are consumers who have used the Kuaituantuan Group Buying Mini Program, regarding "satisfactory and unsatisfactory incidents with the Kuaituantuan Group Buying Mini Program" as key incidents, exploring the factors affecting consumer perceptions of community group buying and making improvements.

After determining the overall objectives, it is necessary to establish detailed plans and standards to guide data collection and analysis. This study uses a questionnaire survey method, mainly consisting of a series of exploratory questions. The researchers are three classifiers who are familiar with the functions, usage, and operational techniques of the Kuaituantuan Group Buying Mini Program and have a thorough understanding of community group buying.

After establishing the guidelines, the questionnaire survey is conducted to collect data, which is then analyzed. The reliability analysis of the Critical Incident Technique classification generally consists of individual classification consistency and inter-rater reliability[10]. Individual classification consistency means that if two or more researchers classify the same incident and their classification consistency is higher than 0.8, the classification result is considered reliable. Inter-rater reliability means that different classifiers reach a consensus when classifying the same incident. The validation formula is as follows:

$$R = \frac{(N \times A)}{1 + [(N - 1) \times A]} \rightarrow (1)$$

$$A = \frac{\frac{2M_{12}}{n_1+n_2} + \frac{2M_{23}}{n_2+n_3} + \frac{2M_{13}}{n_1+n_3}}{N} \rightarrow (2)$$

Where R represents reliability, N is the number of classifiers, A is the average inter-rater agreement, M is the number of same classifications made by the classifiers (for example, M_{12} is the number of same classifications made by classifier 1 and classifier 2), and n is the number of samples classified by each classifier (for example, n_1 is the number of samples classified by classifier 1). Finally, the results are interpreted and summarized.

IV. DATA ANALYSIS

4.1 Sample Description

A total of 156 questionnaires were collected in this survey. Among them, there were 140 valid questionnaires for the most satisfactory key incidents and 135 valid questionnaires for the most unsatisfactory key incidents. The respondents in this study were predominantly female, with those aged 21-30 accounting for 72.44% of the total. All respondents had at least a junior high school education, with the largest proportion being undergraduates. The majority of respondents were students, and their monthly income was mainly concentrated below 6000 yuan.

4.2 Data Processing

Based on the data provided by the respondents, the questionnaires were classified according to the key incidents of satisfaction/dissatisfaction identified by the respondents. The specific classifications and names are shown in Tables no 1 and 2.

Table no 1: Classification and Explanation of the Most Satisfactory Key Incidents.

Classification Item	Explanation
Convenience	Consumers experience ease of operation, clear processes, and convenient payment methods during use.
Service Quality	The quality of service consumers receive during the purchase process, including the responsiveness of customer service, efficiency in resolving issues, and professionalism in shopping consultations.
Efficiency	The time efficiency during the purchase process, especially regarding transaction completion and delivery speed.
Quality	The satisfaction level of consumers with the actual quality, performance, and durability of products after purchase.
Variety	The ability of consumers to find a diverse range of products in Kuaituantuan Group Buying, meeting different needs and preferences.
Affordability	The perceived price advantage experienced by consumers during the purchase process, as well as the cost-effectiveness compared to other shopping methods.

Table no 2: Classification and Explanation of the Most Unsatisfactory Key Incidents.

Classification Item	Explanation
After-sales Service	Refers to problems encountered by consumers after purchase, such as the speed and quality of handling returns, exchanges, and refunds.
Product Quality	Situations where consumers are dissatisfied with the quality of purchased products, including performance, durability, and discrepancies between appearance and description.
Program Performance	Refers to technical performance issues of the mini program, such as slow loading speeds, lagging, crashes, and technical faults.
Logistics and Delivery	Issues such as slow delivery speed, untimely update of delivery information, or poor service from logistics companies encountered by consumers after purchasing products.
User Experience	Overall feelings of consumers during use, including user interface design, operation processes, and the attitude of customer service.

4.3 Data Analysis Results

4.3.1 Classification Results of Key Incidents

The three classifiers independently analyzed and categorized the satisfactory/unsatisfactory key incidents provided by the respondents, according to the classification names, to gain a deeper understanding of consumer needs and experiences. The specific classifications are shown in Tables no 3 and 4.

For satisfactory incidents, consumers generally reported that using the Kuaituantuan Group Buying Mini Program was simple and convenient, with high cost-effectiveness and service quality. For unsatisfactory incidents, the

most prominent issues mentioned by consumers were after-sales service problems and user experience issues, indicating that these problems have a significant impact on consumer perceptions.

Table no 3:Classification of the Most Satisfactory Key Incidents.

Classification Name	Percentage	Example of Satisfactory Key Incidents
Convenience	33.34%	Purchasing is easy and integrated with daily WeChat browsing.
Service Quality	18.57%	Excellent after-sales service; group leader takes responsibility if goods are not delivered.
Efficiency	13.57%	High efficiency in group buying, saving time.
Quality	4.53%	Bread has great quality and taste.
Variety	10.48%	Wide variety of products.
Affordability	19.52%	High cost-performance ratio; cheaper than other shopping platforms.

Table no 4: Classification of the Most Unsatisfactory Key Incidents.

Classification Name	Percentage	Example of Unsatisfactory Key Incidents
After-sales Service	27.9%	Poor after-sales service, inconvenient returns, feeling of no guarantee.
Product Quality	18.03%	Product quality is not guaranteed; delivered products may be damaged.
Program Performance	16.54%	Authentication is not convenient; the process is cumbersome.
Logistics and Delivery	15.31%	Slow logistics after group buying; long delivery times.
User Experience	22.22%	Items are not replenished in time, unable to buy desired products.

4.3.2 Reliability Analysis

In the Critical Incident Technique, reliability analysis mainly focuses on the consistency of key incident classifications among different classifiers. After the first classification, the three classifiers reclassified the incidents after one month to calculate individual classification consistency and inter-rater reliability, verifying the credibility of the classifications. The number of inter-rater agreement counts is shown in Tables no 5 and 6.

Table no 5:Number of Inter-Rater Consistency Counts - Satisfactory Incidents.

Inter-Rater Consistency Counts	Classifier 1	Classifier 2	Classifier 3
Classifier 1	132	--	--
Classifier 2	104	115	--
Classifier 3	106	103	131

Table no 6:Number of Inter-Rater Consistency Counts - Unsatisfactory Incidents.

Inter-Rater Consistency Counts	Classifier 1	Classifier 2	Classifier 3
Classifier 1	130	--	--
Classifier 2	85	106	--
Classifier 3	87	99	131

Based on the number of inter-rater consistency counts in Tables no 5 and 6, and using Formula 1 and Formula 2 to calculate the average inter-rater agreement and reliability, the calculation results are shown in Table no 7.

Table no 7:Classification Reliability Table.

Classification Incident	Average Inter-Rater Agreement (A)	Reliability (R)
Satisfactory	0.828	0.935
Unsatisfactory	0.741	0.896

Based on Table no 7, the results of the reliability analysis indicate that the reliability of both satisfactory and unsatisfactory incidents is greater than 0.8. This shows that the three classifiers have a high level of consistency in classifying key incidents, supporting the reliability and validity of this study.

V. RESEARCH CONCLUSIONS AND RECOMMENDATIONS

5.1 Research Conclusions

The results indicate that satisfactory key incidents experienced by consumers in the Kuituantuan Group Buying Mini Program significantly enhance their satisfaction and loyalty, especially when they receive benefits and a positive shopping experience after a successful group purchase. These factors increase consumers' trust in the platform and brand loyalty. For example, consumers find that the product quality is excellent and prices are

low, allowing them to buy high-quality products at a lower cost and receive premium customer service, which meets their consumption needs. These satisfactory incidents not only bring direct economic benefits but also encourage consumers to continue using and recommending the Kuaituantuan Group Buying Mini Program in the future.

Compared to satisfactory key incidents, unsatisfactory key incidents have a more significant impact on consumers. This study found that negative incidents such as delivery delays, discrepancies between products and their descriptions, and untimely after-sales services often lead to consumer dissatisfaction and disappointment. These issues significantly reduce consumers' trust in the Kuaituantuan Group Buying Mini Program and may cause them to abandon the platform. For example, consumers reported not receiving timely logistics updates, which led them to question the platform's services. Therefore, unsatisfactory key incidents impact consumers not only in terms of shopping experience but also in future purchasing decisions, potentially having long-term negative effects.

The Kuaituantuan Group Buying Mini Program should pay attention to and optimize these satisfactory and unsatisfactory key incidents, enhance positive experiences, and promptly address negative incidents to further improve consumer satisfaction and loyalty, adapting to the increasingly competitive market environment.

5.2 Recommendations

Based on the research of the Kuaituantuan Group Buying Mini Program, it is evident that consumer satisfaction and dissatisfaction are interrelated. Improving user experience requires the joint effort of the platform, merchants, and consumers. Here are recommendations from these three aspects to enhance consumer satisfaction and the overall service quality of the platform.

5.2.1 Platform Recommendations

Kuaituantuan Group Buying Mini Program should establish a comprehensive after-sales service system, providing 24/7 online customer support through multiple channels (such as online chat, phone, and email) to ensure users can get help anytime. Regularly train the after-sales team to improve communication, problem-solving, and emotional management skills to provide high-quality service.

In terms of product quality, establish a stable supply chain, collaborate with qualified suppliers, and develop and implement strict quality inspection standards. Ensure product quality through sampling and full inspections and establish a product quality monitoring and traceability system.

Optimize technical performance, improve code quality, reduce loading and response times, and ensure program stability, especially to handle high traffic during promotional activities. Prioritize user data security, conduct regular security checks, and perform system maintenance.

Establish stable cooperation with logistics companies, provide real-time order tracking functions, ensure product packaging, and offer various delivery options to meet user needs. Provide local delivery services to improve delivery efficiency.

Establish clear management systems for group leaders, define responsibilities and assessment indicators (such as sales performance and customer satisfaction), and regularly evaluate group leader performance. Provide systematic training to enhance marketing, customer service, and community management capabilities, and set up dedicated communication channels to regularly collect feedback.

5.2.2 Merchant Recommendations

Merchants using the Kuaituantuan Group Buying Mini Program should establish a strict product quality inspection system to ensure listed products meet standards. Provide detailed and transparent product information on product pages, including ingredients, usage methods, and precautions to help consumers fully understand the products. Provide online customer support and regularly train customer service teams to improve service quality. Establish an efficient after-sales service system to ensure convenient return and exchange services and clear related policies to properly handle consumer after-sales issues. Utilize social platforms to build communities, interact regularly with users, share product information and promotions, and enhance user stickiness. Regularly conduct promotional activities, such as time-limited discounts and group buying offers, to attract consumers and increase sales. Encourage consumers to share their purchase experiences and boost brand exposure through sharing rewards.

5.2.3 Consumer Recommendations

Before using the Kuaituantuan Group Buying Mini Program, consumers should understand the platform rules and read the usage guide. Check merchant ratings and other consumer reviews before purchasing to choose reputable merchants for a better shopping experience. Exercise rational consumption during purchases by comparing product cost-performance and reputation. Actively provide feedback on their experiences after purchase, particularly highlighting issues and suggestions to help the platform and merchants improve

services. Participate in social functions by joining communities, sharing shopping experiences, seeking advice, and enhancing trust and interaction. Avoid sharing excessive personal information, ensure privacy security, and choose secure and reliable payment methods to safeguard transaction security.

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